# Institutional Investors

## - *Case Studies and Future Considerations* -

Presented by:
**Colin Bebee, CFA**

**Meketa Investment Group, Inc.**

# Colin Bebee, CFA – Executive Vice President

Mr. Bebee is a consultant and has 9 years' of industry experience. Mr. Bebee joined the firm in 2019 as part of the merger between Meketa and Pension Consulting Alliance (PCA). Mr. Bebee has a wide range of responsibilities, including consulting responsibilities, manager due diligence, and design and implementation of proprietary risk models and econometric modeling. Additionally, he works with our capital market research team on the development of capital market assumptions, and creates and monitors customized strategic investment classes. Mr. Bebee is a member of the firm's Strategic Asset Allocation/Risk Management committee.

Prior to joining PCA in 2010, Mr. Bebee held various roles with Thomas Capital Group as well as with an Oregon-based e-commerce start-up.

Mr. Bebee earned a Bachelor of Science in Economics and Finance from Linfield College, magna cum laude. He holds the Chartered Financial Analyst designation and a member of the CFA Society of Portland.

# About Meketa Investment Group

- Four decades of institutional investment consulting experience working with public and private investors, endowments & foundations, and corporations
- Independently owned by senior professionals
- Over 200 clients advising on approximately $1.4 trillion including $12 billion in discretionary management
- Staff of over 185 employees including 127 investment professionals
- 7 Offices – 6 in the US, 1 in London

# Agenda

- Options Usage Among Plan Sponsors
- Approaches to Hedging Equity Drawdowns
- Future Considerations for Short and Long Volatility

# Options Usage Among Plan Sponsors

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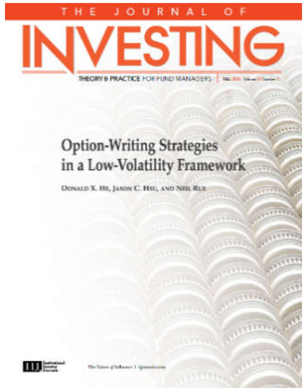
- Historically, both short and long volatility exposures
  - Short Vol = equity-like exposure
    - Over $4 billion in client assets
  - Long Vol = equity offsetting exposure
    - Utilized across 22 clients
- Key consideration = managing short and long volatility in one portfolio

# Options Usage Among Plan Sponsors – Short Volatility

- Most client exposures come through one of four strategy types:
    1) Covered Calls
    2) Cash-secured Put-Writing
    3) Cash + Targeted Equity Beta + Short Straddles/Strangles
    4) Rebalancing Strategies (sell calls and puts to modify equity exposure)
- Fairly simplistic strategies with more complexity added over time

# Options Usage Among Plan Sponsors – Short Volatility

- Most utilized short volatility exposures are not pure; they contain equity beta/delta
  - Can be described as: $R_i = 0.5(ERP) + VRP + \varepsilon$
- Ultimately, results in equity-like returns with ≈2/3 the volatility



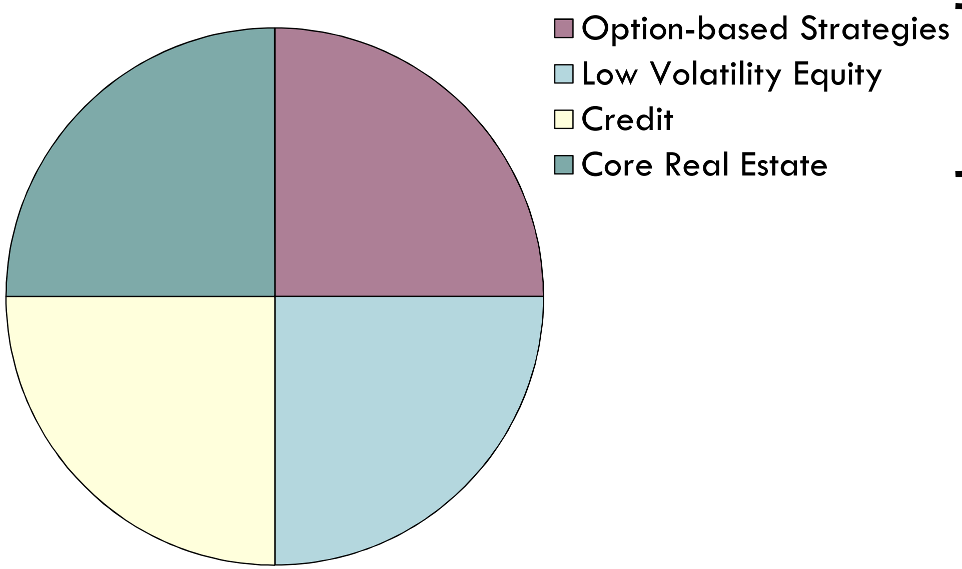

2015 paper written by Neil Rue (Meketa), Jason Hsu (Research Affiliates), and Donald He (Allianz)

ERP = Equity Risk Premium | VRP = Volatility Risk Premium

# Options Usage Among Plan Sponsors – Short Volatility

- Short volatility strategies may be combined with other similar risk/return strategies
  - Certain clients consider these *Stabilized Growth* classes

**<u>Example *Stabilized Growth* Class</u>**




**<u>Commonality Among All Strategies</u>**

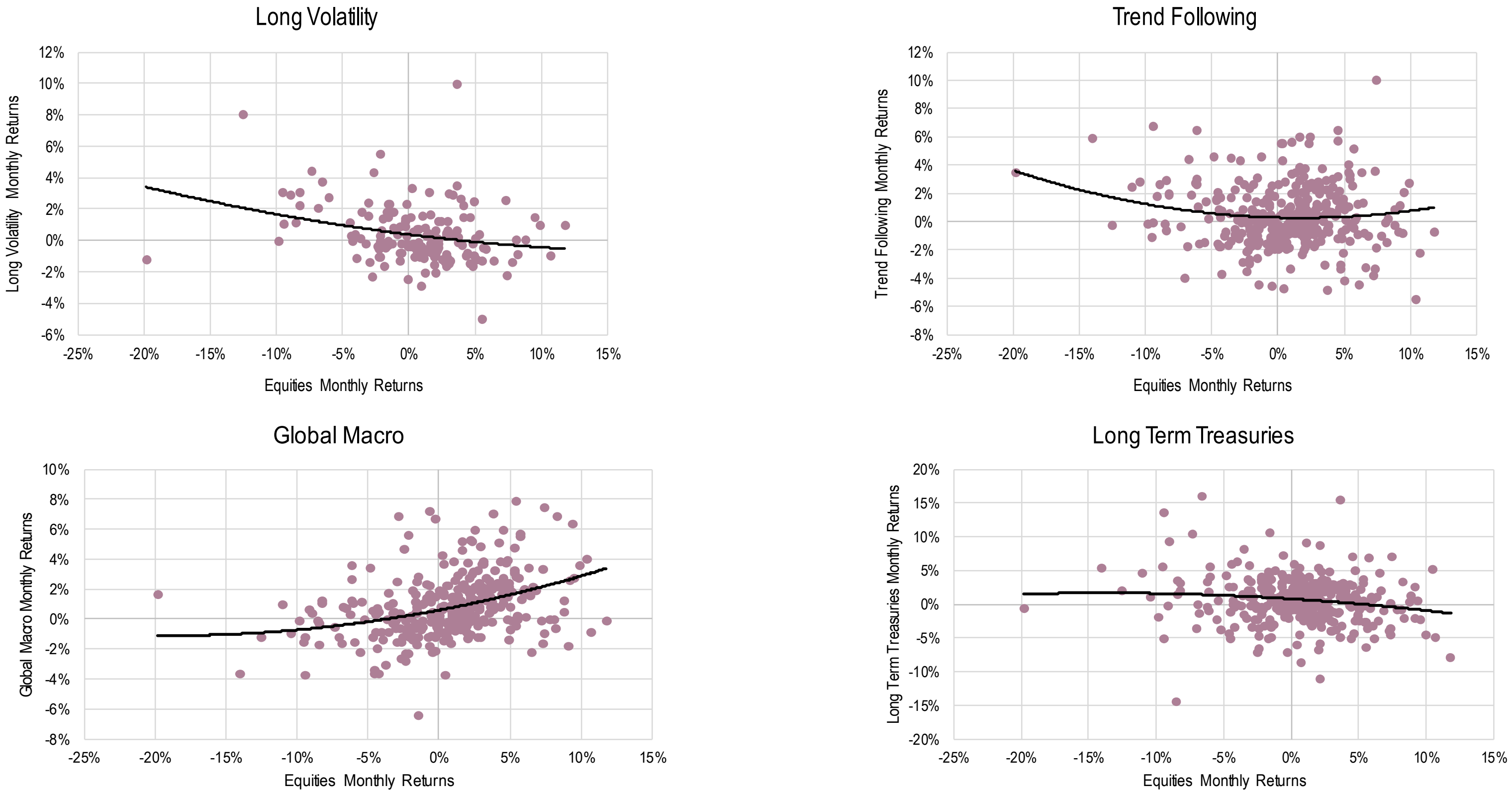
- Equity-like full-cycle returns
- Lower volatility than long-only equity

# Options Usage Among Plan Sponsors – Long Volatility

- "Long Volatility" includes both explicit and implicit exposures
  - Explicit = long put options, VIX futures, etc.
  - Implicit = Systematic Trend Following, Global Macro, Long Treasuries
    - i.e., strategies with (empirical) convex payoffs during equity drawdowns
- Explicit strategies = known negative carry
- Implicit strategies = negative-to-positive carry

# Options Usage Among Plan Sponsors – Long Volatility

- Convexity varies across strategies and time periods/regimes



# Options Usage Among Plan Sponsors – Long Volatility

- Long volatility exposure requires several considerations:
  - Cost (i.e.,  negative carry and/or budget)
  - Basis risk
  - Offsetting exposures (e.g., short volatility strategies elsewhere)
  - Monetization processes
  - Strategic vs. tactical exposure
  - Sizing

# Approaches to Hedging Equity Drawdowns

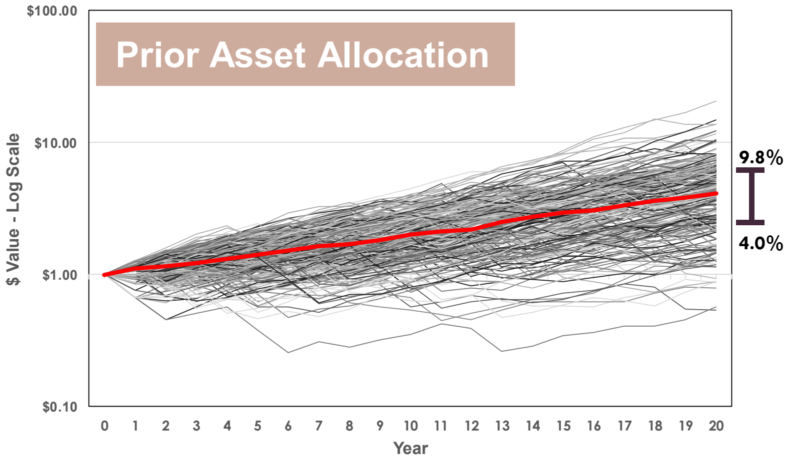
# Approaches to Hedging Equity Drawdowns

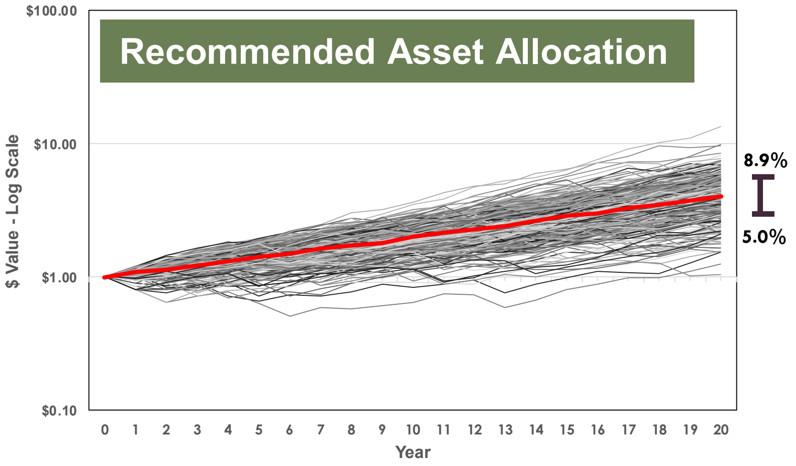
- For most institutional investors, the biggest headwind they face is net-negative cash-flow situations
  - i.e., benefit payments (withdrawals) exceed contributions
- For example, many public plans have “lumpy” cash out-flow years
  - Despite being long-term focused, drawdowns in certain years hurt more than in others
- A plan sponsor can be a top-quartile investor on a return basis but can still go insolvent due to cash-flows

# Approaches to Hedging Equity Drawdowns

- Cash-flow issues require investors to be focused on short- and long-term returns
  - The journey matters!
- As a result, strategic asset allocations can focus on truncating both tails

Example Client Asset-Liability Study Output

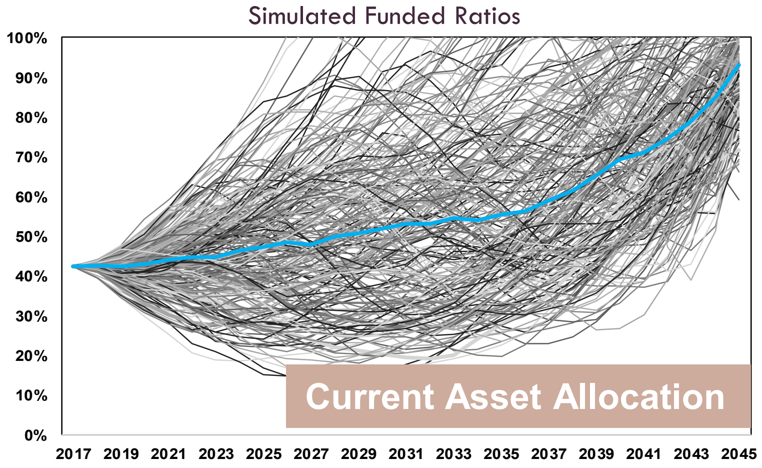


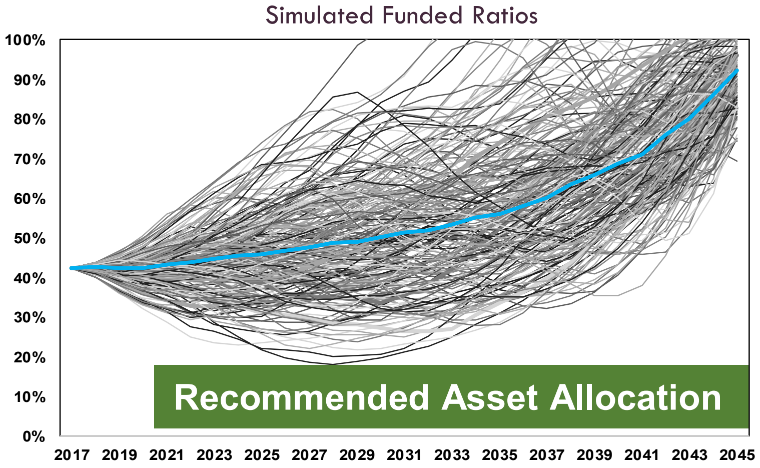



# Approaches to Hedging Equity Drawdowns

- Smoothing the return pattern results in a narrower range of funding expectations

Example Client Asset-Liability Study Output



# Approaches to Hedging Equity Drawdowns

- Focusing on cash-flow situations has (at times) led to two big decisions:
  - Material allocation to a Stabilized Growth-like class
  - Material allocation to a Crisis Risk Offset/Risk Mitigating Strategies class
- Overarching goal = smooth the sequence of returns
  - Somewhat counterintuitive, this matters for plans that are materially cash-flow positive as well

# Approaches to Hedging Equity Drawdowns

- Crisis Risk Offset/Risk Mitigating Strategies classes fall on a spectrum


- The core of the classes are the same; modest differences in underlying strategy utilization and weighting

# Approaches to Hedging Equity Drawdowns

- Often helpful to utilize "Frameworks" when constructing CRO/RMS-like classes
- Frameworks help with construction and understanding
- Two example frameworks:
  - Traditional/High-level
  - Functional Roles

# Approaches to Hedging Equity Drawdowns

## Traditional, High-level Framework

### 1) Established Diversifiers

- *Longstanding strategies that have been utilized for decades*
  - Long U.S. Treasury Bonds
  - CTAs/Systematic Trend Following

### 2) Alternative Return Capture

- *Strategies that have de minimis long-term market exposure and seek to either predict major market moves or exist in isolation of major market moves*
  - Global Macro
  - Alternative Risk Premia

### 3) Explicit Protection/Insurance

- *Guaranteed positive payoffs during market drawdowns with continual costs to maintain the program*
  - Tail Risk Strategies (e.g., buying put options)

# Approaches to Hedging Equity Drawdowns

## Functional Roles Framework

### 1) First Responder*

- *Strategies that have a high likelihood of responding quickly and positively during "risk-off" market events*
  - Tail Risk Strategies
  - Long U.S. Treasury Bonds (exception = inflationary/rising rate events)

### 2) Second Responder*

- *Strategies that will naturally reposition to take advantage of sustained market drawdowns*
  - CTAs/Systematic Trend Following

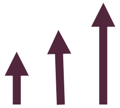
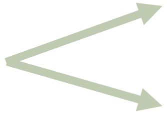
### 3) Portfolio Return Bolster*

- *Strategies that have unreliable protection attributes but are also unrelated to Growth-risk and can help improve the long-term return of the class*
  - Alternative Risk Premia

*Global Macro strategies can fit into any of the categories

# Approaches to Hedging Equity Drawdowns

- Regardless of framework, all CRO/RMS implementations have two core components:

| | Attributes | Most Effective When… | Least Effective When… |
|---|---|---|---|
| **Long Treasuries** | **Role:** 1st Responder<br>**Cost:** Low, <5 bps<br>**Reliability:** High | <br>**Sudden Drawdown Flight to Quality** | <br>**Rising Rates** |
| **Trend Following** | **Role:** 2nd Responder<br>**Cost:** Low, 20-80 bps<br>**Reliability:** Medium | <br>**Trending Markets** | <br>**Sharp Market Reversals** |

# Future Considerations for Short and Long Volatility

# Future Considerations for Short Volatility

- Utilization of short volatility will likely continue to expand:
  - Across more asset classes/regions
  - Across more institutional investors
- Key considerations:
  - Where will it fit in portfolios?
  - Which asset classes/strategies should it not be combined with?

# Future Considerations for Short Volatility

- Where will it fit in portfolios?
  - Equity/Growth Classes
    - Positive conditional correlation with equity drawdowns implies it likely only diversifies during “normal” times
  - Alternative Risk Premia
    - If the goal of ARP is to generate a high Sharpe, then yes
    - If the goal of ARP is to diversify equity exposure, then no
  - Hedge Fund / Absolute Return
    - Similar conclusions as ARP (above)

# Future Considerations for Short Volatility

- Which asset classes/strategies should it not be combined with?
  - Diversifying Strategies
    - Short volatility on equity-related classes shares drawdowns with equity
    - Short volatility on diversifying strategies (e.g., Treasuries) impedes convexity
- Asset manager community often focuses on Sharpe Ratios (i.e., their own) in isolation, rather than on client aggregate Sharpe Ratios

# Future Considerations for Long Volatility (Tail Risk)

- Long volatility strategies typically come in two varieties:
  - Generic commingled funds
  - Customized programs
- Perhaps there is a way to get the best attributes of each?
  - In other words, address commonalities that institutional investors face while increasing economics of scale and decreasing costs

# Future Considerations for Long Volatility (Tail Risk)

- Ideal solutions:
  - Minimal cost/carry
  - Insignificant basis risk
  - Fund-level and client-directed monetization (i.e., liquidity)
  - Focused on first leg of equity drawdowns
    - RMS/CRO-like classes are imperfect during fulcrum points
    - Long volatility strategies could potentially fulfill this role

# Closing Thoughts

# Closing Thoughts: Agenda Sub-topics

- Zero interest rates and quantitative easing altered the traditional search for yield
  – Altered might be too nice of a word
- Risk-free return or return-free risk?
  – Both are probably true
- Volatility positioning in the options market
  – See prior slides?
- Optionality positions in other asset classes and structures
  – See prior slides?
- Where and when the Day of Reckoning may occur
  – Your guess is as good as mine (nobody knows)

# Questions?

Colin Bebee, CFA
Executive Vice President, Consultant

**Meketa Investment Group, Inc.**

Tel:  (503) 226-1050

Email: cbebee@meketagroup.com

# Contact Information

**M E K E T A   I N V E S T M E N T   G R O U P**


**BOSTON**
100 Lowder Brook Drive, Suite 1100
Westwood, MA 02090
Tel: (781) 471-3500

**SAN DIEGO**
5796 Armada Drive, Suite 110
Carlsbad, CA 92008
Tel: (760) 795-3450

**MIAMI**
5200 Blue Lagoon Drive, Suite 120
Miami, FL 33126
Tel: (305) 341-2900

**PORTLAND**
411 NW Park Avenue, Suite 401
Portland, OR 97209
Tel: (503) 226-1050

**NEW YORK CITY**
48 Wall Street, 11th Floor
New York, NY 10005
Tel: (212) 918-4783

**CHICAGO**
One E. Wacker Drive, Suite 1210
Chicago, IL 60601
Tel: (312) 474-0900

**LONDON**
25 Green Street
London W1K 7AX U.K.
Tel: +44 0203841 6255