Asset Allocation vs Diversification
Does Your Asset Allocation Provide Diversification?

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What Drives AA Decision?
Performance, Risk, Correlation

DISCUSSION

What Drives Policy AA Decisions?

How To “Predict” Which Asset Class Will Perform?
**What Drives AA: Performance**

Private equity best performing asset class for US Pension Funds over the past 10 years

**US Public Pension Fund Return by Asset Class**

Median 10-year annualized return

- **Total Fund return 7.5%**
- **Fixed income**: 5.6%
- **Real estate**: 7.4%
- **Public equity**: 7.9%
- **Private equity**: 12.3%

Source: Private Equity Growth Capital Council “Public Pension Fund Analysis” October 2014. Private Equity Growth Capital Council uses data collected by Bison to examine the private equity investments of over 150 U.S. public pension funds. The information was collected either through direct communication with pension funds or from publicly available comprehensive annual financial reports.

**DISCUSSION**

Opinions About The 60/40 MVO Methodology?

Has Private Equity Outperformed Public Equity?
Private Equity Strategy
Why has private equity outperformed public equity?

<table>
<thead>
<tr>
<th>Public equity</th>
<th>Private equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buying and selling of shares only possible action</td>
<td>Active ownership of investments</td>
</tr>
<tr>
<td>Information limited to regulatory demands</td>
<td>Full access to information</td>
</tr>
<tr>
<td>No additional value</td>
<td>Value added on multiple levels(^1)</td>
</tr>
<tr>
<td>Principal – agent conflict</td>
<td>Alignment of interests</td>
</tr>
<tr>
<td>More efficient markets</td>
<td>Inefficient markets</td>
</tr>
</tbody>
</table>

Fundamentally different investment model and access to inefficient markets generates attractive long-term return compared to public equities

(1) Joint research study by Capital Dynamics and Center for Entrepreneurial and Financial Studies at the Technical University of Munich, “Value Creation in Private Equity” (2009, 2014)

Source: Capital Dynamics

Private Equity Strategy
Diversification over funds and vintages reduces risk and increases return potential

An innovative risk measure “iCaR” (invested capital at risk), assesses the risk of a private equity portfolio\(^1\)

1. An innovative risk measure “iCaR” (invested capital at risk), assesses the risk of a private equity portfolio. (1)

(1) Joint research study by Capital Dynamics and Center for Entrepreneurial and Financial Studies at the Technical University of Munich, “Value Creation in Private Equity” (2009, 2014)

Source: Capital Dynamics analysis based on Thomson One data as of June 30, 2013.
Private Equity Strategy
Comparative return dispersion implies diversification opportunities

Dispersion of active management returns over the period of ten years

(1) All private equity funds from Preqin Private Equity Performance database with vintage year 2002, sourced February 2015.
(Source: FI, Equity and High Yield data from P&I, Hedge Funds from Bloomberg, Private Equity from Preqin for illustrative purposes only)

Private Equity Strategy
Long-term investment, with single fund returns experiencing “J-curve”

The J-curve could be mitigated through
- vintage year diversification and/or
- allocation to strategies with shallow J-curve

• Investment period begins
• Fund costs weigh on performance
• Value creation process takes place
• Value accrues, portfolio companies sold

Source: Capital Dynamics conceptual. For illustrative purposes only.
The Yale – Endowment Strategy
Over Half Allocated to Private and Real Assets

Asset Allocation vs Risk Allocation
Economic Factors That Impact Portfolios
Asset Allocation vs Risk Allocation

Linking Economy to 60/40 Portfolio

1. Bonds & Stocks sensitive to eighteen (18) market and economic variables (9 shown here).
2. Stocks go up when bond yields go down.
3. Bonds rise when core inflation rises, but fall when energy prices rise.
4. Stocks increase when corporate cash flow increases; bonds are indifferent.

Asset Allocation vs Risk Allocation
Managing the Private Equity RISK is a must!

New or existing private equity portfolio
Diversification analysis
Portfolio benchmarking
Portfolio optimization
Cash & value forecasting

Source: Capital Dynamics.

Private Equity Secondaries: A core building block for growing long term savings plan | August 2015
Asset Allocation vs Diversification

Does Your Asset Allocation Provide Diversification?

Ensure AA Providing Economic Factor Diversification

The Economically Diversified Yale-Endowment Model

Private Equities Contribution to Portfolio Diversification