ALTERNATIVE INVESTMENTS SUMMIT
MAY 7TH 2018

Speaker:
Keith Black, PhD, CFA, CAIA (Managing Director, CAIA)

Panel:
Dan Schwartz, CFA (Vice President, AQR)
Eileen Duff (Managing Partner, iCapital)
David Hemming (Senior PM, PowerShares by Invesco)
ABOUT CFA ORLANDO

CFA Society Orlando was founded in 1993 as a chapter of CFA Institute, a nonprofit member organization of investment professionals. Today we have over 160+ active members and continue to grow with in our local community.

MISSION: Our mission is to foster a vibrant and ethical investment community by delivering member value, developing finance professionals, and building market integrity in central Florida.
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The State of Alternative Investments: A Global View

Keith Black, PhD, CFA, CAIA

Showcase your Knowledge
About CAIA Association

The global leader in alternative investment education

- Non-profit established in 2002, based in Amherst, MA, with offices in Hong Kong, Singapore, Geneva, and London
- Over 9,000 current charterholders in more than 90 countries
- 30 vibrant chapters located in financial centers around the world
- More than 150 educational and networking events each year
- Excellence in AI education through the CAIA designation and the Fundamentals of Alternatives certificate program
Alternatives currently represent over $14 trillion in assets under management, while assets in liquid alternatives have grown substantially.

The CAIA Association Mission:

- Establish the CAIA designation as the benchmark for alternative investment education worldwide
- Promote professional development through continuing education, innovative research and thought leadership
- Advocate high standards of professional ethics
- Connect industry professionals globally
The CAIA Charter Designation

- Globally recognized credential for professionals managing, analyzing, distributing, or regulating alternative investments.
- Highest standard of achievement in alternative investment education.
- Comprehensive program comprised of a two-tier exam process:
  - **Level I** assesses understanding of various alternative asset classes and knowledge of the tools and techniques used to evaluate the risk-return attributes of each one.
  - **Level II** assesses application of the knowledge and analytics learned in Level I within a portfolio management context.
    - Both levels include segments on ethics and professional conduct.
The Fundamentals of Alternative Investments certificate program provides a foundation of core concepts in alternative investments.

- **Fundamentals** fills a critical education gap for those who need to understand the evolving landscape of alternative investments.

- Online, 20-hour, self-paced course
- Earns CE hours for the CIMA®, CIMC®, CPWA®, CPA®, and CFP® designations
- Understand the core concepts in alternative investments
- Gain confidence in discussing and positioning alternatives
Are US Equity Markets Rich?

S&P 500 P/E Ratio

Fixed Income 30+ Year Bull Market

Source: CAIA and Bloomberg. Data through February 2, 2018
## Asset Class Performance

<table>
<thead>
<tr>
<th></th>
<th>1 Yr</th>
<th>5 Yr</th>
<th>10 Yr</th>
<th>Ann. Vol</th>
<th>Draw-down</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P 500</td>
<td>18.6%</td>
<td>14.2%</td>
<td>7.4%</td>
<td>15.7%</td>
<td>-45.8%</td>
</tr>
<tr>
<td>Barclays US Aggregate</td>
<td>0.1%</td>
<td>2.1%</td>
<td>4.3%</td>
<td>3.3%</td>
<td>-3.0%</td>
</tr>
<tr>
<td>US 60/40</td>
<td>10.9%</td>
<td>9.3%</td>
<td>6.6%</td>
<td>9.1%</td>
<td>-27.4%</td>
</tr>
<tr>
<td>MSCI World</td>
<td>18.2%</td>
<td>11.0%</td>
<td>4.2%</td>
<td>17.1%</td>
<td>-49.0%</td>
</tr>
<tr>
<td>Barclays Global Aggregate</td>
<td>-1.3%</td>
<td>0.5%</td>
<td>3.3%</td>
<td>6.2%</td>
<td>-7.2%</td>
</tr>
<tr>
<td>Global 60/40</td>
<td>10.1%</td>
<td>6.8%</td>
<td>4.3%</td>
<td>11.0%</td>
<td>-30.9%</td>
</tr>
<tr>
<td>Bloomberg Commodities</td>
<td>-0.3%</td>
<td>-10.5%</td>
<td>-6.8%</td>
<td>19.7%</td>
<td>-65.9%</td>
</tr>
<tr>
<td>HFRI Fund Weighted Composite</td>
<td>7.1%</td>
<td>4.7%</td>
<td>3.1%</td>
<td>7.4%</td>
<td>-19.0%</td>
</tr>
<tr>
<td>NCREIF Timberland</td>
<td>3.3%</td>
<td>7.1%</td>
<td>5.2%</td>
<td>4.7%</td>
<td>-5.7%</td>
</tr>
<tr>
<td>NCREIF Farmland</td>
<td>6.2%</td>
<td>12.7%</td>
<td>12.6%</td>
<td>5.5%</td>
<td>0.0%</td>
</tr>
<tr>
<td>NCREIF Property</td>
<td>6.9%</td>
<td>10.3%</td>
<td>6.2%</td>
<td>5.7%</td>
<td>-23.9%</td>
</tr>
<tr>
<td>Cambridge Associates US Private Equity</td>
<td>16.8%</td>
<td>13.3%</td>
<td>9.6%</td>
<td>9.0%</td>
<td>-25.1%</td>
</tr>
<tr>
<td>Cambridge Associates US Venture Capital</td>
<td>8.0%</td>
<td>14.1%</td>
<td>8.9%</td>
<td>8.2%</td>
<td>-18.4%</td>
</tr>
</tbody>
</table>

### Global Invested Alternative Assets Portfolio

<table>
<thead>
<tr>
<th></th>
<th>1 Yr</th>
<th>5 Yr</th>
<th>10 Yr</th>
<th>Ann. Vol</th>
<th>Draw-down</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.3%</td>
<td>9.3%</td>
<td>6.3%</td>
<td>6.9%</td>
<td>-21.9%</td>
</tr>
</tbody>
</table>

### US 40% Stocks/40% Bonds/20% Portfolio

<table>
<thead>
<tr>
<th></th>
<th>1 Yr</th>
<th>5 Yr</th>
<th>10 Yr</th>
<th>Ann. Vol</th>
<th>Draw-down</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.9%</td>
<td>8.4%</td>
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<td>7.3%</td>
<td>-21.9%</td>
</tr>
</tbody>
</table>

### Global 40% Stocks/40% Bonds/20% Portfolio

<table>
<thead>
<tr>
<th></th>
<th>1 Yr</th>
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<th>10 Yr</th>
<th>Ann. Vol</th>
<th>Draw-down</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8.2%</td>
<td>6.5%</td>
<td>4.6%</td>
<td>8.8%</td>
<td>-25.1%</td>
</tr>
</tbody>
</table>

Nearly three-fourths of Public Pensions have reduced their investment return assumption since fiscal year 2010, resulting in a decline in the average return assumption from 7.9% to 7.5%.

Should projected returns continue to decline, investment return assumptions are likely to also continue their downward trend.
## Market Size of Investments

<table>
<thead>
<tr>
<th></th>
<th>Traditional Investments</th>
<th>Alternative Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Equity</td>
<td>$21,100</td>
<td>Private Equity</td>
</tr>
<tr>
<td>Other Developed Market Equity</td>
<td>$15,100</td>
<td>Hedge Funds</td>
</tr>
<tr>
<td>Emerging and Frontier Market Equity</td>
<td>$4,100</td>
<td>Real Estate Equity</td>
</tr>
<tr>
<td>Emerging Market Debt</td>
<td>$3,000</td>
<td>Infrastructure, Farmland, Timberland, and Private Energy</td>
</tr>
<tr>
<td>High Yield Bonds and Bank Loans</td>
<td>$3,200</td>
<td>Commodity swaps, ETPs and MTNs</td>
</tr>
<tr>
<td>Dollar Bonds</td>
<td>$19,300</td>
<td></td>
</tr>
<tr>
<td>Real Estate Debt</td>
<td>$6,000</td>
<td></td>
</tr>
<tr>
<td>Other Bonds</td>
<td>$21,100</td>
<td></td>
</tr>
<tr>
<td>Cash</td>
<td>$5,100</td>
<td></td>
</tr>
<tr>
<td><strong>Total (in $billions)</strong></td>
<td><strong>$98,000</strong></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>$14,750</strong></td>
</tr>
</tbody>
</table>

Source: 2016 Estimates from Aon Hewitt, HFR, Barclays, Preqin
Participation In Alternatives

**Institutional Investors by Number of Alternative Asset Classes Invested In**

- None: 20%
- One: 15%
- Two: 13%
- Three: 15%
- Four: 15%
- Five: 12%
- Six: 10%

**Proportion of Institutional Investors Allocating to Each Alternative Asset Class**

- Private Equity: 58%
- Hedge Funds: 50%
- Real Estate: 59%
- Infrastructure: 36%
- Private Debt: 37%
- Natural Resources: 40%

Source: Preqin Online Products

Source: Preqin Investor Outlook: Alternative Assets, H1 2018
Institutional Investor Allocation

Source: Preqin Investor Outlook: Alternative Assets, H1 2018

State of Alternative Investment – 17
The largest endowments have average allocations of:

- 13% US equity, 19% non-US equity, 11% in fixed income and cash
- 24% hedge funds, 19% PE/VC, 14% real assets

Source: NACUBO-Commonfund Study of Endowments, 2017
Average SWF Asset Allocation

2002:
- Cash and Fixed Income: 48.3%
- Equities: 35.3%
- Private Markets: 15.4%

2007:
- Cash and Fixed Income: 43.8%
- Equities: 40.0%
- Private Markets: 16.2%

2012:
- Cash and Fixed Income: 33.3%
- Equities: 41.0%
- Private Markets: 25.7%

2014:
- Cash and Fixed Income: 34.8%
- Equities: 37.6%
- Private Markets: 27.5%

Avg. Asset Allocation by Investor Type

Source: Preqin 2016
Key Issues Facing Hedge Funds in 2018

<table>
<thead>
<tr>
<th>Issue</th>
<th>Proportion of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>70%</td>
</tr>
<tr>
<td>Fees</td>
<td>65%</td>
</tr>
<tr>
<td>Perception of Industry by Public</td>
<td>38%</td>
</tr>
<tr>
<td>Volatility/Uncertainty in Global Markets</td>
<td>38%</td>
</tr>
<tr>
<td>Governance</td>
<td>21%</td>
</tr>
<tr>
<td>Transparency</td>
<td>19%</td>
</tr>
<tr>
<td>Regulation</td>
<td>19%</td>
</tr>
<tr>
<td>Pricing/Valuations</td>
<td>17%</td>
</tr>
<tr>
<td>Portfolio Management</td>
<td>13%</td>
</tr>
<tr>
<td>Interest Rates</td>
<td>3%</td>
</tr>
<tr>
<td>Notable Investors Exiting Asset Class</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Preqin Investor Outlook: Alternative Assets, H1 2018
Estimated Hedge Fund AUM Growth

Source: HFR® Global Hedge Fund Industry Report - Fourth Quarter 2017 | Copyright 2017. All rights reserved. | www.HedgeFundResearch.com
Estimated Alternative UCITS AUM Growth

Source: LuxHedge Database. Data as of December 31, 2017
Liquid Alternative Market Growth

Source: CAIA and Morningstar
Flows from Active Management

Some of the Outflows from Domestic Equity Mutual Funds Have Gone to ETFs
Cumulative flows to and outflows from domestic equity mutual funds and index ETFs, billions of dollars: monthly, January 2007–December 2016

Expense Ratios Incurred by Equity Mutual Fund Investors

Net New Cash Flow to Equity Mutual Funds in 2016
Billions of dollars; monthly, January 2016–December 2016

Net New Cash Flow to Equity Mutual Funds Typically Is Related to World Equity Returns

Source: ICI Factbook 2017

* Prior to October 2005, index domestic equity ETF data include a small number of actively managed domestic equity ETFs. Index equity mutual fund data include net new cash flow and reinvestment dividends. Data exclude funds that invest primarily in other funds.

* In March and May 2016, world equity mutual funds had no outflows of less than $500 million. Note: Components may not add to the total because of rounding.

* The total return on equities is measured as the year-over-year percent change in the MSCI All Country World Daily Gross Total Return Index.
Sources: Investment Company Institute, Morgan Stanley Capital International, and Bloomberg
Estimated Assets by Strategy

Alternative UCITS

- Relative Value: 17.63%
- Macro: 16.23%
- Event-Driven: 3.11%
- Equity Hedge: 63.03%

Total Hedge Fund Industry

- Relative Value: 26.34%
- Macro: 18.62%
- Event-Driven: 25.87%
- Equity Hedge: 29.16%

Estimated Number of Funds: HF vs. FoF

Source: HFR® Global Hedge Fund Industry Report - Fourth Quarter 2017 | Copyright 2017. All rights reserved. | www.HedgeFundResearch.com
Funds with Inflows vs. Outflows

**Single-Manager Funds**
- Inflows: 47.18%
- Outflows: 52.82%

**Fund of Funds**
- Inflows: 22.00%
- Outflows: 78.00%

Rising Sector Dispersion

3 Year Rolling Correlation with S&P 500 Index

Source: CAIA and Bloomberg. Data through February 6, 2018

State of Alternative Investment – 30
Private Capital AUM by Asset Class

Source: Preqin Online Products
Private Capital Dry Powder by Asset Class

Source: Preqin Online Products
Private Equity Assets Under Management

Source: Preqin Private Equity Online
Private Equity Dry Powder by Fund Type

Source: Preqin Private Equity Online
Venture Capital Public Market Equivalent

If PME index value (X) is >1, private equity has outperformed the public market.

Source: Preqin Online Products. As of June 2017.
Venture Capital Deals* Completed Globally

Source: Preqin Online Products
*Figures exclude add-ons, grants, mergers, secondary stock purchases and venture debt.
Number of Venture Capital Deals* by Region

Source: Preqin Private Equity Online.
*Figures exclude add-ons, grants, mergers, secondary stock purchases and venture debt.
Aggregate Value of Venture Capital Deals* by Region

Source: Preqin Private Equity Online.
*Figures exclude add-ons, grants, mergers, secondary stock purchases and venture debt.
Unlisted Natural Resources Dry Powder by Primary Strategy

Source: Preqin Natural Resources Online

State of Alternative Investment – 40
Unlisted Natural Resources Funds in Market by Primary Geographic Focus

Source: Preqin Natural Resources Online. As of January 2018
Natural Resources

**Sectors that Investors View as Presenting the Best Opportunities, 2016 vs. 2017**

- Agriculture/Farmland
- Conventional Energy
- Renewable Energy
- Metals & Mining
- Timberland
- Water

Source: Preqin Online Products
Investor Views on the Macroeconomic Factors that Had the Biggest Impact on Their Natural Resources Portfolios in 2017 vs. Predictions for 2018

- **Commodity Price Movements**: 37% (2017) vs. 49% (2018)
- **Geopolitical Landscape**: 11% (2017) vs. 10% (2018)
- **Possibility of Interest Rate Rises**: 7% (2017) vs. 10% (2018)
- **Low Interest Rates**: 9% (2017) vs. 10% (2018)
- **Currency Market Movements**: 7% (2017) vs. 8% (2018)
- **Unwinding of Central Bank Balance Sheets**: 0% (2017) vs. 7% (2018)
- **US Trade Policy**: 6% (2017) vs. 5% (2018)
- **US Domestic Policy**: 6% (2017) vs. 7% (2018)
- **Equity Market Movements**: 4% (2017) vs. 3% (2018)

Source: Preqin Investor Interviews, December 2017
Hedging Inflation

36 Month Rolling Correlation to CPI

Source: CAIA and Bloomberg. Data through February 28th 2018
Where can institutional investors turn to hedge their inflation risk?

- Studies have found that a few assets can hedge inflation risk (positive inflation beta), while the majority of institutional assets have a risk to rising inflation (negative inflation beta).

<table>
<thead>
<tr>
<th></th>
<th>20 Year US Treasuries</th>
<th>S&amp;P 500</th>
<th>3 Month T-bills</th>
<th>Farmland</th>
<th>Commodity Futures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>-3.1</td>
<td>-2.4</td>
<td>0.3</td>
<td>1.7</td>
<td>6.5</td>
</tr>
</tbody>
</table>

- Within equities, smaller cap stocks and less capital intensive sectors have even greater inflation risk.

- In practice, many institutions build a real assets allocation, investing 5% to 20% of the portfolio in timberland, farmland, linkers and commodity futures.

“Deflating Inflation: Redefining the Inflation-Resistant Portfolio”, Bernstein Global Wealth Mgmt, 2010
### Timing Commodity Investments

- **Average Returns by Stage of the Business Cycle, 1959-2004**

<table>
<thead>
<tr>
<th>Stage of Business Cycle</th>
<th>Stocks (%)</th>
<th>Commodities (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Expansion</td>
<td>16.3%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Late Expansion</td>
<td>10.4%</td>
<td>16.7%</td>
</tr>
<tr>
<td>Early Recession</td>
<td>-18.6%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Late Recession</td>
<td>19.7%</td>
<td>-1.6%</td>
</tr>
</tbody>
</table>

Potential Demand: Rebalancing from Equities

- Commodity prices have declined while equity markets have risen sharply

Source: US Global Investors

Source: Bloomberg, U.S. Global Investors
France and the UK have banned the sale of new gasoline and diesel vehicles after 2040

1 million electric vehicles sold in 2017, half in China, with estimates of 14 million vehicles per year by 2025

Growth in electric vehicles is bullish for natural gas, copper, lithium, and cobalt and bearish for gasoline and lead

Significant deficits of cobalt expected through 2020
Private Debt Assets under Management

Source: Preqin

Dry Powder ($bn) vs Unrealized Value ($bn)

3x Growth Over 10 Years

Source: Preqin

State of Alternative Investment – 49
Private Debt AUM by Fund Type (As of June 2017)

Source: Preqin
Private Debt Funds in Market by Fund Type

Yield Breakdown by Fund Type

- Venture Debt: 20%
- Private Debt FoF: 10% – 12%
- Special Situation: 10.8%
- Mezzanine: 8.8%
- Distressed Debt: 7.3%
- Direct Lending: 7.5%

Source: Preqin. As of January 2018
Private Debt Geographic Focus

Private Debt Funds in Market by Primary Geographic Focus (As of January 2018)

<table>
<thead>
<tr>
<th>Region</th>
<th>No. of Funds</th>
<th>Aggregate Capital Targeted ($bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>178</td>
<td>88</td>
</tr>
<tr>
<td>Europe</td>
<td>82</td>
<td>42</td>
</tr>
<tr>
<td>Asia</td>
<td>31</td>
<td>11</td>
</tr>
<tr>
<td>Rest of World</td>
<td>44</td>
<td>8</td>
</tr>
</tbody>
</table>

Make-up of Investors in Private Debt by Location

<table>
<thead>
<tr>
<th>Year</th>
<th>North America</th>
<th>Europe</th>
<th>Asia</th>
<th>Rest of World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-16</td>
<td>62%</td>
<td>9%</td>
<td>26%</td>
<td>8%</td>
</tr>
<tr>
<td>Jan-17</td>
<td>58%</td>
<td>25%</td>
<td>24%</td>
<td>8%</td>
</tr>
<tr>
<td>Jan-18</td>
<td>57%</td>
<td>24%</td>
<td>24%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Source: Preqin
Dry Powder: Private Debt vs. Buyout

Growth of Dry Powder over the past 9 years:

- Private Debt has grown 77%
- Buyout has grown 11%

Source: Preqin

Dry Powder ($bn)

Dec-08 476 111
Dec-09 477 104
Dec-10 423 116
Dec-11 388 131
Dec-12 360 132
Dec-13 432 190
Dec-14 447 176
Dec-15 473 215
Dec-16 535 196
Mar-17 530 196

Source: Preqin
Key Challenges Facing Unlisted Infrastructure Managers in 2018

Source: Preqin Fund Manager Survey, November 2017
Unlisted Infrastructure AUM

Source: Preqin Online Products
Investor Preference

Sectors that Investors View as Presenting the Best Opportunities

<table>
<thead>
<tr>
<th>Sector</th>
<th>Proportion of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (Excl. Renewables)</td>
<td>49%</td>
</tr>
<tr>
<td>Renewable Energy</td>
<td>46%</td>
</tr>
<tr>
<td>Transport</td>
<td>44%</td>
</tr>
<tr>
<td>Utilities</td>
<td>43%</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>37%</td>
</tr>
<tr>
<td>Waste Management</td>
<td>28%</td>
</tr>
<tr>
<td>Social</td>
<td>18%</td>
</tr>
<tr>
<td>Energy (Excl. Renewables)</td>
<td>13%</td>
</tr>
</tbody>
</table>

Strategies that Investors View as Presenting the Best Opportunities

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Proportion of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>47%</td>
</tr>
<tr>
<td>Opportunistic</td>
<td>36%</td>
</tr>
<tr>
<td>Core-Plus</td>
<td>36%</td>
</tr>
<tr>
<td>Value Added</td>
<td>28%</td>
</tr>
<tr>
<td>Fund of Funds</td>
<td>14%</td>
</tr>
<tr>
<td>Debt</td>
<td>12%</td>
</tr>
<tr>
<td>Secondaries</td>
<td>9%</td>
</tr>
</tbody>
</table>

Source: Preqin Investor Interviews, December 2017
Open-Ended Infrastructure Fund Launches

Source: Preqin Infrastructure Online

No. of Funds Already in Market
No. of Funds Launched
No. of Funds Liquidated

Source: Preqin Infrastructure Online

State of Alternative Investment – 57
Key Challenges Facing Private Real Estate Managers in 2018

Source: Preqin Fund Manager Survey, November 2017
Performance: PrEQin Index by Asset Class

Source: Preqin Real Estate Online
Real Estate: Public Market Equivalent (PME)

If PME value (X) is >1, private real estate has outperformed the public market.

Source: Preqin Real Estate Online, All Regions
US Average Cap Rate vs. US 10 Year Yield

Source: CAIA and Bloomberg. Data through December 2017

State of Alternative Investment – 61
Closed-End Private Real Estate AUM

Source: Preqin Real Estate Online
Closed-End Private Real Estate Dry Powder by Strategy

Source: Preqin Real Estate Online
The CAIA Charter
The Global Benchmark In Alternative Investment Education

September 2018 Exam
Global Presence

30 Official CAIA Chapters
4 Regional Offices
20+ CAIA Member Networks
CAIA Members work across a variety of asset classes globally.

- **Hedge Funds**: 65%
- **Fixed Income Alternatives**: 50%
- **Private Equity**: 45%
- **Real Estate**: 41%
- **Commodities**: 39%
- **Managed Futures**: 32%
- **Real Assets Infrastructure, Farmland, Timberland**: 30%
- **Structured Products**: 29%
- **Venture Capital**: 18%

**Regional Distribution**

- **Americas**: 32%
- **Asia-Pacific**: 55%
- **Europe, Middle-East, Africa**: 13%

Data: Member Survey, May 2017
Membership Growth

*2017 Data through May 2017

*2017 Data through May 2017
Core Concepts

- Professional Standards & Ethics
- Introduction to Alternative Investments
- Real Assets
- Hedge Funds
- Private Equity
- Structured Products
- Risk & Portfolio Management
Advanced Core Concepts

- Professional Standards & Ethics
- Venture Capital & Private Equity
- Hedge Funds & Managed Futures
- Real Estate/Real Assets
- Commodities
- Structured Products
- Manager Selection, Due Diligence & Regulation
- Research Issues & Current Topics
- Risk & Risk Management
- Asset Allocation & Portfolio Management

Current & Integrated Topics Available Free at caia.org
## Level I Exam Topics

<table>
<thead>
<tr>
<th>Level I Topic</th>
<th>Approximate Exam Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Standards and Ethics</td>
<td>15% – 20%</td>
</tr>
<tr>
<td>Introduction to Alternative Investments</td>
<td>20% – 25%</td>
</tr>
<tr>
<td>Real Assets including Commodities</td>
<td>10% – 20%</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>10% – 20%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>5% – 10%</td>
</tr>
<tr>
<td>Structured Products</td>
<td>10% – 15%</td>
</tr>
<tr>
<td>Risk Management and Portfolio Management</td>
<td>5% – 10%</td>
</tr>
</tbody>
</table>
## Level II Exam Topics

<table>
<thead>
<tr>
<th>Level II Topic</th>
<th>Approximate Exam Weight</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple Choice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Standards and Ethics</td>
<td>0%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Current and Integrated Topics</td>
<td>0%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Asset Allocation and Institutional Investors</td>
<td>8-12%</td>
<td>0-10%</td>
<td></td>
</tr>
<tr>
<td>Private Equity</td>
<td>11-15%</td>
<td>0-10%</td>
<td></td>
</tr>
<tr>
<td>Real Assets</td>
<td>13-17%</td>
<td>0-10%</td>
<td></td>
</tr>
<tr>
<td>Commodities</td>
<td>5-7%</td>
<td>0-10%</td>
<td></td>
</tr>
<tr>
<td>Hedge Funds and Managed Futures</td>
<td>18-22%</td>
<td>0-10%</td>
<td></td>
</tr>
<tr>
<td>Structured Products</td>
<td>5-7%</td>
<td>0-10%</td>
<td></td>
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</table>
## Examination Format and Scheduling

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section 1</strong>: 100 questions / 120 minutes</td>
<td><strong>Section 1</strong>: 100 questions / 120 minutes</td>
</tr>
<tr>
<td><strong>Section 2</strong>: 100 questions / 120 minutes</td>
<td><strong>Section 2</strong>: 3 essays / 120 minutes</td>
</tr>
</tbody>
</table>

Both CAIA exams are administered internationally in computerized format exclusively at proctored Pearson VUE test centers.

Once you have purchased your Level I or Level II exam, you will receive a confirmation email with a link that will allow you to schedule your exam appointment.
Candidate Support & Tools

- Study guides outlining keywords and learning objectives
- Workbooks with sample exercises
- Candidate orientation sessions
- Study calculator to plan your course of study
- Third party preparatory course and programs
- Level I & Level II sample exams

Visit CAIA.org/preparing
<table>
<thead>
<tr>
<th>Fees (in USD)</th>
<th>Level I</th>
<th>Level II</th>
<th>Annual Membership (in USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Enrollment</td>
<td>$400</td>
<td></td>
<td>Full</td>
</tr>
<tr>
<td>Exam Registration</td>
<td>$1,250</td>
<td>$1,250</td>
<td>Affiliate</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$1,650</td>
<td>$1,250</td>
<td>Retired</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Emerging Market*</td>
</tr>
<tr>
<td>Early Registration Discount</td>
<td>-$100</td>
<td>-$100</td>
<td>2-Year Full</td>
</tr>
<tr>
<td>Retake Fee</td>
<td>$450</td>
<td>$450</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Curriculum cost (in USD)</th>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textbook &amp; readings</td>
<td>$125</td>
<td>$125</td>
</tr>
<tr>
<td>Standards of Practice handbook</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>

*Based on MSCI Emerging Market Indices
Pass Rates
The Chartered Alternative Investment Analyst Association’s Board of Directors
does hereby confer the designation of

Chartered Alternative Investment Analyst

upon

Jonathan Sample Name IV
Charter Number 12345

who has successfully completed all the requirements prescribed for this designation.

In Testimony Whereof, this Charter is granted under the seal of the
Chartered Alternative Investment Analyst Association this
seventh day of June, 2018.

Mark Arnone
Director

Andrew Baker
Director

Robert Delitto
Director

David Gervase
Director

Alexander Hausken
Director

Jack Hughey
Director

Melissa J. Ma
Director

Thomas Robinson
Director

Thomas Scherews
Director

Vernon J. Sti
Chair

William R. Readman & CEO
Academic Partnerships - Americas
Academic Partnerships - EMEA

A complete list of CAIA's academic partners globally can be found at caia.org.
A complete list of CAIA’s academic partners globally can be found at caia.org.
Association Partnerships

bvca

SVCA Singapore Venture Capital & Private Equity Association

IAQF International Association for Quantitative Finance

FWA

CalALTs

ALFI Association of the Luxembourg Fund Industry

The New York Alternative Investment Roundtable

NZARA

Ilpa Institutional Limited Partners Association

APREA

BAI Diversification Matters

Women in Finance

SBIA Small Business Investor Alliance

AIMA

Connecticut Hedge Fund Association

CAIA Association
## Sample Employers

<table>
<thead>
<tr>
<th>Banks</th>
<th>Consultants</th>
<th>Fund Managers</th>
<th>Regulators</th>
<th>Pension Funds &amp; Endowments</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSBC</td>
<td>Cambridge Associates</td>
<td>Blackrock</td>
<td>U.S. SEC</td>
<td>APG</td>
</tr>
<tr>
<td>Citi</td>
<td>New England Pension Consultants</td>
<td>Goldman Sachs</td>
<td>MAS Singapore</td>
<td>Teacher Retirement System</td>
</tr>
<tr>
<td>Credit Suisse</td>
<td>Mercer</td>
<td>J.P. Morgan</td>
<td>SFC Hong Kong</td>
<td>System of Texas</td>
</tr>
<tr>
<td>UBS</td>
<td>Willis Towers Watson</td>
<td>Morgan Stanley</td>
<td>FCA UK</td>
<td>Chicago Teachers</td>
</tr>
<tr>
<td>Barclays Capital</td>
<td></td>
<td>State Street</td>
<td>CIMA Cayman</td>
<td>Ontario Teachers</td>
</tr>
<tr>
<td>Deutsche Bank</td>
<td></td>
<td></td>
<td></td>
<td>CalPERS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Harvard Management Co.</td>
</tr>
</tbody>
</table>
Top companies seek to hire CAIA Charterholders.
Sample job postings from the CAIA Career Center

- **Risk Management - Associate Industry certifications, such as a CFA, **CAIA**, or FRM, are a plus.**

- **International Relationship Manager. CFA, **CAIA** or working toward preferred.**

- **Senior Quantitative Research Analyst. CFA, **CAIA**, CIMA**

- **Equity Investment Research - Manager. CIMA, **CAIA**, and/or CFA charter holders or candidates will be looked favorably upon.**

- **International Trading Manager. MBA, CFA, **CAIA** or CMT preferred**

- **Senior Credit Specialist CFA / **CAIA** / FRM / PRM is considered highly advantageous.**
Why maintain an active CAIA membership? Top 5 reasons from Members:

1. To use the CAIA designation.
2. To take advantage of CAIA Chapters’ educational and social events.
3. To maintain my knowledge of alternatives and stay current in the industry through CAIA publications and research.
4. To position myself for future career opportunities and access the CAIA Career Center.
5. To access CAIA benefits through Member News and volunteer opportunities.

Data: Member Survey, May, 2017
Member Benefits

- Use of CAIA marks in professional documents
- Chapter educational and networking events
- Global network of more than 9,000 Members
- Globally-recognized designation
- Education and Research at CAIA.org
- Self-evaluation Tool
- Ongoing Education
- CAIA Career Center
# Global Business Development Contacts

## Americas

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Millissa Allen</td>
<td>CAIA Amherst Managing Director of Business Development</td>
<td>direct: +1 413 549 3324 <a href="mailto:mallen@caia.org">mallen@caia.org</a></td>
</tr>
<tr>
<td>Cody Durant</td>
<td>CAIA Amherst Business Development Manager</td>
<td>direct: +1 413 549 3313 <a href="mailto:cdurant@caia.org">cdurant@caia.org</a></td>
</tr>
</tbody>
</table>

## Asia-Pacific

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joanne Murphy</td>
<td>CAIA Hong Kong Managing Director, APAC</td>
<td>direct: +852 3752 0495 <a href="mailto:jmurphy@caia.org">jmurphy@caia.org</a></td>
</tr>
<tr>
<td>Wendy Leung</td>
<td>CAIA Hong Kong Assistant Director, APAC</td>
<td>direct: +852 3752 0495 <a href="mailto:wleung@caia.org">wleung@caia.org</a></td>
</tr>
<tr>
<td>Peter Douglas</td>
<td>CAIA Singapore Principal</td>
<td>direct: +65 6536 4241 <a href="mailto:pdouglas@caia.org">pdouglas@caia.org</a></td>
</tr>
</tbody>
</table>

## Europe, Middle-East, Africa

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laura Merlini</td>
<td>CAIA Geneva Managing Director of Business Development</td>
<td>direct: +41 796 154 491 <a href="mailto:lmerlini@caia.org">lmerlini@caia.org</a></td>
</tr>
<tr>
<td>Tammy Johnston</td>
<td>CAIA London Global Business Development Associate</td>
<td>Direct: +852 3752 0495 <a href="mailto:tjohnston@caia.org">tjohnston@caia.org</a></td>
</tr>
</tbody>
</table>
The CAIA Charter
The Global Benchmark In Alternative Investment Education

www.caia.org
ALTERNATIVE INVESTMENTS SUMMIT
MAY 7TH 2018

Speaker:
Keith Black, PhD, CFA, CAIA (Managing Director, CAIA)

Panel:
Dan Schwartz, CFA (Vice President, AQR)
Eileen Duff (Managing Partner, iCapital)
David Hemming (Senior PM, PowerShares by Invesco)