



Yanni Partners  
A Division of GBS Investment Consulting, LLC

# MEASURING UP

DELIVERING  
THE PROMISE

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IN THIS  
ISSUE

The benefits  
and  
applications of  
capital market  
assumptions.

## Assuming the Best... and the Worst *Why do investors need capital market assumptions?*

One of the most important (and most misunderstood) issues that investors must address is projecting the future risks and returns of capital markets.

Some investors project historical returns into the future (a mistake), and others avoid the task entirely (also a mistake). In this edition of *Measuring Up*, we will clarify the benefits and applications of capital market assumptions, plus: why investors need them, how they should be developed, how to know if they are reasonable, and how they should be used in the design and implementation of a comprehensive investment strategy.

Reasonable capital market assumptions (CMAs) are the backbone of long-term financial planning. Without CMAs, portfolios lack focus and efficiency. Establishing realistic assumptions for each major asset class allows investors to project whether a particular combination of investments is likely to satisfy the long-term objectives of their portfolio and, ultimately, their organization. For example, Yanni Partners, a Division of GBS Investment Consulting, LLC, uses proprietary CMAs to help ensure our defined benefit plan clients have the assets necessary to make future benefit payments. We also use our CMAs to help our endowment and foundation clients balance the competing goals of current spending needs and long-term growth.

In using CMAs, it is critical that investors understand the development of assumptions for both returns and risks; some investors project only future returns (ignoring risk), and others rely on historical volatility (standard deviation) as a measure of risk. Both of these approaches are incomplete.

Investors cannot consider returns without also considering risk, and they should recognize that history is a guide, not a predictor. One common mistake when incorporating risk into forward-looking predictions is using historical volatility (standard deviation) as a proxy for risk. The biggest problem with this approach is the fact that standard deviation is over-simplified and does not accurately reflect the real-world risk of capital markets. Investors should look no further than the proverbial 5,000-year flood. The historical standard deviation of the S&P 500 Index suggests that the Index should experience a 20% monthly loss once every 5,689 years. In reality, the Index has lost more than 20% in a single month five times in its nearly 85-year performance history, or once every 17 years (most recently in October 1987).

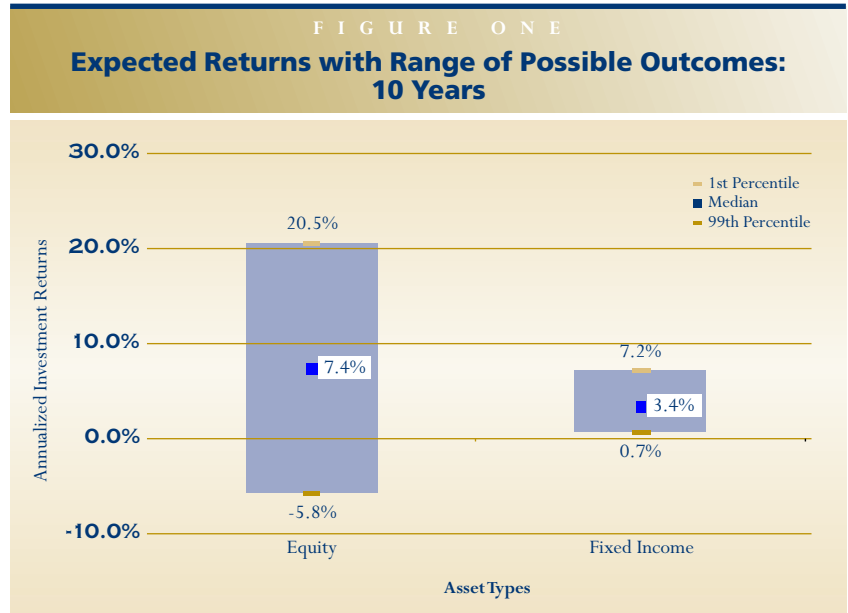
Investors that rely on standard deviation severely underestimate the risk of investing in equities, which could lead them to build portfolios that are more vulnerable than they know. Investors surprised by their 2008-2009 losses should review how they considered risk when building their portfolios.

Realistic CMAs must include an expected return and a range of possible outcomes, each possibility with a different likelihood (probability) of occurring. Realistic CMAs must also include the potential for extraordinary events, such as the 5,000-year flood – or more accurately, the 17-year flood.

The following chart shows our current expected return and range for equities and fixed income. The range is defined by the difference between the 1st percentile results (only 1% of results are likely to be better) and the 99th percentile results (only 1% of results are likely to be worse). The riskier the asset class, the wider the range of potential outcomes. As illustrated in *Figure One*, equities clearly demonstrate a wider range than fixed income. Our proprietary asset allocation model captures the potential for severe equity losses (similar to the actual market decline in 2008-2009) in its long-term results. As a result, our clients have a real-world perspective on risk – rather than relying on a statistical measurement that doesn't hold up to reality.

Investors must be wary of narrow ranges, which may indicate overconfidence in forecasting. A study on expert judgments concluded that investment analysts are less accurate in forecasting than weathermen!<sup>1</sup> Keep that in mind the next time your local meteorologist promises sunny skies – and you find yourself caught in the rain.

Forecasting reasonable risks and returns gives us the ability to show our clients how different portfolios have the potential to perform in the future. Organizations can examine various allocations to stocks and bonds; they can measure the expected



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impact of adding alternative investments; and they can test the portfolio's ability to support spending obligations. Through this rigorous process, investors can better determine what type of portfolio is most likely to help them achieve their long-term goals.

### How Should CMAs be Developed?

As mentioned in our introduction, one of the most common mistakes investors make is projecting long-term historical returns into the future. Some investors believe that the S&P 500 Index will gain nearly 10% per year; after all, that's what nearly 85 years of performance history tells us. This naïve point of view ignores the fact that markets change. Valuations change. Countries and economies change.

The economic landscape of the 1920s, marked by the introduction of mass production and the exponential growth of the automotive industry, is almost unrecognizable in the internet age of today. The shift

<sup>1</sup>Tyska and Zielonka (2002) Expert judgements: Financial analysts versus weather forecasters, *The Journal of Psychology and Financial Markets*, Vol. 3



of economic power also complicates the idea of projecting historical trends. We are in the midst of an accelerated trend toward globalization, sparked by the opening of long-closed economic borders (most notably China). All of this makes it short-sighted to simply project the past into the future.

Investors should instead focus on the fundamental drivers of investment returns. Investors need to know what drives returns, and how to forecast those economic variables (rather than the returns). Complicating this idea is the propensity for investors to think in terms of nominal (unadjusted) rather than real (inflation-adjusted) returns. In practice, real returns are more important.

Nominal returns may be more intuitive and simpler than adjusting for inflation, but increased purchasing power (net of inflation) is the best measure of growing wealth. Investors seeking to increase their purchasing power need to focus on real (inflation-adjusted) variables. We use inflation-adjusted economic variables like building blocks, and we follow a repeatable process just as a builder would a blueprint.

To separate nominal from real, we forecast inflation independent of other economic variables. Our inflation assumptions are based on the bond market's consensus expectations for price changes over the next 10 years. This capability allows us to show clients projected returns in both (the more familiar) nominal and (the more important) real terms.

For equities, our total return blueprint includes the dividend yield, real (inflation-adjusted) corporate earnings growth, inflation and a factor to account for the current valuation (or price) of the market. International equity return assumptions also include a factor representing the effect of currency fluctuations on returns. Fixed-income assumptions build off the current yield (which includes the real yield and inflation) and the projected change in interest rates over time. We have also developed blueprints for projecting returns of hedge funds, private

equity, commodities and real estate. We derive the current values of each building block from current economic conditions and data.


Investors should be wary of the temptation to overdevelop their CMAs by forecasting too many details. Overconfidence can become a problem in this respect, just as it is for investment analysts and weathermen. Many asset classes can be divided into distinct market segments (large-, mid- and small-cap value equities, for example), but that does not mean investors need an independent assumption for each segment. Investors should examine economic data and market conditions to determine a reasonable level of detail. Our firm forecasts risks and returns for seven major asset classes, with reasonable distinctions below the asset class level (such as different durations of fixed income).

### **What is Reasonable?**

Capital market assumptions, once established, need to be put to a critical test: Are they reasonable? There may never be a clear-cut answer to that question, but there are several metrics that can help to determine the answer.

First, history can be a guide. Not gospel, but a guide. For example, a 10-year U.S. equity return assumption of 20% is probably too optimistic since the S&P 500 Index achieved a 10-year return in excess of 20% (annualized) only once in history (periods ending in late 1958 and early 1959). A 10-year return of -5% may be too pessimistic since the worst 10-year return on record is -4.9% (during the Great Depression period ending August 1939). History can help rule out the extremes, but a more detailed review can help investors to hone in on realistic expectations for risks and returns.

The current economic environment is also critical in determining if assumptions are reasonable. Is the economy in a recession, as it clearly was in late 2008 and early 2009 – or a recovery (which may be the



case today)? What is the current stage of the business cycle? The answers to these questions provide additional clues to the future capital market returns. If the economy continues to expand, rather than suffer a double-dip recession, the prospects for global equities will be more promising.

Lastly, current valuation metrics can shed additional light on the sensibility of CMAs. In equity markets, the most common gauge of valuation is the price-to-earnings (P/E) ratio. Stockholders own a claim on a firm's future profit, and the P/E ratio indicates what the market is currently paying for those earnings. Professor Robert Shiller of Yale University has advanced the study of P/E ratios in developing his Cyclically Adjusted P/E ratio. Shiller smoothes the inflation-adjusted earnings of the S&P 500 Index over a 10-year period. His series mitigates quarterly fluctuations and produces a reasonable illustration of the market's long-term earnings history. Using this method, the S&P 500 Index appears to be somewhat "rich" as of June 30, 2010. (The June 2010 Cyclically Adjusted P/E ratio exceeded 77% of the historical observations, dating back to 1881.) See *Figure Two* for more detail.

The implication for equity investors is that future equity returns may be influenced by a detrimental decline in valuation (if P/E ratios return to long-term average levels). Returns will still likely be driven by real earnings growth and dividends. In fixed-income markets, the current yield is the primary valuation consideration. The lion's share of fixed-income returns comes from yield rather than from changes in bond prices (over the life of the bonds). Fixed-income yields were extremely low by historical standards on June 30, 2010. For example, the 10-year U.S. Treasury note yielded just 3% as of June 2010, well below its long-term average of 6.9% (since December 1961). This suggests that investors should expect somewhat muted returns from their fixed-income portfolios.

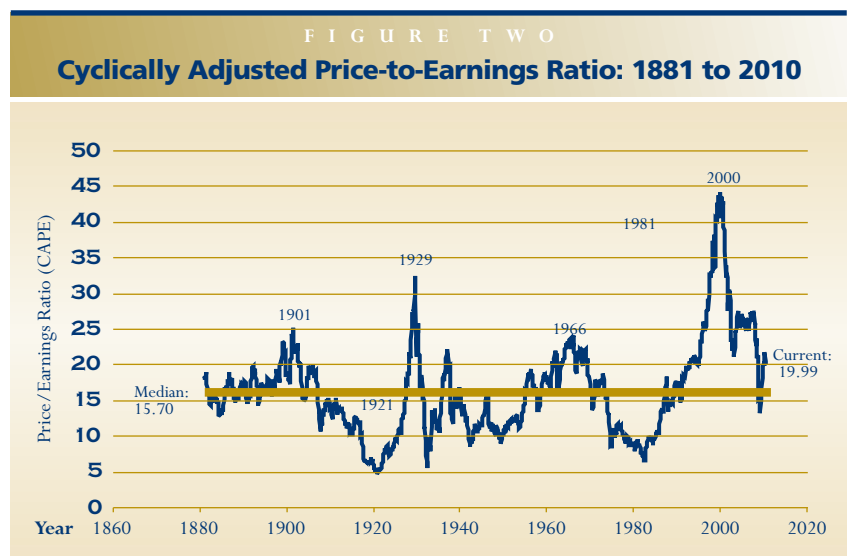
Valuation factors for all asset classes should be reflected in investors' CMAs.

## Conclusions: Putting it All Together

Investors need a tool that connects their CMAs to their investment portfolios. Our proprietary asset allocation model builds portfolios by combining asset classes and forecasting how the distinct pieces of the portfolio will work together. Our model incorporates several critical variables:

- Investment risks and returns (CMAs)
- Different investment strategies
- Cash flows (deposits and spending)
- Time horizons

From these diverse inputs, our model presents for clients the likelihood of reaching their goals and shows the probability that the portfolio will grow to its targeted size. It can also show how much money a client must add to its portfolio in order to reach certain thresholds. The model can demonstrate how much money any given investment strategy is likely to lose, in both dollars and percentage terms. The CMAs are its most important input – but the asset allocation model is the engine for putting the assumptions to work.



Source: Robert Shiller, Yale University



**Yanni Partners**  
A Division of GBS Investment Consulting, LLC

310 Grant Street, Suite 3000  
Pittsburgh, PA 15219-2302

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## In Case You Missed It...

Yanni Partners, a Division of GBS Investment Consulting, LLC, hosts quarterly client webinars on a number of topics relevant to our clients' needs and the current market environment. Recent topics have included "Protecting Your Portfolio from Volatile Equity Markets," "Target Date Maturity Funds: One Size Does NOT Fit All," and "How to Withstand Short-Term Losses – In the Pursuit of Long-Term Objectives."

If you missed any of these topics and would like to catch up – please contact your Consultant or Client Service Representative Lisa Marcotullio (Lisa\_Marcotullio@ajg.com).

## Summer Anniversaries

### Congratulations to...

Ryan Lennie, CFA  
Senior Consulting Analyst – 5 years

David Hammerstein, CFA, AIF®  
Chief Strategist – 10 years

Yanni Partners, a Division of GBS Investment Consulting, LLC (YP Div. GBSIC), provides a full range of consulting services vital to the management of various portfolios. Our ultimate goal is to offer a basis for improved investment monitoring and performance.

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Coordinator of Administration. **Phone:** 412.232.1000 **Email:** Rose\_Martin@ajg.com **Web:** [www.yannipartners.com](http://www.yannipartners.com)