Developing Our Capital Market Assumptions

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pfm asset management

PART 2

In this second segment of a multi-part investment education series, Biagio Manieri, Ph.D., CFA, will provide an overview of PFM Asset Management's (PFMAM) process for developing our Capital Market Assumptions (CMAs). Future segments will provide thoughts on a variety of other important topics, including proper asset allocation, the use of alternative assets in portfolios, portfolio implementation considerations, and manager selection.

PFMAM's Capital Market Assumptions

To assist clients in developing and maintaining proper portfolio asset allocations, PFMAM develops two sets of CMAs: intermediate- (next five years) and long-term (next 30 years and longer). Since economic and market conditions change, in some cases materially, we update our CMAs annually at the end of each calendar year.

The CMAs include expected returns, expected risks, and correlations among a wide variety of asset classes, both public and private markets. By "expected return" we are referring to the annualized projected geometric return. It is important to note that we use the geometric annual expected return and not an arithmetic return or average. This is because the geometric expected return includes compounding effects and is therefore considered more accurate.

As an example, assume we start with $100, which is invested for a period of two years. The first year's return is 100%; the second year's return is negative 50%. At the end of the first year, this totals $200; at the end of the second year, it is back to $100, a 50% loss from $200. Meanwhile, the arithmetic average is 25% (calculated as +100% - 50%/2), while the geometric return is 0%. With that method, if we start with $100 and end with $100, the return over the holding period is 0%. When looking at the CMAs, it is important for investors to understand whether the numbers are geometric or arithmetic.

With regard to risk/volatility, it is defined as a measure of how much an investment's return varies from its average return over time. It is stated as standard deviation. In Modern Portfolio Theory (MPT), volatility is taken as a definition of risk; the higher the volatility of the returns, the higher the assumed risk. Finally, correlation is defined as a measure of how two variables move relative to one another.

The CMAs help clients to set an appropriate long-term Expected Return on Plan Assets, which is used by the actuary, as well as the policy portfolio or when making strategic asset allocation decisions (for a discussion about how strategic asset allocation differs from tactical asset allocation, see the first part of this series). In addition, the CMAs help PFMAM to tactically manage client portfolios over the intermediate-term.

It is important to note that the CMAs are not based on backward-looking economic and capital markets conditions, i.e., equities over the very long-term have returned approximately 10% on an annualized basis and therefore going forward, they are assumed to automatically generate a similar return. Rather, the forward-looking CMAs are based on our views and insights about the trajectory of the global economy and capital markets over the intermediate and long-term.

For example, if equities are over-valued, we do not assume that the current high valuation will carry forward. Rather, we derive what we think valuation will be over various time periods based on analysis and projections of economic and capital market trends and conditions over those time periods.

Analysis of economic and capital market conditions and trends play an important role in developing the CMAs, because as fundamental investors, we believe that the economic fundamentals of each asset class and how they are impacted by various economic conditions such as gross domestic product (GDP) growth, inflation, interest rates, corporate profit growth and margins and other fundamental economic and market conditions drive the performance of each asset class over time.

To be clear, while in the short-term, capital markets are driven by investor psychology and sentiment, over the intermediate- and longer-term, the performance of various asset classes are driven by their economic fundamentals. In deriving our CMAs, we project the trajectory of various economic fundamental drivers and the likely impact on the expected return, volatility, and correlation across different asset classes.

The methodology we use to derive the intermediate-term CMAs differs somewhat from the methodology used to derive the long-term CMAs. For the intermediate-term CMAs, we start with current economic and capital market conditions, and we project various economic and capital market variables over that period to forecast expected return, risk and correlations for various asset classes.

Meanwhile, when deriving the long-term CMAs, we incorporate a “building block approach” that includes the long-term drivers of the economy, e.g., demographics. In analyzing economic and capital markets data, one observes that over the long-term, valuations and interest rates normalize or return to a steady-state and changes tend to cancel out. For example, equity prices over long periods of time track corporate profits, while corporate profits track the overall economy. Variables such as profit margins, changes in valuation, etc., which are important in the intermediate-term CMAs, are less important in the long-term, while “building block” variables of economic growth take center stage.

EQUITIES

Over the long-term, economic growth, which is primarily driven by demographics and productivity, is the primary driver of corporate profits. These corporate profits propel equity prices. These are the two major “building block” variables that drive real GDP growth. To derive nominal GDP growth, we add expected inflation. (Nominal GDP growth is used as a proxy for corporate profit growth). The total return from owning equities is price return plus income (yield). We then add a factor to consider expected stock buybacks, which reduce shares outstanding, making the remaining shares more valuable.

FIXED INCOME

Similar methodologies are used to derive CMAs for the fixed-income markets. We start with a real return for cash and add expected inflation to derive nominal return for cash. For other segments of the fixed income market, we start with the current yield to maturity, term and credit spreads, default and recovery rates, etc., and incorporate expectations over the intermediate-term as well as views of steady-state levels of the various drivers of returns for fixed income instruments.

ALTERNATIVES

In deriving the CMAs for "alternatives" or private markets investments such as hedge funds and private equity, we assume that these strategies perform in line with public markets equivalencies once adjusted for the characteristics of these strategies, such as leverage. While some investors may view alternatives such as private equity, hedge funds, etc., as sui generis (in a class by itself), we believe that alternative strategies need to be understood based on their underlying economic and market exposures.

Therefore, the investment profile of alternatives, including returns and risk, are not dissimilar to those of public markets once we normalize or consider the different characteristics, such as leverage. In deriving the CMAs for alternatives, we start with our assumptions for public markets and make necessary adjustments.

Debate, Approval and Distribution

Once the CMAs are derived, they are presented to the Multi-Asset Class Investment Committee for discussion and formal approval. The discussion is robust, and the various assumptions that drive the CMAs are debated. After the Investment Committee formally approves the CMAs, they are released to clients in written form. The document explains our views and expectations about the economy and expected capital market trajectory over the intermediate and long-term that form the basis for the CMAs. A copy of the CMAs is available upon request.

Stay tuned. In our next segment, Biagio will discuss in detail how our Capital Market Assumptions tie in with our thinking on proper asset allocation.

To learn more or discuss in greater detail, please contact us:

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