Thoughts on Asset Allocation
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The Art of Forecasting

Big Banks’ US$ Outlook for 2010 (dated Jan 2010):

• US$ has limited downside with respect to Yen and Euro. Cyclical near-term weakness followed by gradual dollar recovery further out
• If global economic growth disappoints, US$ will strengthen
• US$ will remain weak but strengthen in late 2010
• US$ downside limited, in fact likely to rally significantly against Euro, especially given the US$-funded carry trade is probably overdone

FORECASTING ASSET RETURNS IS A DIFFICULT BUSINESS TO BE IN!
The 2010 empirical evidence

Euro | Yen | SGD versus US$

USD strengthens against EUR
USD weakens against SGD, JPY
Asset allocation and risk management – The issues

• Liquidity, Transparency, and Downside Risk Control & Management have become paramount concerns of investors, governments and corporate management

• Diversification helps but that does not mean a well-diversified basket of stocks are as safe in the long run. If they were safe in the long-run:
  - they wouldn’t command a risk premium
  - longer-term put options (a.k.a. insurance) on stocks with a floor rising at the riskless rate would be cheaper than their shorter-term counterparts

• Absolute return strategies deserve a closer look in the modern capital allocation program
A well-diversified, all equities portfolio ain’t less risky in the long run

- Volatility of average compound rate of return on stocks declines with the length of time horizon.

- Probability of a shortfall declines with the length of time horizon.

- However, the severity of the shortfall (the “penalty of being wrong” function) increases with the length of time horizon.
Emerging equity market returns are highly non-normal and cannot be measured with standard approaches

Based on Historical Returns From Jan 2002 to Aug 2011

Source: Bloomberg

EMERGING MARKETS CANNOT BE ENTIRELY CHARACTERIZED
BY THEIR FIRST TWO MOMENTS
Emerging equity market returns exhibit contemporaneous shifts in volatility regimes and increase in correlations.

AGAIN, EMERGING MARKETS CANNOT BE ENTIRELY CHARACTERIZED BY THEIR FIRST TWO MOMENTS

**Source:** Bloomberg
Traditional investment approach

TRADITIONAL INVESTMENT APPROACH

- Aims to maximize returns and minimize risk in a mean-variance framework
- Primarily relies on long-only equity exposure to deliver long-term outperformance
  - Reliance on managers outperforming index or peer group benchmarks
  - By construction, high correlation with market
- Risks concentrated in one area

PROBLEMS IN TRADITIONAL APPROACH

- Ignores modern capital market developments
- Too much reliance on equities and equity managers’ constrained alpha generation capability
- No downside protection due to large beta exposure

CURRENT ALLOCATIONS HAVE EQUITY RISK PREMIUM AS DOMINANT RISK FACTOR

Source: Credit Suisse
Risk management: Hope for the best, prepare for the worst

- Ageing population and changing demographics in Japan, Hong Kong, Singapore and other parts of Asia. Declining “support ratios”

- As a consequence, expect compressed equity risk premiums and disappointing long-only equity returns

- An attendant issue: the development of cutting-edge financial solutions to meet investment and retirement planning needs

- Hedge funds, alternative investments, principal-protected and/or inflation-linked investment products, equity-indexed guaranteed life annuities (a.k.a. ratchet or click funds), etc.
Structuring “matching” and “return seeking” portfolios

Return-seeking (well-diversified) portfolio:
- Equities, hedge funds, portable alpha, commodities, real estate, private equity

Matching (or “hedging”) portfolio:
- Fixed income, laddered bond portfolios (including active management, high yield, EM debt)
- Interest rate and inflation total return swaps

Downside Protection = Insurance

PERFORMANCE + RISK REDUCTION = DIVERSIFICATION, ASSET-LIABILITY MANAGEMENT AND RISK MANAGEMENT VIA FINANCIAL ENGINEERING
The new alpha imperative: Offsetting compressed traditional assets’ risk premia

Current developments in the Institutional space

- More emphasis on risk control and risk budgeting
- Reduced risk premium opportunities across asset classes
  - substitution from compressed beta risk premia exposure to alternative investments exposure
- Low correlation with traditional assets and high information ratios
  - Risk mitigation via lower relative portfolio beta exposure
  - Diversification by capturing different risk premia
  - Improved portfolio efficiency by reducing risks without sacrificing returns

THE NEED FOR ALTERNATIVE SOURCES OF RETURN TO OFFSET COMPRESSED RISK PREMIA

Source: Credit Suisse
The role of alternative investments

Exploit unconstrained manager skills to capitalize on orthogonal alpha opportunities

Improve portfolio efficiency by reducing risks without sacrificing returns

Introduction of Alternative Investments with high information ratios to improve the expected financial efficiency of institutional clients’ assets, resulting in a greater expected overall return for the overall risk taken.

Diversification achieved by capturing different risk premia

Mitigate Institutional clients’ substantial equity risk exposure by seeking independent (orthogonal) sources of return

- Credit risk premium
- Liquidity premium
- Skill premium (securities selection, tactical allocation)
Four axis of change: Benefits of introducing alternative investments

Current developments in the institutional space

Strategic Asset Allocation and Optimal Use of the Risk Budget

1. Efficient use of the risk budget to enhance returns and mitigate portfolio risks
   - Optimal combination of passive exposure (beta) and active risks (alpha)

2. Increased use of absolute return strategies and alternatives investments
   - Increased exposure to orthogonal sources of return (addition of uncorrelated alpha)

Selection of Strategies based on Skills and Diversification Potential

3. Innovations in beta space: capturing systematic alpha effects in index plus form
   - Capturing inefficiencies and enhancing return potential at the index level (130/30 long/short extension, exotic ETFs)

4. Alpha-Beta separation, selection and portfolio optimization
   - Efficient use of capital with minimum footprint on strategic asset allocation policies
Increased use of absolute return strategies and alternatives investments

Efficient use of the risk budget

- An increased focus on risk budgeting and risk control
  - Specification of an ex-ante risk budgets
  - Optimal diversification across risk premia
  - Reduction of relative portfolio beta risk exposure with orthogonal alpha strategies

- A new framework for optimal asset allocation
  - Constrain equity market beta to client’s utility function
  - Introduce the full spectrum of alternative investment solutions and uncorrelated sources of alpha such as hedge funds
  - Introduce assets with built-in inflation hedges – TIPS, IL-GILTS, Commodities
  - Conduct a dual optimization exercise: joint beta and alpha optimization process
The new alpha imperative: Increasing breadth and scope of risk premia exposure

- Risks with low return potential
  - Currency risk
  - Duration and Convexity risks
  - Longevity Risk
  - Inflation risk

- Examples:
  - Non-domestic equity exposure:
    - Introduces currency risk
    - Full or partial hedging can reduce impact
  - Non-domestic equity exposure:
    - Introduces exposure to interest rates and inflation
    - Hedge to reduce to a tolerable level

- Risk exposures with high return potential
  - Manager Skill (Active management, Hedge funds)
  - Liquidity Risk (Private Equity, Small and Micro Caps)
  - Real Estate, Commodities, Credits

- Aim is to reduce portfolio volatility and maintain or enhance returns
The evidence: Hedge fund correlations and skew

Low correlations to traditional asset classes & positive skew resulted in high incremental returns for low marginal risks.
On a historical basis, an allocation to hedge funds would have yielded significantly higher returns from:

- Jan 2002 until now (multiple market cycles)
- Aug 2008 until now (Global Financial Crisis)

Optimal allocation to hedge funds:
- The less dependent or correlated the assets, the more the potential gains from diversification
- Addition of uncorrelated assets with high information ratios results in significant expected return enhancement, thus enhancing portfolio risk-adjusted returns

Introduction of alternative strategies improves the portfolio’s potential return per unit of risk even at low overall portfolio risk levels (Sharpe ratio)

Source: Bloomberg
Optimal allocation to active risks: Devising optimal alternative strategies weights

Alternative methods to mean-variance optimization techniques

Alternative Methods To Define Optimal Allocations To Alternative Strategies

- Client-specific customized solutions are designed by minimizing the total (joint) risk of the investor’s current portfolio by selecting and allocating across suitable Alternative Strategies
  - Hedge the investor’s strategic asset allocation portfolio's principal components
  - Devise flexible customized portfolios of Alternative Strategies, with minimal interdependences with the investor’s core portfolio and all of its components
  - Set constraints to provide consistent positive alpha with low downside risks
Investors should seek hedge fund managers who have:

- Deep experience in portfolio management and a culture of continuous innovative research
- Robust security selection models tested under live performance, historical backtests, and Monte Carlo simulations, covering multiple economic environments
- Systematic and consistent, yet unconstrained, investment process that applies experience and model analytics to all relevant markets, asset classes, and opportunities
- Disciplined portfolio construction and downside risk management
- Flexible modeling capable of meeting specific client needs