ADVISOR SYMPOSIUM

MARCH 12–14, 2018
THE ISLAND HOTEL
NEWPORT BEACH
Capital Markets Expectations
Asset Class

Expected Returns

Why Are Expected Mainstream Asset Returns Paltry?
Source: Research Affiliates, LLC, based on data from MSCI Inc., Bloomberg, and Barclays. The country-specific Treasury indices are represented by the Barclays US Treasury 5-7 Year, Barclays Germany Treasury 5-7 Year, Barclays Japan Treasury 5-7 Year, and Barclays UK Treasury 5-7 Year. For more information, please visit http://www.researchaffiliates.com/en_us/asset-allocation.html. As of December 31, 2017.
Bonds: Future Returns Follow Starting Yields

Source: Research Affiliates, LLC, based on data from Ibbotson and Bloomberg. As of December 31, 2017.
Bonds: Future Returns Follow Starting Yields

Source: Research Affiliates, LLC, based on data from Barclays. The yield-to-worst and total returns are of the Barclays Aggregate Index. As of December 31, 2017.

Correlation = 92%
30-Year Return = 6.6%
Bonds: Future Returns Follow Starting Yields

Source: Research Affiliates, LLC, based on data from Barclays. All returns are denominated in local currencies.

The index is represented by the Barclays Germany Global Treasury 5-7 Year. As of December 31, 2017.

Correlation = 88%
Bonds: Future Returns Follow Starting Yields

Source: Research Affiliates, LLC, based on data from Barclays. All returns are denominated in local currencies.
The index is represented by the Barclays Japan Global Treasury 5-7 Year (January 1987). As of December 31, 2017.
Bonds: Future Returns Follow Starting Yields

Source: Research Affiliates, LLC, based on data from Barclays and Bloomberg. All returns are denominated in local currencies. The index and inception date is Barclays UK Treasury 5-7 Year (January 1987). As of December 31, 2017.
Mainstream Equities
Equities: Long-Term Return Expectations

Equities: Future Returns Follow Starting Earnings Yields

Source: Research Affiliates, LLC, based on data from Bloomberg and Shiller. The index and inception date is the S&P 500 (January 1926). Earnings yield is computed as the inverse of the CAPE ratio. For more information, please visit http://www.researchaffiliates.com/en_us/asset-allocation.html. As of December 31, 2017.
Equities: Future Returns Follow Starting Earnings Yields

Source: Research Affiliates, LLC, based on data from Bloomberg and MSCI. The index and inception date is the MSCI Germany (January 1969). Earnings yield is computed as the inverse of the CAPE ratio. For more information, please visit http://www.researchaffiliates.com/en_us/asset-allocation.html. As of December 31, 2017.
Equities: Future Returns Follow Starting Earnings Yields

Source: Research Affiliates, LLC, based on data from Bloomberg and MSCI. The index and inception date is the MSCI Japan (January 1969). Earnings yield is computed as the inverse of the CAPE ratio. For more information, please visit http://www.researchaffiliates.com/en_us/asset-allocation.html. As of December 31, 2017.
Equities: Future Returns Follow Starting Earnings Yields

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Common Valuation Metrics Imply Overvaluation

Mainstream Asset Classes Offer Less Than Most Investors Expect

*60/40 portfolios are represented as 60% core equity index and 40% Treasury 5-7 Year bond index for each specific country. For the US, the Barclays Aggregate is used in lieu of the 5-7 Year Treasury. Source: Research Affiliates, LLC, based on data from Ibbotson, Shiller, Bloomberg, FactSet, MSCI Inc., and Barclays. As of December 31, 2017.
What Can Investors Do?

1. Consider *other* asset classes
   - Mainstream stocks and bonds are not the only choices
   - Uncomfortable assets can be priced to offer better returns

2. Unlock excess returns *within* asset classes
   - The traditional approach is to seek alpha through active managers
   - Fundamental indices add value in a simple, transparent, low-cost way

3. Rebalance *across* asset classes
   - A buy-and-hold approach leads to overweighting recent winners
   - Tactical over-rebalancing can profit from extremes of valuation
Consider Other Asset Classes
The First Path to Improving Return Potential
Unconventional Assets Mostly Priced to Offer Better Returns

*Unconventional Portfolio is an equal-weighted portfolio of the following asset classes: EM Equity, EM Currency, EM Local Debt, Bank Loans, US TIPS, High Yield, REITs, and Commodities. US 60/40 is represented as 60% in S&P 500 and 40% in Barclays U.S. Aggregate. Global 60/40 is represented as 60% in MSCI World and 40% in Citigroup WGBI. As of December 31, 2017. Source: Research Affiliates, LLC, based on data from Shiller, Bloomberg, and FactSet.
Unlock Excess Returns Within Asset Classes
The Second Path to Improving Return Potential
## Investor Beliefs Drive Implementation Choices

<table>
<thead>
<tr>
<th>Philosophy</th>
<th>Traditional Indexing</th>
<th>Fundamental Index™</th>
<th>Active Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prices closely <em>reflect</em> intrinsic value</td>
<td>Prices <em>deviate</em> from intrinsic value</td>
<td>Prices <em>deviate</em> from intrinsic value</td>
<td></td>
</tr>
<tr>
<td><strong>Achilles' Heel</strong></td>
<td>Cannot deliver excess returns in inefficient markets</td>
<td>Cannot win in strong momentum and growth dominated markets</td>
<td>Cannot (collectively) beat the market and utterly reliant on manager skill</td>
</tr>
</tbody>
</table>

Unlocking Excess Return
Active Management: Excess Returns Are Difficult to Achieve

Excess Returns of Surviving U.S. Large Cap Mutual Funds (Dec 2006–Dec 2016)

-3% or less: 70
-2% to -3%: 141
-1% to -2%: 283
0 to -1%: 321
0 to 1%: 222
1% to 2%: 99
2% to 3%: 26
3% or more: 12

Underperformers 42%
Market Equivalent 46%
Outperformers 12%

There were ~1000 funds that failed, and probably fell into these bins. These results span the ~57%* of funds that survived the decade, and misses the many hundreds of funds that failed!

Fundamental Index: Weight by Any Measure of Company Size Except Market Capitalization

- Sales
- Cash Flow
- Dividends
- Book Value

Outperformance vs. Cap-weighted Benchmark

Benefits
- Low turnover & trading costs
- High capacity
- Broad economic representation
RAFI™ Delivers Excess Returns

Source: Research Affiliates, LLC, based on data from Factset. Returns prior to index inception dates are simulated. Please see important information at the end of this presentation regarding simulated data. The Value Premium for each region is calculated by taking the cap-weighted value index and subtracting the cap-weighted core index. For example, for the Global Value Premium, the formula is the MSCI ACWI Value Gross Index minus the MSCI ACWI Gross Index.
Excess Returns Should Accrue to the Investor

Active Managers vs. Fundamental Index Strategies (2006–2016)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent of Excess Returns Passed On to Manager</th>
<th>Percent of Excess Returns Passed On to Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average of US top quartile active managers</td>
<td>51%</td>
<td>49%</td>
</tr>
<tr>
<td>2nd, 3rd, and 4th quartile US managers all fail to add value net of expenses</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Live US Fundamental Index Strategies</td>
<td>73%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Active Managers excess returns calculated by using the average gross return of the top quarter of funds in the Lipper U.S. Large Cap Core, U.S. Large Cap Growth, and U.S. Large Cap Value database minus the return of the S&P 500 Index for the period 1/1/2007–12/31/2016. Fees are represented by the average current expense ratio charged by active managers in the top 25th percentile ranking. The Fundamental Index strategy represents the average excess returns, before fees, of the PowerShares FTSE RAFI US 1000 (PRF) ETF minus the S&P 500 and the PIMCO RAE Fundamental PLUS Fund Institutional Class (PXTIX) minus the S&P 500 for the period 1/1/2007–12/31/2016. Fees are represented by the average expense ratio of the two funds. Source: Research Affiliates based on data from eVestment Alliance and Factset.
Rebalance Across Asset Classes
The Last Path to Improving Return Potential
Mean Reversion is Unreliably Reliable

The seven asset classes consist of US stocks (S&P 500), US core bonds (Barclays US Aggregate), Long TIPS (Barclays US 10-year plus Treasury Inflation Protected Notes), High yield bonds (Barclays US Aggregate Credit Corporate HY), REITs (FTSE NAREIT All REITs), EM local debt (JPMorgan Emerging Local Markets ELMI Plus Gross), and commodities (Bloomberg Commodity Index). Source: Research Affiliates, LLC, based on data from FactSet. As of December 31, 2017.

### Asset Class Rankings (as of Dec 2017)

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<tbody>
<tr>
<td><strong>Highest Performing</strong></td>
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<tr>
<td>US Stocks</td>
<td>41.5%</td>
<td>68.3%</td>
<td>89.7%</td>
<td>24.6%</td>
<td>64.4%</td>
<td>52.6%</td>
<td>36.4%</td>
<td>8.7%</td>
</tr>
<tr>
<td>EM Core Bonds</td>
<td>35.8%</td>
<td>48.3%</td>
<td>35.2%</td>
<td>20.7%</td>
<td>50.7%</td>
<td>34.2%</td>
<td>25.9%</td>
<td>7.2%</td>
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<tr>
<td>Long TIPS</td>
<td>21.4%</td>
<td>33.9%</td>
<td>34.9%</td>
<td>19.2%</td>
<td>40.0%</td>
<td>5.2%</td>
<td>19.4%</td>
<td>7.0%</td>
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<tr>
<td>US Core Bonds</td>
<td>20.3%</td>
<td>33.1%</td>
<td>34.7%</td>
<td>19.0%</td>
<td>36.3%</td>
<td>4.4%</td>
<td>19.0%</td>
<td>6.8%</td>
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<tr>
<td>EW Seven</td>
<td>19.6%</td>
<td>31.5%</td>
<td>33.0%</td>
<td>4.2%</td>
<td>31.1%</td>
<td>0.3%</td>
<td>15.5%</td>
<td>6.4%</td>
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<tr>
<td>Commodities</td>
<td>19.6%</td>
<td>25.6%</td>
<td>27.7%</td>
<td>-11.1%</td>
<td>19.7%</td>
<td>-10.7%</td>
<td>15.4%</td>
<td>5.9%</td>
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<tr>
<td>HY Bonds</td>
<td>-1.8%</td>
<td>24.5%</td>
<td>15.6%</td>
<td>-15.9%</td>
<td>7.7%</td>
<td>-15.9%</td>
<td>13.7%</td>
<td>5.0%</td>
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<tr>
<td><strong>Lowest Performing</strong></td>
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<tr>
<td>REITs</td>
<td>-4.4%</td>
<td>-11.7%</td>
<td>11.5%</td>
<td>-34.4%</td>
<td>0.2%</td>
<td>-43.4%</td>
<td>6.3%</td>
<td>0.8%</td>
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<tr>
<td>US Core Bonds</td>
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Three-Year Incremental Returns

**Ann. Return**

The table above shows the three-year incremental returns for each asset class from 1998 to 2017. The highest performing asset classes are those with the highest returns, while the lowest performing asset classes are those with the lowest returns.
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