Adaptive Valuation Strategies

Citi Private Bank Investment Process

Citi Private Bank's proprietary strategic asset allocation methodology, Adaptive Valuation Strategies,[1] is a key element of Citi Private Bank's investment advice that is delivered to clients through portfolio investment strategies as well as individual advice provided by your private banker and/or investment counselor.

Our Adaptive Valuation Strategies methodology is used to define a set of long-term asset allocation strategies applicable to a given client's portfolio based on that client's individual investment objectives, and liquidity and risk preferences.

By establishing a long-term asset allocation strategy to stocks, bonds, cash and alternative investments, a client seeks to both (i) experience a long-term blended risk and return profile consistent with their preferences; and (ii) potentially enhance the probability for returns at a given level of risk and within their portfolio's unique constraints.

Citi Private Bank publishes asset allocation advice that reflects both its views on the potential returns and risk for a spectrum of investment classes over the longer-term (strategic asset allocation) along with shorter-term market insights (tactical asset allocation), which provide a vital means of managing a portfolio's risks at key turning points in the financial markets.

The creation of a client's investment portfolio aims to be transparent. Throughout the process and on an ongoing basis, investment advice is made available so that clients and their advisors can monitor the performance and positioning of individual portfolios in the context of current market conditions.

ADAPTIVE VALUATION STRATEGIES: CITI PRIVATE BANK'S STRATEGIC ASSET ALLOCATION METHODOLOGY

Establishing the longer-term strategic asset allocation strategy for our clients requires us to understand the return and risk profile that stocks, bonds, cash and other investments have experienced in the past and to develop a view about their potential performance in the future. The closer our current views are to the eventual reality, the more effective our defined asset allocation strategies will be in meeting the objectives and risk preferences of our clients. However, the process of developing asset class forecasts has proven to be challenging in recent years, as many methods of estimating asset classes' risks and returns did not anticipate the low cumulative returns realized by stocks since 2000, or the subsequent outperformance by bonds.

[1]Adaptive Valuation Strategies, developed by the Office of the Chief Investment Officer, is Citi Private Bank's strategic asset allocation methodology. It is one component that impacts the asset allocations within the client portfolios.

Another challenge to strategic asset allocation methodologies are sudden and severe market crises, like those experienced during the tech bubble and more recently during the credit crisis.

Adaptive Valuation Strategies, our strategic asset allocation methodology, seeks to respond to these challenges by following three core investment values:

- **Valuation Matters:** History suggests that there is a strong relationship between a given asset's current market valuation, versus historical levels, and future returns. This relationship can be used to better understand asset return behavior in the future.
- **History Matters:** Our understanding of how an investment may behave during a severe market crisis may be enhanced by looking at how that investment has behaved through previous crises.

  In the past, markets have behaved in a complex manner, tending to deviate substantially from the conditions implied by a mathematical model. It is important to accurately factor in this complexity so that losses are not underestimated.

  A long dataset is crucial to capturing as many of these "crisis" periods as possible.
- **Risk Management:** The most direct risk facing a portfolio is that of experiencing a significant loss during a period of market crisis. Our methodology uses the information about asset class behavior, both individually and collectively, learned through historical observation to tune our set of long-term asset allocations to specific levels of risk tolerance, which we define as "Extreme Downside Risk."

As time goes by and asset prices change, the relative value between asset classes also changes. This may cause the relative prospects of stocks, bonds, cash and other investments to also be affected.

Adaptive Valuation Strategies considers these changing valuations and the subsequent impact to prospective returns over the next ten years. Our recommendations will evolve alongside the markets and will be visible through adjustments being made to relative weights among asset classes.

Key Drivers of Adaptive Valuation Strategies, Our Strategic Asset Allocation Methodology

THE GLOBAL OPPORTUNITY SET

The first step of Adaptive Valuation Strategies is to consider which asset classes should be considered in the context of a long-term asset allocation strategy for a given client based on that client's individual investment objectives, asset levels, and his/her liquidity and risk preferences.

Adaptive Valuation Strategies identifies 12 key asset classes:

- Global Cash
- Global Developed Sovereign Fixed Income
- Global Developed Corporate Investment Grade Fixed Income
- Global Developed Corporate High Yield Fixed Income
- Emerging Markets Sovereign Fixed Income
- Global Developed Large Cap Equity
- Global Developed Small Cap Equity
- Global Emerging Market All Cap
- Private Equity
- Hedge Funds
- Real Estate
- Commodities

Our methodology is used to determine an optimal mix of these 12 asset classes for a given client. This provides the opportunity set from which an investment portfolio may be developed.

CURRENT VALUATIONS MATTER

In order to establish a long-term asset allocation strategy for an investment portfolio, it is necessary to define expectations for how each asset class may behave in the future.

In particular, it is necessary to define return expectations (known as Strategic Return Estimates, or SREs) for each of the 12 key asset classes. The time frame for these estimates is ten years.

We do not believe that markets are random and unpredictable. Instead, our analysis of data reveals a strong relationship between a given asset's current market valuation, versus historical levels, and its return over the following ten years.

Each individual asset class return is forecasted using a valuation methodology adapted to that asset class' unique characteristics:

- **Cash:** Conservatively forecast as the minimum of the i) current global 3-month T-Bill rates, ii) the yield of the Citi World Government Bond Index and iii) the return generated if the current 3-month global T-Bill yield reverts back to its historical average over the following ten years.
- **Fixed Income:** Current (as of last quarter) Yield-to-Maturity for the Citi World Government Bond Index for Global Developed Sovereign and the Citi World Broad Investment Grade — Corporate Index for Global Developed Corporate Investment Grade asset class.
- **High Yield:** Based on our research, we assume that the high yield asset class returns are equivalent to equity market returns if adjusted for differences in yields and defaults between corporate high yield and equity securities. For our high yield asset class SRE, we used our equity market SRE adjusted for the differences in yield and default rates.
- **Equity:** Estimated return over the next ten years if the asset class' current valuation level would revert to its estimated ten-year, inflation-adjusted average valuation level.
- **Private Equity:** We used our forward SRE for developed markets small-cap equities and based on research and experience, made adjustments for the illiquidity of private equity, its concentration on certain sectors, and that private equity companies tend to have greater leverage than public small-capitalization companies.
- **Hedge Funds:** We adjusted published hedge fund index data to minimize reporting biases and then estimated a relationship between hedge funds and traditional asset classes based on historical relationships. We assume that these historical relationships will continue, thus estimating the SRE for hedge funds based on these relationships.
- **Real Estate:** For our forward estimate of real estate returns, we assumed that the current level of real estate values will revert to their long-term average value over the next 20 years.
- **Commodities:** We assumed that the forward SRE is equivalent to the long-term average return from commodities.

MEASURING RISK

There are three key components needed to articulate the key risk inherent in a given portfolio.

- **Defining Risk:** The risk measure needs to describe or represent the key risk identified for an investment portfolio (e.g., volatility, extreme downside deviation).
- **Historical Data:** Estimates of risk are based on the historical behavior (observed or extrapolated) of each asset class in the past. Data needs to be sufficiently long to accurately reflect how asset classes behave in times of severe market crisis.
- **Methodology and Framework:** The methodology applied to the data is critical to the quality of the risk estimate. The methodology should preserve the complex behavior of markets, especially during market crises.

RISK MEASURE

We believe the most direct risk facing a portfolio is that of experiencing a significant loss during a period of market crisis.

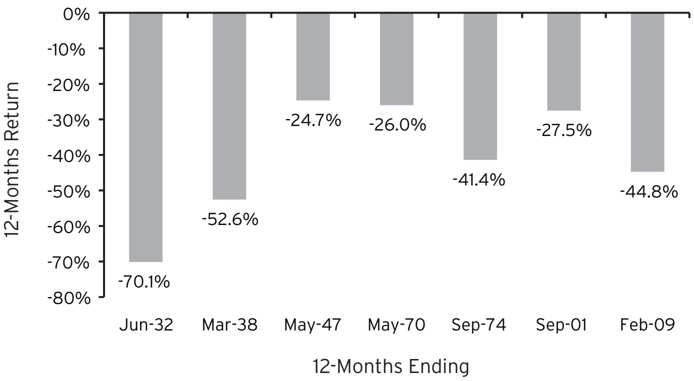
To articulate this risk, we use a measure called Expected Downside Risk or "EDR."

EDR seeks to articulate the type of loss an asset allocation may experience during a severe market crisis, or in other words, a potential loss (based on historical losses of that asset composition) in the worst 12 months of a client's ten year investment horizon.

Please see the glossary for definition of terms.

While EDRs are based on our proprietary database of returns and we acknowledge that past history is not necessarily predictive of future events, we do believe that by using a long history of asset class returns (please see chart below for illustrative example) we can potentially anticipate extreme negative returns and therefore better estimate potentially significant losses.

A Sample of Extreme 12-Month Losses of the S&P 500 Index (January 1928 – January 2012)



Source: S&P 500 Index, total return, from Bloomberg as of February 10, 2012.

LONG HISTORICAL DATA

We draw on a long, multidecade sweep of history to ensure that the data covers multiple periods of severe market stress. This helps improve the ability to understand:

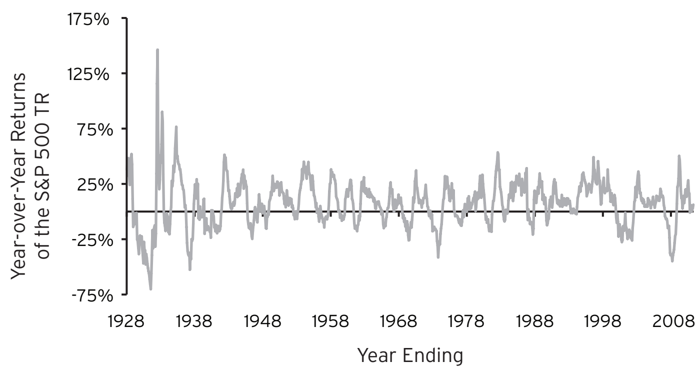
- The worst periods of loss for each asset class
- Circumstances whereby each asset class has experienced successive periods of loss
- Periods where losses occurred simultaneously across each asset class

Unlike the industry standard, which largely uses data from 1990 onwards, our methodology uses a database of historical returns which allows for a comprehensive understanding of how asset classes have behaved in previous market crises, including:

- The Great Depression
- Pre-World War II Mini-Depression
- 1970s Oil Shocks
- 1987 Crash

For illustration only, the graph below is an example that longer historical data may highlight a period of significant volatility such as the Great Depression (October 1929 to March 1933).

S&P 500 Index Year-over-Year Returns (January 1928 – January 2012)



Source: Bloomberg as of February 10, 2012.

ADAPTIVE PROCESS

Our methodology used in combination with the data is critical to the quality of a risk estimate. The methodology preserves the complex behavior of markets during market crises.

Three elements of this complex behavior need to be understood in order to minimize the potential of underestimating the risk associated with an asset allocation:

- A realistic estimate for both the frequency and the magnitude of large losses should be reflected in each asset class. Today, most asset allocation models employ a risk framework that is founded on a simple mathematical model, i.e., a Normal or a Johnson probability distribution which is symmetric and bell-shaped. Such an approach severely underestimates both the frequency and the magnitude of large losses that an investor may experience.
- The likelihood of consecutive periods of loss should be reflected for each asset class (in reality, this is more severe than implied by many mathematical models that assume independence of returns).
- The likelihood of simultaneous losses across each asset class should be reflected (in reality, this is more severe than implied by many mathematical models that assume static correlations).

The risk methodology used in our approach seeks to address the three key areas of risk underestimation, as mentioned above, by using returns directly, without a mathematical model. When using actual data, it is possible to estimate the type of losses an asset allocation would have experienced during historical times of market stress. This helps preserve the actual behavior of each asset class during such crises and therefore removes the need for assumptions that are required by traditional approaches, which are based on mathematical models.

The AVS methodology attains EDR of an asset allocation by using historical data to estimate the losses a given allocation would have experienced in periods of market crisis in the past.

Our Asset Classes

GLOBAL CASH

Our Global Cash asset class is based around a proprietary index that weights each country’s 3-month Treasury Bill yield by the country’s GDP, as measured in international dollars. Similar to the Global Developed Sovereign Fixed Income index, the Global Cash index includes all countries that are both classified as developed by Citi and have tradable short-term sovereign debt.

The SRE for Global Cash is based conservatively by taking the minimum of three separate approaches:

- Current yield of the proprietary index
- Current yield-to-maturity on the Global Developed Sovereign Fixed Income asset class, as previously discussed
- The return on Global Cash if yields normalized to their long-term trend over the following ten years

GLOBAL DEVELOPED SOVEREIGN FIXED INCOME

Our Global Developed Sovereign Fixed Income asset class is based around the Citi World Government Bond 7-10 Year Maturity Index (WGBI). It includes all countries classified as global developed by Citi.

This benchmark is one of several government bond indices available, all of which have a correlation close to one, which means that they are almost perfectly correlated. Many funds, both passive and active, follow these types of indices.

The SRE for Global Developed Sovereign Fixed Income is based on its current Yield-to-Maturity.

GLOBAL DEVELOPED CORPORATE INVESTMENT GRADE FIXED INCOME

Our Global Developed Corporate Investment Grade Fixed Income asset class is based around the Citi World Broad Investment Grade, Corporate, 7-10 Year Maturity Index (WorldBIG). It includes all countries classified as developed by Citi.

This benchmark is one of several corporate bond indices available, all of which have a correlation close to one. Many funds, both passive and active, follow these types of indices.

The SRE for Global Developed Corporate Investment Grade Fixed Income is based on its current Yield-to-Maturity.

GLOBAL DEVELOPED CORPORATE HIGH YIELD FIXED INCOME

Our Global Developed Corporate High Yield Fixed Income asset class is based around the Merrill Lynch Global High Yield Index.

The SRE for Global Developed Corporate High Yield Fixed Income represents the observed relationship between High Yield and Large Cap Equities. However, there are several fundamental differences which require an explicit adjustment to our high yield SRE. Firstly, we need to account for the fact that the coupon payment from a high yield bond is often greater than a dividend payment from a stock. Secondly, history has shown that high yield bonds have a greater tendency to default than stocks. Furthermore, in a default, high yield investors often recoup losses as assets are sold, whereas equity investors typically are not compensated by the proceeds from asset liquidation. The aforementioned idiosyncrasies each require explicit recognition in our high yield SRE.

The SRE for Global Developed Large Cap Equities is used as a base and then a "beta," which measures the risk of the asset class in comparison to the market as a whole, is applied based on the relationship between High Yield and Equities In effect, High Yield often behaves like a low beta stock. This simply means that, in general, high yield bonds tend to both fall and rise less than the broad equity market.

The additional yield available in High Yield is then added before a subtraction is made for the default rate (net of recovery).

This gives us the SRE for the Global Developed Corporate High Yield Fixed Income asset class.

EMERGING MARKETS SOVEREIGN FIXED INCOME

Our Emerging Markets Sovereign Fixed Income asset class is based around the Merrill Lynch Global Emerging Markets Index.

This benchmark is the industry-standard benchmark for funds investing in Emerging Market Fixed Income.

The SRE for Emerging Markets Sovereign Fixed Income is based on its current Yield-to-Maturity.

GLOBAL DEVELOPED LARGE CAP EQUITIES

Our Global Developed Large Cap Equities asset class is based around the industry-standard MSCI World benchmark. MSCI classifies 23 separate countries as developed, mainly in North America and Europe with five in Asia. This benchmark is used frequently in the management of global portfolios.

The SRE for Global Developed Large Cap Equities is based around the Cyclically Adjusted Price-to-Earnings (CAPE) valuation measure popularized by Professor Robert Shiller at Yale University.

CAPE is calculated by taking today's market value and dividing by the market's Cyclically Adjusted Earnings (CAE). CAE is the average of the previous ten years of earnings, adjusted for inflation.

This valuation measure is powerful as it has the following characteristics:

- CAPE tends to revert to its long-term average value over a ten year horizon
- CAE, as it smooths the peaks and troughs of the cycle, has a stable long-term growth rate

The SRE assumes a ten year holding period and finds the return achieved through a stable growth in dividends and the change in market valuation at the end of the ten years implied by the characteristics described above.

GLOBAL DEVELOPED SMALL CAP EQUITIES

Our Global Developed Small Cap Equities asset class is based around the industry-standard MSCI Small Cap World benchmark. This benchmark is used frequently in the management of global portfolios.

The SRE for Global Developed Small Cap Equities uses a similar approach to Global Developed Large Cap Equities, with a slightly different valuation measure.

Instead of CAPE, Global Developed Small Cap Equities uses Cyclically Adjusted Dividend Yield (CADY). This is the market's Cyclically Adjusted Dividends (CAD) divided by today's market value.

CADY is used as there is higher-quality long-term historical data available for dividends compared to earnings. CADY has a similar tendency to revert to its long-term trends, while CAD, like CAE, exhibits relative stability in its growth rate.

The SRE for Global Developed Small Cap Equities assumes a ten year holding period and establishes the return achieved through a stable growth in dividends and the change in market value at the end of the ten years implied by the characteristics described above.

GLOBAL EMERGING ALL CAP EQUITIES

Our Global Emerging All Cap Equities asset class is based around the industry-standard MSCI Emerging Markets benchmark. It includes 26 countries classified as emerging by MSCI in Latin America, Central and Eastern Europe, Middle East, and Africa, as well as Asia.

This benchmark is used frequently in the management of global portfolios.

The SRE for Global Emerging All Cap Equities uses the same approach as Global Developed Small Cap Equities, utilizing the CADY valuation measure.

PRIVATE EQUITY

Our Private Equity asset class is based on a proprietary index linked to the returns of the Global Developed Small Cap Equities. This index uses the same "beta" and "alpha" adjustments described later in this section.

The SRE of Private Equity is based on the principle that investing in Private Equity is similar to investing in a small cap portfolio, only with three significant differences that need to be accounted for:

- The leverage of a private equity-owned firm is typically significantly higher than a listed firm
- The sector composition of a typical Private Equity fund is different from the sector weights of the Small Cap Index
- The ability of the Private Equity fund to influence management, as well as entry and exit valuations, should add an additional return

The impact of the first two differences can be estimated by examining the "beta" of a portfolio of small-cap stocks with similar leverage and sector composition as Private Equity with the overall Small Cap index. This is the Private Equity beta.

The third difference is estimated by comparing the long-term returns of the Private Equity industry to the returns of Small Cap (adjusted for the beta calculated above). The difference is the additional return (or "alpha") achieved by the Private Equity industry.

The SRE for Global Developed Small Cap Equities is then used as the base for the SRE for Private Equity. This is then adjusted by the beta with the alpha then added on to the estimate.

HEDGE FUNDS

Our Hedge Fund asset class comprises five hedge fund indices that are strategically weighted. These five hedge fund indices represent the five core hedge fund strategies as a percentage of the overall hedge fund index:

- Equity Long/Short (32.50% weight) — HFRI Equity Hedge Index
- Event Driven (24.00%) — HFRI Event Driven Index
- Relative Value (24.00%) — HFRI Relative Value Index
- Global Macro (9.75%) — HFRI Macro Index
- CTA (9.75%) — Barclay CTA Index

Before the SRE for Hedge Funds is calculated, the index data is first adjusted to remove biases that distort the data. Returns are reduced by two percentage points per annum to adjust for the impact of survivorship and selection bias.

Survivorship bias reflects the impact of the index's returns caused by the index provider removing a hedge fund's returns from their calculations when the hedge fund closes. Selection bias reflects that hedge funds can choose when and if to disclose their returns to the index provider. Typically they only do so when those returns are attractive.

The data is also "de-smoothed" to remove the impact of inefficiencies in the mark-to-market of certain securities held by hedge funds.

Once these adjustments have been made, a relationship is found between the returns of the hedge fund index and the returns of traditional asset classes. This is achieved through a step-wise multiple regression. Four traditional asset classes were identified as having a statistically significant relationship with Hedge Fund returns (Emerging Market Equities, Developed Small Cap Equities, Corporate Investment Grade and Cash).

It is this relationship, together with the SREs of the traditional asset classes, that is used to calculate the SRE for hedge funds.

REAL ESTATE

Our Real Estate asset class is based around the NCREIF Index. NCREIF is the industry-standard Real Estate benchmark in the United States. Insufficient data is available for a global index to be used at the moment.

The SRE for Real Estate exploits the tendency for returns to normalize back to their long-term trend over a 20-year period.

Therefore, the SRE can be calculated by comparing the long-term trend to what has been experienced over the preceding ten year period. The SRE is the implied ten year return that would satisfy the whole 20-year period equaling the long-term trend.

COMMODITIES

Our Commodities asset class is based around the DJ-UBS Commodity Index. This is one of the industry-standard commodities benchmarks (along with GSCI).

Without an easily identifiable valuation measure, the SRE for Commodities uses the historical average return data.

Bringing It Together

STRATEGIC ASSET ALLOCATION

The return and risk estimates we have described above are the fundamental basis for our approach to strategic asset allocation. With such estimates, it is possible to calculate estimates for the return and the risk of an asset allocation.

In creating each long-term asset allocation strategy, Citi Private Bank uses its estimates of asset class return and risk to compute the mathematically optimal mix of asset classes that helps maximize the forecasted return for a given level of risk tolerance.

We believe it is possible to find a mix of asset classes based on the return and risk estimates we have established in order to form an appropriate portfolio asset allocation based on a client's investment objectives and risk tolerance.

The success of a long-term asset allocation strategy is sensitive to how accurately future returns and future risk have been estimated. The closer the estimates are to realized values, the closer the long-term allocation strategy will be to its forecasted results. The opposite is true if realized values in the future deviate significantly from forecasted values of SREs and EDR.

STRATEGIC ASSET ALLOCATION ADJUSTMENTS

As time goes by and asset prices change, the relative value between asset classes also changes. This may cause the relative prospects of stocks, bonds, cash and other investments to also be affected.

Our Adaptive Valuation Strategies Methodology considers these changing valuations and our recommendations, over time, will reflect adjustments being made to relative weights among asset classes. Mostly these changes are minor; however, during periods of significant market movements the advised allocation may change significantly.

In order to help minimize the turnover and transaction costs experienced, a rebalancing approach was developed to ascertain when and how our long-term asset allocation strategy changes.

Rebalancing occurs, at most, on a quarterly basis — however, only when specific criteria are met. In particular, the incremental additional forecasted return resulting from an adjustment is compared to the estimated transaction costs of making the change. Only when the incremental return exceeds the transaction costs is an adjustment initiated.

A second-level rebalancing sequence is conducted to test if the current portfolio violates the Extreme Downside Risk limit or the asset class weight constraints that are set for the particular risk level. If a second-level rebalance is triggered, the portfolio weights revert back to the levels that were established the last time a Test 1 rebalance occurred.

REFERENCE ALLOCATIONS

Reference asset allocations provide a guide to both our long-term allocation strategy and shorter-term tactical allocation adjustments. We provide allocations based on differing degrees of risk tolerance and differing preferences for holding illiquid asset classes.

We define five degrees of risk tolerance, based around the Extreme Downside Risk (EDR) measure (refer to page 11 for more information on EDR). These degrees broadly span the risk spectrum from investing in 100% Fixed Income to investing in 100% Equities:*

- Risk Level 1: EDR limit of -10%
- Risk Level 2: EDR limit of -20%
- Risk Level 3: EDR limit of -30%
- Risk Level 4: EDR limit of -40%
- Risk Level 5: EDR limit of -50%

In Citi Private Bank's monthly investment publication *The Quadrant*, reference allocations based on these five risk levels will be available. These reference allocations will include Hedge Funds, but will exclude Private Equity and Real Estate.

There are an additional ten reference allocations available through your relationship professional. Five of these reference allocations represent each of the five risk levels without an allocation to Hedge Funds, Real Estate or Private Equity. Another three reference allocations represent risk Levels 3 to 5 with Hedge Funds and a small exposure to Private Equity and Real Estate. The final two reference allocations represent risk Levels 4 and 5 with Hedge Funds and a large exposure to Private Equity and Real Estate.

*Risk Levels — An indication of a client's appetite for risk. Risk Level 1 — Seeks liquidity management and preservation of capital; Risk Level 2 — Seeks income generation and capital preservation; Risk Level 3 — Seeks modest capital appreciation and, secondly, capital preservation; Risk Level 4 — Seeks long-term growth of capital with moderate volatility; Risk Level 5 — Seeks maximum long-term growth of capital.

TACTICAL ASSET ALLOCATION

While strategic asset allocation represents the long-term allocation strategy of an investment portfolio, tactical asset allocation focuses on adjusting this strategy to reflect shorter-term market insights.

Tactical asset allocation aims to both capture short-term opportunities as well as help manage risk in the portfolio during key market turning points. While strategic asset allocation only defines 12 asset classes, tactical asset allocation is more granular — looking at many of the sub-asset classes (regions, sectors, etc.) to discover shorter-term opportunities.

Our tactical asset allocation is defined by Citi Private Bank's Global Investment Committee (GIC) chaired by the Global Chief Investment Officer (CIO). This committee draws on the senior investment expertise both from Citi Private Bank as well as that of the entire Citigroup organization.

The GIC meets at a minimum once a month to review and adjust the recommended tactical investment views of Citi Private Bank. These tactical investment views are considered alongside strategic asset allocation guidance when providing investment advice to clients.

PORTFOLIO CONSTRUCTION — CITI ADVISORY AND DISCRETIONARY SERVICES

Asset allocation is one part of the broader process Citi Private Bank has in place to construct and manage portfolios.

This begins and ends with our understanding of a client's investment objectives, risk tolerance and investment horizon. The first step in portfolio construction is building a deep understanding of these circumstances and needs.

Building an asset allocation strategy for a client, in either an advisory or discretionary capacity, starts with evaluating a client's current profile against the attributes of existing reference asset allocations. Should an existing reference allocation not meet the needs of a client, one may be customized for him or her.

Adaptive Valuation Strategies (AVS)	Office of the Chief Investment Officer (OCIO)	Global Investment Committee (GIC)	Citi Advisory and Discretionary Services
• A proprietary quantitative and objective methodology for establishing strategic asset allocations designed to help meet clients' medium- to long-term goals within specific risk tolerance levels • Allocations depend on market valuations	• Defines various asset allocations within specific risk tolerance levels as a reference for discussions with clients	• Adds tactical under- and overweights relative to the strategic allocations based on near-term opportunities and views • Quantitative and qualitative inputs based on macroeconomic data, forecasts and observed market trends	• Adapts global to regionally biased portfolios • Delivers customized client investment preferences and constraints • Populates with products and/or securities from Citi's open-architecture platform

Citi has wide capabilities to implement and manage a client's portfolio either on an advisory or discretionary basis. Risk management and monitoring is the center of the approach — with frequent reviews of client investment objectives and risk tolerances, and portfolio positioning and performance.

Implementation of a client's asset allocation draws upon the expertise of Citi Private Bank's manager selection and due diligence teams that offer a spectrum of investment options. The desired implementation can be tailored — with emphasis placed on either active or passive managers depending on client preference.

Our Approach

VALUATION-DRIVEN RETURN FORECASTING

Our return estimating methodology has the following advantages:

- Utilizes the relationships between valuation levels and future returns of asset classes.
- Allows estimates to adjust when high current valuation levels could indicate low future returns; similar for when low valuation levels could indicate high future returns.
- Each asset class has a distinct methodology that is adapted to the individual characteristics of the asset class.

Like a value investor, our valuation-driven approach tends to enter a market before it troughs as well as tends to exit a market before it peaks. This can cause our return forecasts to fall below realized returns, particularly during valuation bubbles as seen with the Tech Bubble in the late 1990s. However, as evidenced by history, fundamentals tend to prevail as was illustrated in 2000–2001.

HISTORIC SCENARIO-BASED RISK FORECASTING

Our risk estimating methodology has the following potential features:

- Uses *long historical data*, which allows for a comprehensive understanding of how asset classes have behaved in previous market crisis.
- Utilizes *raw data* rather than a mathematical analysis to calculate the Extreme Downside Risk (EDR) allows for the preservation of complex behavior among asset classes during times of crisis.
- Use of the EDR measure allows an accurate articulation of the key risk facing portfolio management — the risk of a significant portfolio loss during times of crisis.

By design, our scenario-based risk forecasting approach is meant to quantify the effects of a severe market crisis. Admittedly, this can cause our advised asset allocation to appear overly conservative, particularly during stable markets. However, as we learned in 2007, periods of great market instability are often preceded by relative calm.

STRATEGIC ASSET ALLOCATION

Overall our strategic asset allocation approach has the following methodological attributes:

- Use of valuation-driven return forecasting and historic scenario-based risk forecasting methodologies to create long-term allocation strategies for portfolios.
- Adaptive long-term allocation strategies optimized to current market environment — potentially reducing exposure to expensively valued assets.

Glossary

Asset Allocation: Asset allocation is both a process and a result. It is the process of translating a client's investment objectives and risk tolerance into a mix of asset classes to meet these criteria. The resulting mix of asset classes is also known as an asset allocation.

Asset Class: An asset class is a category of investments that collectively share a common set of characteristics. Examples include: Global Developed Large Cap Equities or Real Estate.

Barclay CTA Index: This index is a leading industry benchmark of representative performance of commodity trading advisors. There are currently 565 programs included in the calculation of the Barclay CTA Index for the year 2011, which is unweighted and rebalanced at the beginning of each year.

Beta: Beta is a measure of the relationship between one asset class and another. It compares the average change in the return of one asset class relative to the average historical change in another. The beta of High Yield would be 0.5x to Equities if, on average, High Yield rises by 5% whenever Equities rise by 10%.

Commodities: Dow Jones-UBS Commodity Index — Consists of 19 commodities, which are weighted to account for economic significance and market liquidity.

Cyclically Adjusted Dividends (CAD): CAD is a measure of the dividend level of an equity market. It is calculated by taking the average of the previous ten years' worth of dividends (adjusted for inflation).

Cyclically Adjusted Dividend Yield (CADY): CADY is a valuation measure for an equity market. It is calculated by dividing the Cyclically Adjusted Dividends (CAD) of the market by the current market value.

Cyclically Adjusted Earnings (CAE): CAE is a measure of the earnings level of an equity market. It is calculated by taking the average of the previous ten years' worth of earnings (adjusted for inflation).

Cyclically Adjusted Price-to-Earnings (CAPE): CAPE is a valuation measure for an equity market. It is calculated by dividing the current market value by the Cyclically Adjusted Earnings (CAE) of the market.

Default Rate (Net of Recovery): The historical default rate is the average percentage of bonds defaulting on an annual basis within a given classification (e.g., asset class). During default there is typically some amount that is recovered — the default rate is adjusted to assume a certain rate of recovery.

DJ-UBS Commodity Index: The Dow Jones-UBS Commodity Index is composed of futures contracts on physical commodities. The index is designed to minimize concentration in any one commodity or sector. It currently includes 19 commodity futures in five groups. No one commodity can comprise less than 2% or more than 15% of the index, and no group can represent more than 33% of the index (as each annual reweighting of the components).

Emerging Market Sovereign Fixed Income: Citi Emerging Market Sovereign Bond Index (ESBI). Includes Brady bonds and US dollar–denominated emerging market sovereign debt issued in the global, Yankee and Eurodollar markets, excluding loans. It comprises debt in Africa, Asia, Europe and Latin America. We classify an emerging market as a sovereign with a maximum foreign debt rating of BBB+/Baa1 by S&P or Moody's. Defaulted issued are excluded.

Extreme Downside Risk (EDR): Extreme Downside Risk (EDR) is a measure used to estimate the risk of an asset allocation. EDR seeks to estimate the typical type of loss, over a 12-month time horizon, an asset allocation may experience in a period of extreme market stress. The EDR for an asset allocation is calculated using a proprietary methodology based on examining historical scenarios. For a given asset allocation, this approach estimates the loss, over a 12-month time horizon, the asset allocation may have experienced during historical periods of extreme market stress. EDR is calculated by taking the average loss in the worst 5% of this historical periods of extreme market stress. EDR does not estimate the maximum possible loss. Potential losses for a given asset allocation may exceed the value of the EDR.

Global Cash: 3-Month London Interbank Offered rate (LIBOR) which is the interest rates that banks charge each other in the international inter-bank market for three-month loans (usually denominated in Eurodollars).

Global Developed Corporate High Yield Fixed Income: Citi US High Yield Market Index — Includes all issues rated between CCC and BB+. The minimum issue size is $50 million. All issues are individually trader priced monthly.

Global Developed Corporate Investment Grade Fixed Income: Citi World Broad Investment Grade (WBIG) — Corporate Index. A subsector of the WBIG, this index includes fixed-rate global investment-grade corporate debt within the finance, industrial and utility sectors, denominated in the domestic currency. Rebalanced monthly.

Global Developed Large Cap Equity: MSCI World Large Cap Index. This is a free-float-adjusted market-capitalization-weighted index designed to measure the equity market performance of the large-cap stocks in 23 developed markets. Large cap is defined as stocks representing roughly 70% of each market's capitalization.

Global Developed Small Cap Equity: MSCI World Small Cap Index. A capitalization-weighted index that measures small-cap stock performance in 23 developed equity markets.

Global Developed Sovereign Fixed Income: Citi World Government Bond Index (WGBI). Consists of the major global investment-grade government bond markets and is composed of sovereign debt, denominated in the domestic currency. To join the WGBI, the market must satisfy size, credit and barriers-to-entry requirements. In order to ensure that the WGBI remains an investment-grade benchmark, a minimum credit quality of BBB-/Baa3 by either S&P or Moody's is imposed. Index is rebalanced monthly.

Global Emerging Market All Cap: MSCI Emerging Markets Index. A free-float-adjusted market-capitalization-weighted index designed to measure equity market performance of 22 emerging markets.

Hedge Funds: HFRI Fund Weighted Composite Index — Encompasses over 2000 Hedge Funds, to the increasingly specific level of the sub-strategy classifications.

HFRI Equity Hedge Index: Equity Hedge investing consists of a core holding of long equities hedged at all times with short sales of stocks and/or stock index options. Some managers maintain a substantial portion of assets within a hedged structure and commonly employ leverage. Where short sales are used, hedged assets may be composed of an equal dollar value of long and short stock positions. Other variations use short sales unrelated to long holdings and/or puts on the S&P 500 Index and put spreads. Conservative funds mitigate market risk by maintaining market exposure from zero to 100% of gross equity. Aggressive funds may magnify market risk by exceeding 100% exposure and, in some instances, maintain a short exposure. In addition to equities, some funds may have limited assets invested in other types of securities.

HFRI Event-Driven Index: Event-Driven is also known as "corporate life-cycle" investing. This involves investing in opportunities created by significant transactional events, such as spin-offs, mergers and acquisitions, bankruptcy reorganizations, recapitalizations and share buybacks. The portfolio of some Event-Driven managers may shift in majority weighting between Risk Arbitrage and Distressed Securities, while others may take a broader scope. Instruments include long and short common and preferred stocks, as well as debt securities and options. Leverage may be used by some managers. Fund managers may hedge against market risk by purchasing S&P put options or put option spreads.

HFRI Macro Index: Macro involves investing by making leveraged bets on anticipated price movements of stock markets, interest rates, foreign exchange and physical commodities. Macro managers employ a "top-down" global approach, and may invest in any markets using any instruments to participate in expected market movements. These movements may result from forecasted shifts in world economies, political fortunes or global supply and demand for resources, both physical and financial. Exchange-traded and over-the-counter derivatives are often used to magnify these price movements.

HFRI Relative Value Arbitrage Index: The HFRI Relative Value Arbitrage Index is an equal-weighted index of multiple Relative Value Arbitrage Fund managers. Relative Value Arbitrage attempts to take advantage of relative pricing discrepancies between instruments including equities, debt, options and futures. Managers may use mathematical, fundamental or technical analysis to determine misvaluations. Securities may be mispriced relative to the underlying security, related securities, groups of securities or the overall market. Many funds use leverage and seek opportunities globally. Arbitrage strategies include dividend arbitrage, pairs trading, options arbitrage and yield curve trading.

NCREIF NPI Returns Total: Measures the performance of real estate across the US. All reported numbers are unleveraged returns. Total return encompasses both income return, which is the portion related to net operating income on a property, and capital return, which measures the change in market value of a property.

Portfolio Construction: Portfolio Construction is the process to determine the appropriate investment portfolio for a client given their investment objectives, risk tolerance and investment horizon. This incorporates both asset allocation and the translation of that asset allocation into the actual funds and securities that will be acquired by the portfolio.

Private Equity: MSCI World Small Cap Index. A capitalization-weighted index that measures small-cap stock performance in 23 developed equity markets.

Real Estate: NCREIF NPI Returns Total Index — Measures the performance of real estate across the US. All reported numbers are unleveraged returns. Total return encompasses both income return, which is the portion related to net operating income on a property, and capital return, which measures the change in market value of a property.

Strategic Asset Allocation: Strategic Asset Allocation looks to find the appropriate long-term allocation for a client's investment portfolio. The appropriate long-term allocation combines the client's investment objectives and risk tolerance with future long-term expectations on the behavior of different asset classes.

Strategic Return Estimate (SRE): Strategic Return Estimates (SRE) based on indices are Citi Private Bank's forecast of returns for specific asset classes (to which the index belongs) over a 10-year time horizon. The forecast for each specific asset class is made using a proprietary methodology that is appropriate for that asset class. Equity asset classes are forecast using a proprietary methodology based on the calculation of valuation levels with the assumption these valuation levels revert to long-term trends over time. Fixed Income asset classes are forecast using a proprietary methodology based on current yield levels. Other asset classes have other specific forecasting methodologies. Please note that hedge funds, private equity, real estate, structured products and managed futures are generally illiquid investments and are subject to restrictions on transferability and resale. The SRE for each asset class is determined using a forecasting methodology that is appropriate for each asset class. Equity asset classes utilize a proprietary forecasting methodology based on the assumption that equity valuations revert to their long-term trend over time. The methodology is built around specific valuation measures that require several stages of calculation. Assumptions on the projected growth of earnings and dividends are additionally applied to calculate the SRE of the equity asset class. Fixed Income asset class forecasts use a proprietary forecasting methodology that is based on current yield levels. Other asset classes utilize other specific forecasting methodologies.

Tactical Asset Allocation: Tactical Asset Allocation looks to adjust the strategic asset allocation of a client's investment portfolio to incorporate shorter-term market insights.

Yield-to-Maturity (YTM): YTM is the total return you will receive on a bond or index of bonds when held to maturity. The total return includes both the payment of coupons and the return of the principal at maturity.

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Alternative Investments

As further described in the offering documents, an investment in alternative investments can be speculative and not suitable for all investors. Investing in alternative investments is only intended for experienced and sophisticated investors who are willing to bear the high economic risks associated with such an investment. Investors should carefully review and consider potential risks before investing. Certain of these risks may include:

- **Loss of all or a substantial portion of the investment due to leveraging, short-selling, or other speculative practices**
- **Lack of liquidity in that there may be no secondary market for the fund and none is expected to develop**
- **Volatility of returns**
- **Restrictions on transferring interests in the fund**
- **Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor is utilized**

- **Absence of information regarding valuations and pricing**
- **Complex tax structures and delays in tax reporting**
- **Less regulation and higher fees than mutual funds**
- **Advisor risk**

Individual funds will have specific risks related to their investment programs that will vary from fund to fund.

Bonds

Bonds are affected by a number of risks, including fluctuations in interest rates, credit risk and prepayment risk. In general, as prevailing interest rates rise, fixed income securities prices will fall. Bonds face credit risk if a decline in an issuer's credit rating, or creditworthiness, causes a bond's price to decline. High yield bonds are subject to additional risks such as increased risk of default and greater volatility because of the lower credit quality of the issues. Finally, bonds can be subject to prepayment risk. When interest rates fall, an issuer may choose to borrow money at a lower interest rate, while paying off its previously issued bonds. As a consequence, underlying bonds will lose the interest payments from the investment and will be forced to reinvest in a market where prevailing interest rates are lower than when the initial investment was made.

Emerging Markets

There may be additional risk associated with international investing, including foreign, economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes, and differences in financial and accounting standards. These risks may be magnified in emerging markets. International investing may not be for everyone.

More about Asset Classes

Diversification does not guarantee a profit or protect against loss. Different asset classes present different risks. Some, but not all, of those risks are outlined below.

In general, **fixed income and equities investments** (domestic or foreign) face certain asset class-specific risks, which could include, but are not limited to: market risk, credit risk, inflation risk, currency risk, default risk, interest rate risk and political risk. There are also additional risks and traits attributable to asset classes represented in certain indices.

Asset classes based on **international investments** have additional risks associated with international investing, including foreign economic, political, monetary and/or legal factors, changing currency exchange rates, foreign taxes and differences in financial and accounting standards. International investing may not be for everyone. These risks may be magnified in emerging markets.

With respect to **real estate investments**, property values can fall due to environmental, economic or other reasons, and change in interest rates can negatively impact the performance of real estate companies.

Hedge funds, private equity, real estate, structured products and managed futures are generally illiquid investments and are subject to restrictions on transferability and resale. Termination and replacement of investments may subject investors to new surrender charges and costs.

Derivatives, in general, involve special risks and costs that may result in losses. The successful use of derivatives requires sophisticated management, in order to manage and analyze derivatives transactions. The prices of derivatives may move in unexpected ways, especially in abnormal market conditions. Some derivatives are "leveraged" and therefore may magnify or otherwise increase investment losses. Other risks include the potential inability to terminate or sell derivative positions, as a result of counterparty failure to settle or other reasons.

Large-Cap Companies

Asset classes based on large-capitalization companies are subject to the basic market risk that a particular security, or securities in general, may decrease in value over short or even extended time periods. Large-capitalization companies also face the risk that they may not be able to adapt to changing market conditions whether caused by changes in the industry, technology, consumer tastes or the regulatory environment.

Small-Cap Companies

Asset classes based on small-capitalization companies may be influenced by the companies' lack of financial resources, product diversification and competitive strength versus larger companies. The securities of small-capitalization companies may not trade as readily as, and may be subject to higher volatility than, those of larger, more established companies.

Municipal Bond Disclosure

This presentation does not constitute an offer to sell or the solicitation of an offer to buy these securities. All rates are subject to change and availability. Municipal Bonds may be subject to state and local taxes and you may also be subject to Alternative Minimum Tax (AMT). Official offerings may be made only by the final Official Statement. If sold prior to maturity you may receive more or less than your original investment. Past performance is not a guarantee of future results.

Bonds are affected by a number of risks, including fluctuations in interest rates, credit risk and prepayment risk. In general, as prevailing interest rates rise, fixed income securities prices will fall. Bonds face credit risk if a decline in an issuer's credit rating, or creditworthiness, causes a bond's price to decline. High yield bonds are subject to additional risks such as increased risk of default and greater volatility because of the lower credit quality of the issues. Finally, bonds can be subject to prepayment risk. When interest rates fall, an issuer may choose to borrow money at a lower interest rate, while paying off its previously issued bonds. As a consequence, underlying bonds will lose the interest payments from the investment and will be forced to reinvest in a market where prevailing interest rates are lower than when the initial investment was made.

REITs

REITs are subject to special risk considerations similar to those associated with the direct ownership of real estate. Real estate valuations may be subject to factors such as changing general and local economic, financial, competitive, and environmental conditions. REITs may not be suitable for every investor. Dividend income from REITs will generally not be treated as qualified dividend income and therefore will not be eligible for reduced rates of taxation.

Risks

The value of an investment, when sold, may be worth more or less than its original cost. Investments mentioned in this document may not be suitable for all investors. Before making any investment, each investor must obtain the investment offering materials, which include a description of the risks, fees and expenses and the performance history, if any, which may be considered in connection with making an investment decision. Each investor should carefully view the risks associated with the investment and make a determination based upon the investor's own particular circumstances, that the investment is consistent with the investor's investment objective(s) and risk tolerance. No guarantee or representation is given that any product will achieve its investment objectives. This Report is for informational purposes only.

Derivatives

Derivatives are financial contracts whose value depends on, or is derived from, the value of an underlying asset, reference rate or index. Typically derivatives are used as a substitute for taking a position in the underlying asset and/or as part of a strategy designed to reduce exposure to other risks, such as interest rate or currency risk. They may also use derivatives for leverage, in which case their use would involve leveraging risk. The use of derivative instruments involves risks different from, or possibly greater than, the risks associated with investing directly in securities and other traditional investments. Derivatives are subject to a number of risks described elsewhere in this section, such as liquidity risk, interest rate risk, market risk, credit risk and management risk. They also involve the risk of mispricing or improper valuation and the risk that changes in the value of the derivative may not correlate perfectly with the underlying asset, rate or index. When investing in a derivative instrument one could lose more than the principal amount invested. Also, suitable derivative transactions may not be available in all circumstances and there can be no assurance that engaging in these transactions to reduce exposure to other risks would be beneficial.

Commodities

Index components composed of futures contracts on nickel or copper, which are industrial metals, may be subject to a number of additional factors specific to industrial metals that might cause price volatility. These include changes in the level of industrial activity using industrial metals (including the availability of substitutes such as man-made or synthetic substitutes); disruptions in the supply chain, from mining to storage to smelting or refining; adjustments to inventory; variations in production costs, including storage, labor and energy costs; costs associated with regulatory compliance, including environmental regulations; and changes in industrial, government and consumer demand, both in individual consuming nations and internationally. Index components concentrated in futures contracts on agricultural products, including grains, may be subject to a number of additional factors specific to agricultural products that might cause price volatility. These include weather conditions, including floods, drought and freezing conditions; changes in government policies; planting decisions; and changes in demand for agricultural products, both with end users and as inputs into various industries.

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