OPTIMIZING ASSET ALLOCATIONS TO MARKET REGIMES

Our regime-aware investment process helps allocate to the right assets at the right time, delivering growth and downside protection.
State Street Global Advisors has developed an approach that blends innovation and expertise to help deliver outcome-orientated investment solutions: our regime-aware investment process aims to provide competitive absolute returns while reducing downside risk.
THE CHALLENGE FOR INVESTORS

One of the greatest challenges investors face is finding an investment strategy that provides competitive returns while reducing downside risk in both stable and changing market environments. The past two decades have shown the limitations of traditional, static portfolio approaches and the weakness of diversification alone as a loss protection strategy. Many investors found that their supposedly diversified portfolios had correlations that moved to one in times of crisis and fell in lockstep.

On the other hand, excessive caution over asset allocation in more favorable markets may well equate to less upside participation, also leading to a less than optimal return.

But what if a strategy could help reduce a portfolio’s risk exposure before a downside event took place? What if a strategy could continually and dynamically re-allocate assets for optimal returns? Is there a reliable way of determining safer market conditions in which it makes more sense to invest more heavily in aggressive assets, providing optimized growth?

We think there is.

Look Forward, Not Backward

We’ve found that recent crises have caused many investors to ask what they could have done differently and to consider if there were signals, triggers or data points that may have foreshadowed the chaos that followed. They’re looking to avoid damaging downsides but also to time increasing their market participation at the most favorable times.

We recognized that retro-fitting signals from previous crises and opportunities may not mean that we will spot the next ones.

So, we set out to build a framework that had effective signaling power across a number of prior events, while also recognizing the need to continually adjust its influences over time.

Our goal was to develop and design a market-aware framework and dynamic investment process that would give us a systematic approach for identifying market environments and which used forward-looking factors to indicate which type of environment the market was moving into.

Market Regimes and Expected Returns

Upon studying differing market regimes, it’s clear that stressful markets are accompanied by negative performance for growth assets, while quieter market cycles are characterized by strong growth asset performance.

Some rationale behind these observed patterns can be found in the burgeoning field of modern behavioral finance theory. De Long et al. found that as market sentiment becomes bullish, the increased holdings of growth assets by investors tended to push up expected returns (the ‘hold more effect’).

The converse is true when sentiment is bearish but because market participants tend to overreact, prices tend to become either too high or too low. This overreaction leads to a ‘price pressure effect’, lowering expected returns during extreme bullish regimes and raising them in extreme bearish regimes.

At a given point, the impact of market sentiment on expected returns thus depends on which effect dominates. In the short run, it appears that the ‘hold more effect’ dominates the ‘price pressure effect’. This simple fact leads to higher expected returns from growth assets during periods of risk appetite and lower returns for these assets during periods of risk aversion.

Market Regimes and Volatility

In addition to its effects on expected returns, market sentiment may also impact asset volatilities. In particular, it can be argued that sentiment generates asymmetric effects on market volatility; more favorable regimes may lead to less volatility.

In a bullish market, extreme positive sentiment by uninformed traders may crowd out risk-averse arbitragers, in effect causing the latter to stay out of the market. A ‘noise-trader’ dominated market, combined with the arbitrage limits of informed investors, could feed in to the upward trend in prices, without substantial correction for some time — leading to lower asset volatility on average.

Conversely, in a bearish market, while negative extreme sentiment drives down prices and returns, rational investors are more likely to intervene. This, in turn, leads to higher asset volatility. Moreover, bearish sentiment can generate panic selling where large negative returns are followed by even larger negative returns, decreasing the market value of equity prices, increasing the risk of bankruptcy and further exacerbating volatility.

More Favourable Regimes May Lead to Less Volatility

These dual effects of market sentiment on the expected returns of assets and market volatility call for the use of a multi-pronged approach for capturing the return-generating potential afforded by changing regimes.

A regime-dependent dynamic investment process, such as the one we go on to outline now, is designed to capture both.
Building an Approach

To begin developing these insights into an investment process, we wanted to produce a reliable indicator of market regimes, one that was consistent with the multi-asset class portfolios we manage and the global nature of our investment solutions.

Knowing the market environment is important because that drives the asset allocation mix, allowing us to shape the correct mix for the forecast environment.

Introducing the Market Regime Indicator

The measure we developed is called the Market Regime Indicator (MRI) and it is composed of three forward-looking market factors:

- **An equity implied volatility factor.** Implied volatilities may help forecast future actual volatilities and increased buying of put options, indicating risk aversion.
- **A currency implied volatility factor.** Currency volatility has a direct impact on asset returns; and volatility increases through currency pairs may indicate weaker market appetite for risk taking.
- **A credit spread factor.** Widening of credit spreads signals an increase in the risk premium required to take on credit risk. So, the underlying assumption is that investor risk aversion increases along with the credit spread factor level.

Rigorous testing of the regime indicator was conducted to establish how successful it was at accomplishing the task of correctly identifying market environments.

We found that the indicator tracks market stress events closely; the distributions of forward returns based on the indicator generally behave as would be expected; and, perhaps most importantly, asset allocation and trading strategies based on the indicator have generated strong performance.

Defining Market Regimes

Next, we defined 5 key market regimes, which are simply market environments that are characterized by different risk appetite levels. These regimes allow us to classify the prevailing market environment and determine the optimal asset mix for that environment.

- **Euphoria** 
  - Extreme risk appetite (‘Greed/Complacency’)
- **Low Risk Aversion** 
  - Appetite for risk-taking and growth assets
- **Normal** 
  - Neutral market sentiment
- **High Risk Aversion** 
  - Aversion to risk-taking and growth assets
- **Crisis** 
  - Extreme risk aversion (‘Fear/Panic’)

Using the MRI’s inputs we are able to assess the market’s overall expectation of volatility. We then compare this to recent history to determine whether risk appetites are increasing or decreasing.

We believe this approach is a significant improvement over a simple historical volatility indicator because it is both forward-looking and assessed relative to recent history.

Helping Protect Portfolio Returns

Identifying the market environment correctly is important because this then allows us to adopt the best asset mix to protect and build portfolio returns. The indicator allows us to move to defensive assets in times of High Risk aversion, to hold a moderate amount of risk in Normal Market regimes and to increase growth exposures in Low Risk Aversion regimes.

Our MRI Tracks Market Stress Events Closely

Identifying and using market regimes allows for better protection and growth across different market environments.

State Street Global Advisors
**Optimizing Asset Allocations to Market Regimes**

**INCORPORATING THE MRI INTO AN INVESTMENT PROCESS**

By incorporating a dynamic risk-budgeting framework that alters the portfolio risk budget according to the MRI regime, asset allocation can be tailored for the prevailing market risk environment and — when coupled with asset class expected returns and the investment team’s judgement — the appropriate asset allocation for the portfolio can be determined.

This approach overcomes the drawbacks of traditional managed approaches, which have more inflexible asset allocations and risk levels that do not adapt to the prevailing conditions, or adapt to them too late after the fact.

**More Growth When It’s Safe, More Defensive When It’s Not**

When the risk environment is favorable the strategy would run a higher allocation to return-seeking growth assets such as equities, commodities etc. But when the risk environment is unfavorable the allocation would be tilted heavily towards more defensive assets such as cash and short-dated government bonds. Asset weights are thus dynamically adjusted over time to preserve the capital value of the portfolio. Such a strategy would tend to deliver an attractive risk-adjusted return over diverse market cycles.

**DETERMINE MARKET REGIME**

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<thead>
<tr>
<th>Equity Volatility</th>
<th>Currency Volatility</th>
<th>Credit Spreads</th>
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<tbody>
<tr>
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**OPTIMIZE THE ASSET MIX**

- Asset mix changes dynamically to suit the market regime.
- More growth assets when it’s safe.
- More defensive assets when it’s not.

**RESULT**

Performance and Downside Protection Potential Under All Market Conditions.

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**An Effective Framework to Help Improve Risk-Adjusted Returns**

By developing an effective mechanism to determine asset allocation in diverse market environments long-term capital growth can be targeted in a more diversified and less volatile manner.

A regime-aware technique such the MRI, which is forward-looking and can assess market sentiment can enable allocations to the most attractive asset classes of the moment at the most appropriate time. This concept of the ‘right assets at the right time’ could enable investors to participate extensively in favorable times and bank gains in the more challenging times — ultimately dramatically improving risk-adjusted returns.
Further Information

The Market Regime Indicator was developed by our Investment Solutions Group, a 70+ strong team of investment specialists across investment centers in Boston, London, Hong Kong, Paris, Sydney, Dublin and Tokyo. Team members have an average of 15 years’ experience and can draw on the expertise of more than 400 investment professionals as well as SSGA’s risk and compliance specialists.³

This experienced team manages over $35² billion in tactical asset allocation strategies, both benchmark-oriented and absolute return, across a growing range of innovative multi-asset benchmark-relative and absolute return strategies.

SSGA’s proprietary Market Regime Indicator is a key component in our tactical asset allocation strategies and is used within our absolute return strategies to guide allocations that give performance and protection.

For more information on how these products could help you please contact your local SSGA representative.

³Source: SSGA, as of June 2015.
Returns are calculated on a price-return basis in US dollar terms and do not include trading costs. The return in Low Risk Environment is calculated for each asset class by identifying those months where the MRI reading was less than or equal to 0.33 at month end and then taking the average of those returns in those identified months. The Return in High Risk Environment is calculated for each asset class by identifying those months where the MRI reading was greater than 0.66 at month end and then taking the average of the returns in those identified months. In each case returns are calculated in the concurrent month to highlight the benefits of a prompt response to the evolving MRI reading.