Managing a Pension Portfolio: Global Asset Allocation
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PAPERS Spring Forum

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A Theoretical Framework Of Strategic and Tactical Asset Allocation

Building Blocks of an Optimal Portfolio

Optimal Portfolio

Minimum Volatility + Strategic Tilts

• Strategic Asset Allocation (SAA):
  – Long-term, core exposures to asset classes ("risk class"?)
  – Can include active security selection within asset classes

Tactical Tilts

• Tactical Asset Allocation (TAA):
  – when executed well, can deliver uncorrelated alphas
  – Overweight/Underweight; or risk optimized positions
Risk Balanced Strategic Asset Allocation (SAA)

A responsive and adaptive approach with less error-prone forecasting

**TRADITIONAL SAA APPROACH**

- Asset weights chosen
- Risk weights and portfolio risks change
- Concentration of risks on equity likely

**RISK BALANCED SAA APPROACH**

- Risk weights and portfolio risks chosen
- Asset weights change
- Balanced risks may require leverage to achieve return target

*In the traditional approach, risk is left to drift*

*In this simplified example of a risk-based approach, expected risks are chosen*
Security Selection Within Asset Classes

“Risk-Based Asset Allocation: A New Answer To An Old Question?” Lee (2011)

• Any non-market-cap weighted portfolio is an active portfolio, no exception
• Take active security selection risks to the extent alpha-versus-fees analysis justifies it
• Sound theoretical underpinnings for:
  – Minimum Volatility Portfolio
  – Risk Parity Portfolio

Management of Forecast Errors

My Portfolio

= MV + Strategic + Tactical

Identical Sharpe ratios
Identical Correlations

Min Vol

Identical Returns

• the first fundamental building block of an optimal portfolio
• high weight concentration, high risk concentration, high turnover

Risk Parity

• a less error-prone portfolio to mitigate forecast errors
• balanced weight, balanced risk, lower turnover
“Risk On / Risk Off” (Lee, 2012) Challenges All Investors, Ex-Ante

Within Asset Classes: Correlations Have Been High

Average Correlations Among Major Stock Markets

Across Asset Classes: Correlations Shocked to Extremes

Correlations Between Stocks and Gov Bonds In Same Regions

Correlation Between Stocks and Currency Returns In Same Regions

Sources: Bloomberg and Neuberger Berman Quantitative Investment Group.
Summary

“… risk is a choice rather than a fate” – Peter Bernstein (1996)

• Rethinking diversification in strategic asset allocation:
  – traditional versus risk-balanced
  – with or without leverage
• Market cap-weighted is the one portfolio every investor can follow, but not everyone has to follow
  – active security selection risks
• Sensible risk taking with tactical asset allocation
  – net leverage or not
PUTTING RESEARCH WORK INTO PRACTICE

PUBLICATIONS

Demystifying Risk-Parity
Neuberger Berman white paper, March 2012

Risk On Risk Off
Journal of Portfolio Management, Spring 2012

Risk Budgeting With Asset Class and Risk Class
Journal of Investing, Spring 2012

Risk-Based Asset Allocation: A New Answer To An Old Question?
Winner of Bernstein Fabozzi/Jacobs Levy Award for Best Article; published in The
Journal of Portfolio Management, Summer 2011

Implementable Tail Risk Management and Optimization
Journal of Derivatives and Hedge Funds November 2011

Regimes: Non-Parametric Identification and Forecasting
The Journal of Portfolio Management, Winter 2010

The Black-Litterman Model For Active Portfolio Management
Winner of Bernstein Fabozzi/Jacobs Levy Award for Outstanding Article; published in The

Risk Budgeting

Implementing Optimal Risk Budgeting
The Journal of Portfolio Management, Fall 2001

Modeling and Forecasting Interest Rate Volatility with GARCH
Advances in Fixed Income Valuation Modeling & Risk Management, 1997

Theory and Methodology of Tactical Asset Allocation
Wai Lee, 2000

CLIENT APPLICATION:

Risk-Balanced Strategic Asset Allocation

Global Tactical Asset Allocation

Risk-Balanced Security Selection Strategies

Active Security Selection Strategies