INTRODUCTION

• Some basic terms
  
  o **Policy portfolio** – an organization of a portfolio by broad classes
  
  o **Asset allocation** – classes organized by contractual features
  
  o **Risk allocation** – classes organized by risk characteristics
  
  o **Functional allocation** – classes organized by role/purpose
RISK MANAGEMENT CONCERNS

• The issue is policy portfolio risk
  o It is dominant
  o Policy risk is often concentrated
RISK MANAGEMENT CONCERNS

• An endowment/foundation fund example:

Allocation of Total Portfolio Risk

Source: PCA
**RISK MANAGEMENT CONCERNS**

- **Importance**

  “Data from 91 large U.S. pension plans over the 1974-1983 period indicate that investment policy dominates investment strategy (market timing and security selection), explaining on average 93.6 percent of the variation in total plan returns.”

  *Determinants of Portfolio Performance*, Brinson, Hood, and Beebower, 1986

  “We found that about 90 percent of the variability in returns of a typical fund across time is explained by policy, about 40 percent of the variation of returns among funds is explained by policy, and on average about 100 percent of the return level is explained by the policy return level.”

  *Does Asset Allocation Policy Explain 40, 90, or 100 Percent of Performance?*, Ibbotson and Kaplan, 2000

Source: PCA
• Importance (cont.)

“Carefully consider what goal you are trying to achieve, how important it is to achieve it, and how much risk you are willing to tolerate in pursuing it. Then, create a policy portfolio that reflects that goal and your risk tolerance for the probable outcomes—because executing that policy will have a dominant effect on your success.”

Determinants of Portfolio Performance – 20 Years Later, Hood, 2005

“Unless there is a strong belief in the ability to select active managers who will deliver higher risk-adjusted net returns, investors’ focus should be on the asset allocation choice and its implementation using broadly diversified, low-cost portfolios with limited market-timing.”


Source: PCA
MARKET COMPLEXITY / PROLIFERATION

• Over 26,000,000 market-based securities, 120+ financial markets (source ANNA Service Bureau)

• $225 trillion of securities issued by sponsors (source McKinsey, et al)

• \(\approx\)$100 trillion in private market securities (source Prudential)

• $769 trillion of derivatives’ notional value (source BIS)

• >$1,000 trillion of financial assets
The Investable Universe is Mind-Boggling...

...a $1,000 Trillion ($1 Quadrillion) opportunity set!
MARKET COMPLEXITY / PROLIFERATION

...and fund allocations are chasing the complexity...

...a growing number of strategic classes.

Do more classes mean more diversification?

Source: NACUBO
• Problem: policy risk mix *is not* diversified

**Allocation of Policy Risk Across various Macro Factors**

**Basic 60/40 Mix**

- Going-in Yield 4%
- Interest Rate Risk 15%
- Growth Risk 81%

**Median Endowment Fund**

- Going-in Yield 6%
- Interest Rate Risk 15%
- Growth Risk 79%

Source: PCA, PCA multi-factor risk model. Proportions based on explainable risks. Model adjusted-$R^2$ exceed 70%.
**RISK MANAGEMENT CONCERNS**

- **Result:** damaging performance during periods of weak and/or declining economic growth

- **Pro-cyclical** behavior to the economic cycle

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**Fiscal 6/30 Year Returns – NACUBO Endowment Funds**

- **Source:** State Street Bank, TUCS
• Past practice: policy mix with evolving allocation to alternatives/illiquids

• Current/new practice: we can do better…
• We believe risk/functional allocation is “a better mousetrap”

• Primary rationale: risk management amidst product proliferation

• …but, this is being debated…
THE FUNCTIONAL/RISK ALLOCATION CONCEPT

• Detractors:
  
  o Wai Lee, PhD, CIO of Neuberger’s QIG; “Risk-Based Asset Allocation: A New Answer to An Old Question?”; *Journal of Portfolio Management*, Summer 2011

  o Thomas Idzorek, CFA & Maciej Kowara, CFA; “Factor-Based Asset Allocation vs. Asset-Class-Based Asset Allocation”; *Financial Analysts Journal*; May/June 2013
Lee:

- What is the objective!? 
- Risk-based allocation methods can lead to poor risk diversification 
- Subjectivity is required to apply risk-based allocation approaches 
- The Risk Contribution (or Risk Parity) approach may prove helpful due to its heuristic benefits
• Idzorek & Kowara:
  
  o Used two forms of M-V optimization to validate MPT vs. risk allocation
  
  o If risk factors can completely explain assets and *vice versa*, then risk allocation does not add value
  
  o Risk-based approaches actually allow unconstrained allocations into a portfolio, leading to more favorable risk-adjusted outcomes
• Counterpoints:
  
  o The **objective** is three-fold: (i) policy mix should better reflect economic sensitivities; (ii) increase the risk management culture/orientation; (iii) avoid being pro-cyclical
  
  o Traditional mean-variance analysis (as applied in MPT) has many very limiting assumptions
  
  o Heuristics matter – a lot!
    ♦ Is risk really single dimensional?
    ♦ How many strategic classes can a lay board digest?
    ♦ Are decision-makers aware of the dangers of being pro-cyclical?
**THE FUNCTIONAL/RISK ALLOCATION CONCEPT**

- **Implications:**
  - A shift in strategic allocation policy:

**2014 Average NACUBO Endowment Mix**

- **Dom. Equities:** 17%
- **Intl. Equities:** 18%
- **Fixed Income:** 9%
- **Marketable Alts.:** 18%
- **PE/VC/DD:** 17%
- **Nat. Res./Comm.:** 7%
- **Real Estate:** 6%
- **Other:** 5%

**Source:** NACUBO

**Functional/Risk Re-classification**

- **Broad Growth**
  - **Principal Protection**
  - **Inflation Protection**
  - **Crisis Offset**

**Percent - %**

Source: NACUBO
THE FUNCTIONAL/RISK ALLOCATION CONCEPT

• Implications (cont.):
  
  o Strategic classes are designed to perform a specific function and/or reflect a specific risk
  
  o Likely re-think of “alternatives” categories
  
  o Likely re-analysis of the role of hedge funds
  
  o Redesign of alternatives very likely leads to reduced costs
  
  o Strategic policy mix risk exposures more intuitive and explicit
  
  o Exploration of new or significantly altered strategic classes
  
  o Potential for underlying/delegated investment complexity
• From a policy perspective macro risk transparency is critical and today you probably don’t have it

• Macro risk transparency can lead to recognition of risk concentration and/or risk mitigation gaps

• Think functional classes *not* asset classes
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