



CAIA[®] LEVEL II
Guide to Current and
Integrated Topics
September 2019

Chartered Alternative Investment
Analyst Association[®]

CAIA Level II
Guide to
Current and Integrated Topics
September 2019 Exam

Introduction to the Level II Program

Congratulations on your successful completion of Level I and welcome to Level II of the CAIA® Charter program. The CAIA Charter program is organized by the CAIA Association®, which was cofounded by the Alternative Investment Management Association (AIMA) and the Iseberg School Center for International Securities and Derivatives Markets (CISDM). It is the only globally recognized professional designation in the area of alternative investments, the fastest growing segment of the investment industry.

The CAIA curriculum provides breadth and depth by first placing emphasis on understanding alternative asset classes and then building applications in manager selection, risk management, and asset allocation. The Level I curriculum builds a foundation by introducing candidates to alternative asset classes and the role of active management in asset allocation and portfolio construction. Level II provides advanced coverage of several Level I topics and introduces candidates to recent academic and industry research in alternative investments, asset allocation, and risk management.

The business school faculty and industry practitioners who have helped create the CAIA Charter program bring years of experience in the financial services industry. Consequently, our curriculum is consistent with recent advances in the financial industry and reflects findings of applied academic research in the area of investment management.

Passing the Level II examination is an important accomplishment and will require a significant amount of preparation. All candidates will need to study and become familiar with the CAIA Level II curriculum material in order to develop the knowledge and skills necessary to be successful on examination day.

Our study guides are organized to facilitate quick learning and easy retention. Each topic is structured around learning objectives and keywords that define the content that is eligible to be measured on the exam. The learning objectives and keywords are an important way for candidates to organize their study, as they form the basis for examination questions. All learning objectives reflect content in the CAIA curriculum, and all exam questions are written to directly address the learning objectives. A candidate who is able to meet all learning objectives in the study guide should be well prepared for the exam. For all these reasons, we believe that the CAIA Association has built a rigorous program with high standards, while also maintaining an awareness of the value of candidates' time.

Upon a candidate's successful completion of the Level II examination and meeting the membership requirements, the CAIA Association will confer the CAIA Charter upon the candidate.

Hossein Kazemi, PhD, CFA, *Senior Advisor*
Keith Black, PhD, CFA, CAIA, *Program Director*

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A Guide to Hedge Fund Business & Operational Due Diligence
Skybridge Capital, March 2016.

Abstract

*CAIA Level II candidates are expected to have studied the full article,
as it appears on CAIA.org.*

Business and operational risks can materially impact a hedge fund investment. Therefore, investors should be aware of the potential effect these risks can have on their portfolios. This paper strives to inform investors of these business and operational risks and emphasize the importance of a thorough due diligence program.

Hedge fund investors grasp that their capital will be subject to loss (or gain) from market and other investment-related risk. However, they must also appreciate that their capital will be susceptible to loss – but never gain – from a number of noninvestment related risks. These non-investment related risks are generally categorized as either business or operational risks.

Business risk is the possibility of loss stemming from issues related to the hedge fund management firm that are not directly associated with market movements. Hedge fund business risk can be influenced by several factors, including the management firm’s inability to attract sufficient assets under management to cover overhead; its closing from repeated regulatory violations; or its lack of a key personnel succession plan (i.e., the departure of a star portfolio manager because the firm repeatedly refuses to grant the manager an ownership interest).

Operational risk is the risk of loss stemming from issues related to middle and back office functions. These issues range from the mis-valuation of a fund’s investment portfolio; poor controls on the movement of cash; sloppy trade processing; or even the loss of trading capabilities from a power outage.

How important are these non-investment risks – and how much should investors worry about them? This paper provides a brief history of these non-investment risks and offers insights on the evaluation of these risks.

**Understanding the Cost of Investment Management, William F. Jarvis,
Commonfund Institute, October 2015.**

Abstract

*CAIA Level II candidates are expected to have studied the full article,
as it appears on CAIA.org.*

Few aspects of financial management are more important for fiduciaries than an understanding of the costs paid for the management of the perpetual funds for which they have responsibility. Indeed, astute management of costs can make the difference between mediocrity and superior performance in otherwise identical portfolios. But unlike other factors that affect investment returns, such as asset allocation and the many types of operational and investment risk, costs are almost certainly the least well understood. This paper introduces the various types of costs that investors pay – both disclosed and undisclosed – and provide representative ranges for each type of cost. The paper’s aim is to guide fiduciaries as they strive to fulfill their duties under common and statutory law and to provide investment managers with a guide to best practice.

Surveys of endowments and foundations confirm a low level of understanding with respect to costs. To take one example, of the 832 U.S. institutions of higher education participating in the 2014 NACUBO-Commonfund Study of Endowments (NCSE), the 717 that responded to the suite of questions regarding costs incurred in managing their investment program estimated a median all-in cost of 50 basis points, or 0.5 percent. But very few of these institutions were able to provide specific breakdowns, although most could name the components of those costs by category. And while some cost categories were clearly familiar, others were cited less frequently. For example, 86 percent said that their cost total included asset management fees and mutual fund expenses; 64 percent cited consultant and outsourcing fees; and 56 percent included direct expenses. But only 18 percent included incentive and performance fees paid to asset managers, despite the fact that nearly 85 percent of NCSE respondents, or 704 institutions, reported having asset allocations to alternative investment strategies. Clearly, a gap exists between practice and understanding with respect to certain types of costs.

**Dynamic Strategies for Asset Allocation, Andre F. Perold and William F. Sharpe,
Financial Analyst Journal, January-February 1995.**

Abstract

CAIA Level II candidates are expected to have studied the full article,
as it appears on CAIA.org.

As risky assets (e.g., stocks) fluctuate in value, the value of a portfolio containing them may change, as may their allocation relative to the safe assets (e.g., bills) within the portfolio. One must decide how to rebalance the portfolio in response to such changes. Dynamic strategies are explicit rules for doing so. Different strategies will produce different risk and return characteristics. Buy-and-hold strategies are "do nothing" strategies. They have a minimum return proportional to the amount allocated to bills and an upside proportional to the amount allocated to stocks. Their performance is linearly related to the performance of the equity market. Strategies that sell stocks as the market falls and buy stocks as the market rises represent the purchase of portfolio insurance. Particular examples are constant-proportion portfolio insurance and option-based portfolio insurance. These strategies have better downside protection and better upside potential than buy-and-hold strategies. They do worse in relatively trendless, volatile markets. Constant-mix strategies--holding a constant fraction of wealth in stocks--buy stocks as the market falls and sell them as it rises. These and other such strategies effectively represent the sale of portfolio insurance. They have less downside protection than, and not as much upside as, buy-and-hold strategies. They do best in relatively trendless but volatile markets. The greater the "popularity" of one type of strategy--be it the purchase or sale of portfolio insurance--the more costly it becomes, and the greater the rewards to those who follow the opposite strategy. Only buy-and-hold strategies can be followed by all investors.

**Developing an Asset Owner Climate Change Strategy,
Principles for Responsible Investing, 2015.**

Abstract

*CAIA Level II candidates are expected to have studied the full article,
as it appears on CAIA.org.*

There is global scientific consensus on the world's carbon budget of 1 trillion tonnes of carbon¹. This is the amount of carbon dioxide the world can emit while having a likely chance of averting the most dangerous climate change impacts. Analysis from the International Energy Agency and PwC show a need for the global economy to reduce its carbon intensity as much as five times faster than is currently the case. There is a growing imperative for asset owners to align their investment portfolios with a low-carbon economy.

Climate change presents significant risks to asset owners, as well as opportunities for those exposed to companies that are likely to prosper in a lower carbon world. A 2015 Mercer report found that asset owners with diversified, long-term portfolios will be exposed to costs associated with climate change and that investment returns are likely to be impacted. A 2015 report from The Economist finds the value at risk to manageable assets from climate change is US\$4.2 trillion. Private-sector discount rates show that 6°C of warming could lose US\$13.8 trillion of present value. These profound economic shifts also offer significant opportunities for investors in areas such as clean energy, energy efficiency and new technologies. At the same time, asset owners can also engage with public policy makers to help make the transition as smooth as possible for the financial markets.

Fiduciary Duty in the 21st Century, a joint PRI, UNEP FI, UNEP Inquiry and UN Global Compact report, finds that managing material environmental, social and governance (ESG) risks is consistent with investors' fiduciary duty.

**Introductory Guide to Investing in Private Equity Secondaries,
Capital Dynamics, February 2016.**

Abstract

*CAIA Level II candidates are expected to have studied the full article,
as it appears on CAIA.org.*

Investors are facing a historically difficult macro environment with significant headwinds felt across various asset classes, impacting return targets. Interest rates are at unprecedented low levels, leading to scant returns for the safest assets and significant principal risk to fixed income returns. Equity markets, which have enjoyed a long expansion post-financial crisis, are trading well above long-term averages exposing investors to downside risk. Additionally, actuarial targets are being significantly lowered, causing balance sheet liabilities to rise at institutionally managed portfolios. Finally, market volatility, which has been exceptionally low in recent years, has increased in the last few months implying pressure on equity returns ahead.

Faced with the dual challenges on both the asset and liability fronts, investors today have an increasingly difficult task and are looking into "alternatives", including private equity secondaries ("secondaries"). As outlined in the following white paper, the authors believe that secondaries present an excellent risk-adjusted return profile, exhibiting defensive attributes while still providing attractive long-term returns.

**Making Waves: The Cresting Co-investment Opportunity,
Cambridge Associates, 2015.**

Abstract

CAIA Level II candidates are expected to have studied the full article,
as it appears on CAIA.org.

Co-investing is gaining popularity and theoretically offers investors cost advantages and higher return potential. This report frames the opportunities and common pitfalls of co-investing, leveraging the aggregated data obtained by the authors on co-investments and funds generating co-investment.

The analysis presented here shows that co-investment returns have the potential to outpace private fund investment returns. Of over 100 buyout co-investments analyzed in one exercise for this report, nearly half outpaced the sponsoring GP's fund. Furthermore, investments by buyout-focused co-investment funds, analyzed on a gross basis to reflect the lighter fee load of direct co-investing, outperformed the net global buyout index in seven out of the ten vintage years examined. Of course, not every individual co-investment outperforms, and therein lies the rub.

Implementation is trickier than it may seem at first glance. A direct approach affords investors the most control, but also entails the most risk. To enhance the probability of success, investors that choose to pursue a direct co-investment program should

- Think carefully about program goals, set realistic expectations, and factor in existing (and potential) co-investment exposure via funds-of-funds.
- Establish internal processes to facilitate timely investment decisions as well as effective investment monitoring and performance measurement.
- Prepare and identify necessary resources.
- Work with internal or external professionals with direct investment experience—co-investing is not as passive as it may appear.
- Invest with GPs on which they have done due diligence and in which they have conviction—investors will likely need to rely heavily on the GPs due diligence.
- Focus on investments within each GP's stated strategy, or "strike zone," to avoid adverse selection.
- Not ignore the macro. Investors should be extra careful in frothy pricing environments and monitor opportunities for indications of procyclicality.

**Longevity risk transfer markets:
market structure, growth drivers and impediments, and potential risks,
Bank for International December 2013.**

Abstract

CAIA Level II candidates are expected to have studied the full article,
as it appears on CAIA.org.

The ageing population phenomenon being observed in many countries poses serious social policy and regulatory/supervisory challenges. Not only are people living longer, but longevity risk – the risk of paying out on pensions and annuities longer than anticipated – is also becoming more of a concern in terms of sustainability of existing “saving for retirement” products.

Total longevity risk is significant when measured from a financial perspective, with each additional year of life expectancy adding about 3-4 percent to the present value of the liabilities of a typical defined benefit pension fund (IMF, 2012). Estimates of the total global amount of annuity- and pension-related longevity risk exposure ranges from \$15 trillion to \$25 trillion. Hence, a one-year longevity underestimation will in aggregate, cost risk holders from \$450 billion to \$1 trillion.

To manage this risk, pension funds in some countries are increasingly looking to transfer their longevity risk. There are basically three types of transactions that are being used to transfer longevity risk that differ in terms of the types of risk transferred and the types of risk created:

- A buy-out transaction transfers all of the pension plan’s assets and liabilities to an insurer in return for an up-front premium. Hence, there is full risk transfer (investment and longevity, plus inflation in the case of indexed plans). However, pensioners become exposed to the risk of insurer (as opposed to sponsor or pension guarantor) failure.
- In a buy-in, the pension plan sponsor retains the assets and liabilities, but pays an up-front premium to an insurer to receive periodic payments that match the pension payments. In this case, the risk transfer is only partial because there is still counterparty risk to the insurer, and the sponsor remains directly responsible to pensioners.
- In a longevity swap (or insurance) transaction, periodic fixed payments are made to the swap counterparty (or (re)insurer) in exchange for periodic payments based on the difference between the actual and expected pension or annuity mortality experience. As in the case of a buy-in there is counterparty risk and the sponsor remains directly responsible to pensioners, but retains the investment risk.

Private Credit Strategies, Cambridge Associates, 2017.

Abstract

*CAIA Level II candidates are expected to have studied the full article,
as it appears on CAIA.org.*

Private credit offers distinct advantages and appeal in a low return environment, but investors should be aware that behind the name is a diverse array of strategies, some more familiar to institutional investors than others, each with idiosyncratic risks. The diverse strategies that fall under private credit can be implemented with different orientations, preferences, and biases, complicating comparisons and requiring thorough and expert diligence.

The proliferation of private credit managers offers investors new ways to generate returns ranging from the mid-single digits to more than 20%, but assessing the return target of a prospective credit strategy is not enough—investors must examine the nature of the investing activity generating those returns. To assess these opportunities, targeted return, risk, and liquidity (including current yield, which, we believe, is a form of limited liquidity) are the three most important considerations. Investors need to decide whether they want to prioritize minimizing risk or maximizing return, as private credit strategies offer the opportunity to achieve either objective with differing degrees of liquidity.

This report describes the broad array of private credit strategies and position them along the risk/return spectrum, review the investment process, discuss expectations for the performance of these strategies in various parts of the economic cycle, and highlight some key risks for investors to consider.



Blockchain and Financial Market Innovation
Economic Perspectives, Federal Reserve Bank of Chicago, July 2017

Abstract

*CAIA Level II candidates are expected to have studied the full article,
as it appears on CAIA.org.*

Blockchain technology is likely to be a key source of future financial market innovation. It allows for the creation of immutable records of transactions accessible by all participants in a network. A blockchain database is made up of a number of blocks “chained” together through a reference in each block to the previous block. Each block records one or more transactions, which are essentially changes in the listed owner of assets. New blocks are added to the existing chain through a consensus mechanism in which members of the blockchain network confirm transactions as valid. The technology allows the creation of a network that is “fully peer to peer, with no trusted third party,” such as a government agency or financial institution.

While all are in the early stages of development, there are many promising applications of blockchain technology in financial markets. The bitcoin ecosystem represents the largest implementation of blockchain technology to date. Interest in the technology continues to grow in the financial technology and broader financial services communities. This article provides a brief overview of what blockchain technology is, how it works, and some potential applications and challenges.