2027 CAIA® EXAM PREP

SchweserNotes™

CAIA Ethical Principles and Introduction to Alternative Investments

Level I Book 1

KAPLAN SCHWESER

Kaplan Schweser's Path to Success

CAIA® Level I Exam

Welcome

As the head of Advanced Designations at Kaplan Schweser, I am pleased to have the opportunity to help you prepare for the CFA® exam. Kaplan Schweser has decades of experience in delivering the most effective CFA exam prep products in the market and I know you will find them to be invaluable in your studies.

Our products are designed to be an integrated study solution across print and digital media to provide you the best learning experience, whether you are studying with a physical book, online, or on your mobile device.

Our core product, the SchweserNotes™, addresses all of the Topics, Learning Modules, and LOS in the CFA curriculum. Each reading in the SchweserNotes has been broken into smaller, bite-sized modules with Module Quizzes interspersed throughout to help you continually assess your comprehension. Online Topic Quizzes appear at the end of each Topic to help you assess your knowledge of the material before you move on to the next section.

All purchasers of the SchweserNotes receive online access to the Kaplan Schweser online platform (our learning management system or LMS) at www.Schweser.com. In the LMS, you will see a dashboard that tracks your overall progress and performance and also includes an Activity Feed, which provides structure and organization to the tasks required to prepare for the CFA exam. You also have access to the SchweserNotes and Topic Quizzes content. I strongly encourage you to use the dashboard to track your progress and stay motivated.

Again, thank you for trusting Kaplan Schweser with your CFA exam preparation. We're here to help you throughout your journey to become a CFA charterholder.

Regards,

Derek Burkett

Derek Burkett, CFA, FRM, CAIA
Vice President (Advanced Designations)

Contact us for questions about your study package, upgrading your package, purchasing additional study materials, or for additional information:
88.325.5072 (U.S.) | +1 608.779.8327 (Int'l.)
staff@schweser.com | www.schweser.com/cfa

Book 1: CAIA Ethical Principles and Introduction to Alternative Investments

SchweserNotes™ 2027

CAIA Level I



SCHWESERNOTES™ 2027 CAIA® LEVEL I BOOK 1: CAIA ETHICAL PRINCIPLES AND INTRODUCTION TO ALTERNATIVE INVESTMENTS

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WELCOME TO THE 2027 SCHWESERNOTES™

Thank you for trusting Kaplan Schweser to help you reach your career and educational goals. We are very pleased to be able to help you prepare for the CAIA Level I exam. In this introduction, I want to explain the resources included with the SchweserNotes, suggest how you can best use Kaplan Schweser materials to prepare for the exam, and direct you toward other educational resources you will find helpful as you study for the exam.

SchweserNotes

The SchweserNotes consist of three volumes that include complete coverage of all CAIA assigned readings and learning objectives (LOs) as well as reading quizzes (multiple-choice questions for every reading) to help you master the material and check your retention of key concepts.

Practice Questions

To retain the material, it is important to quiz yourself often. We offer the SchweserPro™ QBank, which contains hundreds of Level I practice questions and explanations. We also offer Topic Quizzes online to further help you retain and apply what you have learned.

OnDemand Class

Our OnDemand Class provides comprehensive online instruction for every reading in the CAIA curriculum. This video lecture series brings the personal attention of a classroom into your home or office with approximately 35 hours of instruction. The class offers in-depth coverage of difficult concepts as well as a discussion of example questions. All videos are available for viewing at any time throughout the exam season. Candidates enrolled in the OnDemand Class also have the ability to email questions to the instructor at any time.

Mock Exams

Schweser offers four full 4-hour, 200-question practice exams. These online exams are important tools for gaining the speed and skills you will need to pass the exam. The Mock Exams contain answers with full explanations for self-grading and evaluation.

Late-Season Review

Late-season review and exam practice can make all the difference. Our OnDemand Review Package helps you evaluate your exam readiness with products specifically designed for late-season studying. This study package includes the OnDemand Review Workshop (10-hour archived online workshop covering essential curriculum topics) and Schweser's Secret Sauce® (a concise summary of the CAIA curriculum).

Level I Exam Weightings

When preparing for the exam, be familiar with the weights assigned to each topic area within the curriculum. The Level I exam weights and questions are as follows:

Book	Topic Area	Exam Weight	Exam Questions
1	CAIA Ethical Principles	7%–13%	14–26
1	Introduction to Alternative Investments	21%–27%	42–54
2	Real Assets	16%–22%	32–44
2	Private Equity	8%–14%	16–28
3	Private Debt	10%–16%	20–32
3	Hedge Funds	15%–21%	30–42
3	Digital Assets	3%–9%	6–18

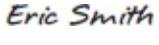
How to Succeed

The CAIA Level I exam is a formidable challenge, and you must devote considerable time and effort to be properly prepared. There are no shortcuts! You must learn the material, know the terminology and techniques, understand the concepts, and be able to answer 200 multiple-choice questions quickly and correctly (at least 70% of the time). A good estimate of the study time required is 250–300 hours on average, but some candidates will need more or less time, depending on their individual backgrounds and experience.

Expect CAIA Association to test your knowledge in a way that will reveal how well you know the Level I curriculum. You should begin studying early and stick to your study plan. You should first read the SchweserNotes and complete the practice questions for each reading. After completing each book, you should answer the provided topic quiz questions to understand how concepts may be tested on the exam.

It is recommended that you finish your initial study of the entire curriculum at least two weeks (earlier if possible) prior to your exam window to allow sufficient time for practice and targeted review. During this period, you should utilize all of your Schweser Mock Exams. This final review period is when you will get a clear indication of how effective your study efforts have been and which readings require significant additional review. Answering exam-like questions across all readings and improving your exam time management skills will be important determinants of your success on exam day.

Best regards,



Eric Smith, CFA, FRM, FDP
Director, Advanced Designations
Kaplan Schweser

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Readings and Learning Objectives

TOPIC 1

CAIA Association. *CAIA Curriculum Level I Volume I*. Self-published, CAIA Association, 2026.

Reading 1.1: Professionalism and Fiduciary Responsibilities

1.1.1: Demonstrate knowledge of the purpose, role, and participants of the investment industry.
Including:

- Distinguish between the participants within the investment industry.
- Justify the four facets of purpose of the investment industry.
- Analyze the current investment industry relative to alternative systems.
- Understand the four facets of purpose of the investment industry.

1.1.2: Demonstrate knowledge of the purpose of the investment industry and value creation within the industry.
Including:

- Assess how value is created in the investment industry.
- Understand the role of sustainable finance.
- Understand the role of capital allocation in the investment industry.
- Describe how public and private markets create value.
- Describe stewardship with respect to investment industry activity.
- Understand different value models.

1.1.3: Demonstrate knowledge of professionalism and fiduciary responsibility.
Including:

- Evaluate the purpose of fiduciary duty and the four areas of fiduciary obligations.
- Understand the five values that support a true fiduciary and professional mindset.
- Assess the role of culture on industry professionalism.
- Understand the challenges that associate with the four areas of fiduciary obligations.

1.1.4: Demonstrate knowledge of a client-first approach.
Including:

- Discuss the role of trust in client relationships.
- Contrast the professional mindset with the characteristics and trademarks of our current system.
- Recommend how investors can navigate instances when the “right” choice is not obvious.
- Justify the role a professional mindset has in creating value for a client.
- Describe the virtuous circle of positive forces with respect to the fiduciary and professional mindset.

Reading 1.2: Ethics

1.2.1: Demonstrate knowledge of the relationship between professionalism and ethics.
Including:

- Understand the key elements of professionalism and fiduciary responsibility.
- Identify the eight ethical principles.

- Contrast the ethical principles that guide “doing the right things” with those that guide “doing things right.”

1.2.2: Demonstrate knowledge of foundational components of ethical principles.
Including:

- Understand the foundational ideas and concepts associated with the principles.
- Analyze the value creation equation.
- Support the role of professionalism in the organizational value chain.
- Justify the four components of assurance of quality.

1.2.3: Demonstrate knowledge of the CAIA Ethical Principles.
Including:

- Explain principle 1 and support its underlying components.
- Explain principle 2 and support its underlying components.
- Explain principle 3 and support its underlying components.
- Explain principle 4 and support its underlying components.
- Explain principle 5 and support its underlying components.
- Explain principle 6 and support its underlying components.
- Explain principle 7 and support its underlying components.
- Explain principle 8 and support its underlying components.
- Understand the benefits of a principles-based approach to ethics.

1.2.4: Demonstrate knowledge of historical ethical breaches in the finance industry.
Including:

- Ethical misconduct at MF Global.
- Ethical misconduct at Archegos Capital Management.
- Ethical misconduct at Bear Stearns.
- Ethical misconduct at the New York State Common Retirement Fund.
- Ethical misconduct at CalPERS.

TOPIC 2

CAIA Association. *CAIA Curriculum Level I Volume I*. Self-published, CAIA Association, 2026.

Reading 2.1: What Is an Alternative Investment?

2.1.1: Demonstrate knowledge of various alternative investment types.
Including:

- Identify characteristics of institutional-quality investments.
- Describe real assets (i.e., commodities, real estate, and infrastructure).
- Describe hedge funds.
- Describe private equity (i.e., venture capital, growth equity, and leveraged buyouts).
- Describe private debt (e.g., direct lending, mezzanine debt, distressed debt, and collateralized debt obligations).

2.1.2: Demonstrate knowledge of the defining characteristics of alternative investments.
Including:

- Understand that the lines between traditional and alternative investments are not distinct and universal.
- Identify which categories of investments are generally qualified as traditional, generally qualified as alternative, and which can be placed under both.

2.1.3: Demonstrate knowledge of how alternative investments can be distinguished from traditional investments.

Including:

- Understand the role of absolute return products as diversifiers.
- Define illiquidity.
- Discuss the advantages and risks of illiquid investments.
- Define efficiency and inefficiency.
- Understand the relationship of efficiency and inefficiency to competition and transaction costs.
- Explain normal and non-normal distributions and the structures that cause non-normality of returns.

2.1.4: Demonstrate knowledge of why investors pursue alternative investments.

Including:

- Contrast active management to passive investing.
- Describe the absolute and relative standards for evaluating returns.
- Describe the concept of arbitrage.

2.1.5: Demonstrate knowledge of the history of alternative investments in the United States.

Including:

- Understand how assets typically held by institutional investors in the US have transformed over time.

2.1.6: Demonstrate knowledge of the history of alternative investments in Asia.

Including:

- Understand the diversity, breadth, and stages of evolution of alternative investment markets in Asia.

2.1.7: Demonstrate knowledge of the buy side and sell side participants in the alternative investing environment.

Including:

- Identify buy-side participants (e.g., plan sponsors and foundations).
- Describe the roles of buy-side participants in the alternative investing environment.
- Identify sell-side participants (e.g., large dealer banks and brokers).
- Describe the roles of sell-side participants in the alternative investing environment.

2.1.8: Demonstrate knowledge of the outside service providers in the alternative investing environment.

Including:

- Identify outside service providers (e.g., prime brokers and accountants).
- Describe the roles of outside service providers in the alternative investing environment.

Reading 2.2: Alternative Investment Funds and Terms

2.2.1: Demonstrate knowledge of the legal structures in alternative investing.

Including:

- Describe the role of limited liability in passive investments.
- Explain the role of entities (i.e., limited liability companies, corporations), and their purposes in alternative investing.
- Describe limited partnership structures.
- Identify bankruptcy remote entities (e.g., special purpose vehicles, special purpose entities).
- Explain the difference in bankruptcy remote entities (e.g., special purpose vehicles, special purpose entities).
- Identify the structures of various entities (e.g., master-feeder funds, master trusts) that facilitate investor taxation differences.

2.2.2: Demonstrate knowledge of the two main fund structures used for alternative investment funds.

Including:

- Identify the primary characteristics of open-end (aka evergreen) fund structures.
- Identify the primary characteristics of drawdown (aka PE-style, closed-end) fund structures.
- Contrast open-end funds with drawdown funds.
- Explain the role of a high-water mark in an open-end fund structure.
- Identify the risks unique to PE-style fund structures.
- Identify the strategies to mitigate substantial risk in PE-style fund structures.
- Discuss fee differences between PE-style and hedge funds.

2.2.3: Demonstrate knowledge of the key features of fund structures.
Including:

- Identify the four key documents (i.e., private-placement memoranda, partnership agreement, subscription agreement, management company operating agreement) used in establishing and maintaining a hedge fund, private equity fund, or other private partnerships.
- Explain the importance and components of a limited partners agreement.
- Explain moral hazard and adverse selection.
- Describe corporate governance in private funds.
- State components of investment objectives, fund size, and fund terms within an LPA.
- Explain the role of management fees and expenses in how investments are managed.
- Discuss global regulations (e.g., MiFID, MiFID II, AIFMD).
- Identify global fund structures (e.g., FIFs, SICAV, SICAF, ICAV).

2.2.4: Demonstrate knowledge of private fund terms.
Including:

- Explain the GP's contribution to initial private fund investment.
- Explain the key-person provision as part of the LP partnership clause.
- Explain termination and divorce of PE-style funds.
- Identify other covenants in PE-style funds.

2.2.5: Demonstrate knowledge of PE-style fund fees.
Including:

- Calculate private fund management fees and carried interest.
- Calculate carried interest and hurdle rates as part of a private markets deal.
- Explain the distribution of cash waterfall provision of a limited partnership agreement.
- Determine fund-as-a-whole carried interest and deal-by-deal carried interest.
- Understand terminology associated with the cash waterfall provision (e.g., carried interest, hurdle rate, catch-up provision, vesting, clawback clause).

2.2.6: Demonstrate knowledge of advanced calculations for private fund waterfalls.
Including:

- Calculate clawback provisions.
- Analyze hard and soft hurdle rates and their sequences of distribution.

2.2.7: Demonstrate knowledge of hedge fund fees.
Including:

- Understand typical hedge fund fee arrangements.
- Calculate annual hedge fund fees.
- Calculate hedge fund fees under different high-water marks (HWMs) and hurdle rates.
- Discuss the potential effects of incentive fees on hedge fund manager behavior.
- Apply the annuity view of hedge fund fees.
- Contrast traditional high-water marks with modified high-water marks.

2.2.8: Demonstrate knowledge of manager behavior as it relates to fund fees.
Including:

- Explain perverse incentives that can originate from private fund hurdle rates.
- Apply the option view of incentive fees and its implications on manager behavior.

- Describe the empirical evidence regarding hedge fund fees and managerial behavior.

Reading 2.3: Quantitative Foundations

2.3.1: Demonstrate knowledge of return and rate mathematics.
Including:
- Distinguish simple from compound interest.
- Distinguish discrete from continuous compounding.

2.3.2: Demonstrate knowledge of the internal rate of return (IRR) approach to alternative investment analysis.
Including:
- Understand which alternative investments are likely to use IRR and why this approach may be more suitable than traditional performance metrics.
- Solve for the IRR given a series of cash flows and valuation.

2.3.3: Demonstrate knowledge of the problems associated with the internal rate of return (IRR).
Including:
- Discuss the effect of complex cash flow patterns on the computation and interpretation of IRRs.
- Explain challenges of comparing investments based on IRRs.
- Discuss the difficulties of aggregating IRRs.
- Explain the relationship between IRR and the reinvestment rate assumption.

2.3.4: Demonstrate knowledge of modified internal rate of return (IRR).
Including:
- Apply the modified internal rate of return approach.
- Identify advantages and disadvantages of modified internal rate of return.
- Evaluate time-weighted and dollar-weighted returns.

2.3.5: Demonstrate knowledge of other performance measures associated with illiquid investments.
Including:
- Apply three ratios that can be used as performance measures.
- Explain the Public Market Equivalent (PME) method.

2.3.6: Demonstrate knowledge of illiquidity, accounting conservatism, IRR, and the J-curve as they relate to the valuation of alternative investments.
Including:
- Identify how accounting conservatism relates to early fund losses.
- Identify the implication of accounting conservatism on deferred recognition of gains.
- Interpret the J-curve.

2.3.7: Demonstrate knowledge of returns based on notional principal.
Including:
- Understand the challenge of calculating returns on positions with zero value.
- Define and apply the concepts of notional principal and full collateralization for forward contracts.
- Calculate the log return on a fully collateralized derivatives position.
- Calculate the log return on a partially collateralized derivatives position.

Reading 2.4: Statistical Foundations

2.4.1: Demonstrate knowledge of the characteristics of return distributions.
Including:
- Contrast ex ante and ex post return distributions.
- Understand the importance of the normal distribution in statistical analysis.
- Describe the characteristics of lognormal distributions.

2.4.2: Demonstrate knowledge of moments of return distributions (i.e., mean, variance, skewness, and kurtosis).
Including:
- Explain the first four moments of return distributions.
- Explain skewness of return distributions.
- Explain kurtosis and excess kurtosis of return distributions.
- Describe the characteristics of platykurtic, mesokurtic, and leptokurtic distributions.

2.4.3: Demonstrate knowledge of various measures of correlation of returns.
Including:
- Demonstrate the importance of correlation in alternative investment portfolio management.
- Calculate covariance.
- Calculate correlation coefficient.
- Understand the Spearman rank correlation coefficient.
- Discuss the role of correlation in portfolio diversification.

2.4.4: Demonstrate knowledge of beta and autocorrelation.
Including:
- Define and calculate beta in the context of the CAPM.
- Define and calculate autocorrelation.
- Define and calculate higher-order autocorrelation.
- Define and apply the Durbin-Watson test.

2.4.5: Demonstrate knowledge of standard deviation (volatility) and variance.
Including:
- Explain standard deviation (volatility).
- Describe the properties of variance and standard deviation.
- Calculate variance and standard deviation.

2.4.6: Demonstrate knowledge of methods used to test for normality of distributions.
Including:
- Discuss the three main reasons for non-normality observed in alternative investment returns (i.e., autocorrelation, illiquidity, and nonlinearity) and the effect of each on returns.
- Discuss tests for normality that use sample moments.
- Apply the Jarque-Bera test.

Reading 2.5: Financial Economics Foundations

2.5.1: Demonstrate knowledge of the concept of informational market efficiency.
Including:
- Define informational market efficiency.
- Explain various forms of informational market efficiency, including efficient inefficiency.
- Identify factors driving informational market efficiency.
- Discuss the factors influencing informational efficiency in alternative asset markets.

2.5.2: Demonstrate knowledge of the time value of money, prices, and rates.
Including:
- Understand zero-coupon bonds and its present value function.
- Calculate interest rates from zero-coupon bond prices.
- Determine short-term interest rates using the Fisher equation.
- Estimate the term structure of interest rates with zero-coupon bonds.
- Understand how the bond pricing formula is used to calculate bond yields.

2.5.3: Demonstrate knowledge of forward interest rates.
Including:
- Define implied forward rates.

- Estimate implied forward rates using incremental cash flows.
- Calculate implied forward rates with annual compounding.
- Explain the term structure of implied forward rates.

2.5.4: Demonstrate knowledge of binomial tree models.
Including:

- Understand the mechanics of binomial trees.
- Explain the differences between a binomial tree and a recombining binomial tree.
- Solve for the value of a call option using a simplified binomial tree and stock prices.
- Explain risk-neutral models and when they are appropriate to employ.
- State the advantages of binomial tree models.

2.5.5: Demonstrate knowledge of single factor default-free bond models.
Including:

- Define traditional duration.
- Interpret duration in the case of a fixed coupon bond.
- Determine the duration for a bond portfolio.
- Describe how the duration of a long-only bond portfolio can be used to manage interest rate risk.
- Identify challenges and solutions for using duration when cash flows are stochastic.
- Discuss implications of floating vs. fixed rate duration.
- Assess implications of compounding conventions on modified duration.
- Explain duration as it relates to the longevity of a zero-coupon bond.
- Analyze hedging or immunizing a long-short portfolio with duration through time.
- Explain extensions to traditional duration.

2.5.6: Demonstrate knowledge of reduced form modeling of credit risk.

- Identify the difference between structural models and reduced-form models.
- Define the three factors that determine the expected credit loss of a credit exposure.
- Calculate expected credit loss.
- Describe two key characteristics of the risk-neutral modeling approach.
- Define risk-neutral probability.
- Apply the risk-neutral approach to pricing risky debt.
- Apply the risk-neutral approach to estimating credit spreads.
- Apply the reduced-form model to determine relative prices of securities.
- Explain what it means to calibrate a model.
- List the advantages and disadvantages of the reduced-form model.
- Contrast structural and reduced-form credit risk models.

2.5.7: Demonstrate knowledge of single factor equity pricing models.
Including:

- Define an asset pricing model.
- Apply a single-factor asset pricing model (e.g., the capital asset pricing model [CAPM]).
- Describe ex ante forms of the CAPM and their implications.
- Describe ex post forms of the CAPM and their applications.

2.5.8: Demonstrate knowledge of single-factor regression models.
Including:

- Explain the simple linear regression and single-factor market model.
- Explain the use of ordinary least squares to estimate regression parameters.
- Describe the problem outliers pose to regression analysis.
- Describe the problem autocorrelation poses to regression analysis.
- Describe the problem heteroskedasticity poses to regression analysis.

- Interpret a regression’s goodness of fit.
- Apply the statistical significance of regression parameter estimates.

2.5.9: Demonstrate knowledge of statistical methods for locating alpha.
Including:

- Identify the four steps of hypothesis testing (i.e., state the hypothesis, formulate an analysis plan, analyze sample data, and interpret results).
- Discuss the error of accepting a hypothesis.
- Understand the four common problems with using inferential statistics.
- Discuss type I and type II errors in hypothesis testing.
- Understand erroneous conclusions with statistical testing.

2.5.10: Demonstrate knowledge of sampling and testing problems.
Including:

- Identify the characteristics of unrepresentative data sets (e.g., selection bias, self-selection bias, survivorship bias) and their effects on test results.
- Discuss data mining and data dredging and recognize their effects on test results.
- Discuss backtesting and backfilling and recognize their effects on test results.
- Discuss cherry-picking and chumming and recognize their effects on test results.

Reading 2.6: Derivatives and Risk-Neutral Valuation

2.6.1: Demonstrate knowledge of forward and futures contracts.
Including:

- Describe the trading differences between forward and futures contracts.
- Apply the marking-to-market process for futures positions.
- Discuss the effect of marking-to-market on counterparty risk.
- Evaluate the effect of marking-to-market and the time value of money on risk and on prices.
- Analyze initial margin for futures positions.
- Analyze maintenance margin for futures positions.

2.6.2: Demonstrate knowledge of foundations of forward contracts.
Including:

- Describe the settlement and delivery processes of forward contracts.
- Understand the no-arbitrage approach to determining forward prices.
- Determine the forward contract price of a zero-coupon default-free bond.
- Analyze forward prices and expected spot prices under risk neutrality.
- Understand the relationship between forward prices and expected bond rates.

2.6.3: Demonstrate knowledge of the impacts of forward contracts on rates.
Including:

- Describe the forward rate agreement (FRA) process.
- Understand and apply the relationship between FRAs and implied forward interest rates.
- Explain forward rates and their extensions.

2.6.4: Demonstrate knowledge of the impact of forward contracts on assets with benefits and costs of carry.
Including:

- Discuss the benefits and costs of carrying (i.e., holding) a cash position and the incorporation of convenience yields and storage costs in cost-of-carry models.
- Calculate the forward price of a commodity.
- Discuss four factors that differentiate forward pricing on financial assets with those of physical assets.
- Understand challenges involving measuring storage costs and convenience yields.

- Discuss the difficulties of short-selling physical assets and the resulting implication to the formula for forward prices.
- Calculate forward contracts with non-zero market value.

2.6.5: Demonstrate knowledge of managing long-term futures exposures.
Including:

- Discuss futures contracts with different settlement dates.
- Understand how rollover decisions alter long-run returns.

2.6.6: Demonstrate knowledge of option exposures.
Including:

- Understand option risk exposure diagrams.
- Explain the key characteristics of long and short positions in an underlying asset.
- Understand the key characteristics of call and put exposures.
- State the key characteristics of protective put exposures.
- Discuss characteristics of option spreads (e.g., bull spreads, bear spreads, and ratio spreads).
- Understand the key characteristics of option combinations (e.g., straddles, strangles, and the concept of risk reversals).
- Apply the concepts of option collars and put-call parity.

2.6.7: Demonstrate knowledge of interest rate options.
Including:

- Describe an interest rate cap and calculate cap payments.
- Describe interest rate floors and calculate floor payments.
- Discuss interest rate options and counterparty risk.

2.6.8: Demonstrate knowledge of option pricing models and option sensitivities.
Including:

- Understand the concept of an option on a portfolio.
- Understand the Black-Scholes call-option formula.
- Understand the Black forward option pricing model.
- Understand the currency option pricing model.
- Explain the five most popular option sensitivities (i.e., delta, vega, theta, rho, and gamma).
- Describe option sensitivities such as omicron, lambda, and omega.
- Discuss the uses of option sensitivities in risk management.

Reading 2.7: Measures of Risk and Performance

2.7.1: Demonstrate knowledge of measures of risk.
Including:

- Define semivariance, semistandard deviation, downside deviation, semivolatility, and tracking error.
- Describe drawdown, shortfall risk, target semivariance, and target semistandard deviation.
- Calculate drawdown.
- Interpret value at risk (VaR) and conditional value at risk (CVaR).
- Discuss the strengths and weaknesses of VaR.

2.7.2: Demonstrate knowledge of methods for estimating value at risk (VaR).
Including:

- Apply a parametric approach to estimate VaR with normally distributed returns or with normally distributed underlying factors.
- Describe methods for estimating volatility as an input for VaR calculations.
- Describe methods for estimating VaR for leptokurtic positions.
- Describe methods for estimating VaR directly from historical data.

- Describe how the Monte Carlo analysis can be used to estimate VaR.
- Discuss and apply the aggregation of portfolio-component VaRs to determine the VaR for a portfolio under various assumptions (i.e., perfect correlation, zero correlation, and perfect negative correlation).

2.7.3: Demonstrate knowledge of benchmarking and performance attribution.
Including:

- Define benchmarking.
- Identify types of benchmarks.
- Discuss performance attribution.

2.7.4: Demonstrate knowledge of ratio-based performance measures used in alternative investment analysis.
Including:

- Describe the two major types of performance measures.
- Define Sharpe ratio, Treynor ratio, Sortino ratio, information ratio, and return on VaR.
- Discuss the properties in using the Sharpe ratio.
- Calculate Sharpe ratio, Treynor ratio, Sortino ratio, information ratio, and return on VaR.
- Discuss the properties in using the Treynor ratio.

2.7.5: Demonstrate knowledge of risk-adjusted performance measures used in alternative investment analysis.
Including:

- Define Jensen's Alpha and the M^2 (M-Squared) approach.
- Calculate Jensen's Alpha and the M^2 (M-Squared) approach.

2.7.6: Demonstrate knowledge of empirical approaches in estimating alpha and return persistence.
Including:

- Identify the steps involved in estimating alpha from historical performance.
- Discuss attribution of idiosyncratic returns to luck or skill.
- Calculate beta, forecasted alpha, and realized alpha.
- Understand model misspecification and the effects on return attribution.
- Describe various types of beta nonstationarity (i.e., beta creep, beta expansion, and market timing) and their effects on return attribution.
- Discuss how alpha and beta can become commingled.

2.7.7: Demonstrate knowledge of pricing and historic data analysis.
Including:

- Interpret models of stale prices.
- Describe the effect of stale pricing on historic mean returns and volatility.
- Calculate the effect of stale pricing on historic mean returns and volatility.

2.7.8: Demonstrate knowledge of valuation and volatility of private assets.
Including:

- Discuss the smoothing of prices and returns.
- Determine the effect of smoothing on observed volatility.
- Identify the primary ways that returns can be managed.
- Discuss how appraisals contribute to smoothing of private asset prices.
- Compare smoothed returns with market returns.

The following is a review of the CAIA Ethical Principles designed to address the learning objectives set forth by CAIA Association®. Cross-reference to CAIA Association Reading 1.1.

READING 1.1

PROFESSIONALISM AND FIDUCIARY RESPONSIBILITIES

Topic 1

EXAM FOCUS

This reading begins by describing the investment industry and justifies the main purpose of the industry. It continues by discussing how the industry creates value and the importance of fiduciary duty and professionalism. Finally, it concludes by addressing the client-first mindset. For the exam, focus on the concepts of sustainable finance, true fiduciary and professional mindset, professional culture, and client trust.

INVESTMENT INDUSTRY

LO 1.1.1: Demonstrate knowledge of the purpose, role, and participants of the investment industry.

Including:

- **Distinguish between the participants within the investment industry.**
- **Justify the four facets of purpose of the investment industry.**
- **Analyze the current investment industry relative to alternative systems.**
- **Understand the four facets of purpose of the investment industry.**

Industry Participants

The major participants in the investment industry are asset owners, asset managers, consultants, brokers, investment banks, service providers, and regulators. The participants interact with technologies and markets in the investment ecosystem. Through technology, financial professionals consider

factors such as regulation and investment theory, which shape investment strategies and capital allocation. Markets refer to the securities to be transacted to generate wealth as well as the need for skilled investment professionals and service providers (e.g., traders, custodians).

Asset owners act as fiduciaries in managing the assets of beneficiaries/investors. Asset owners (acting as the **principal**) are commonly pension funds, family offices, sovereign wealth funds, endowments, or foundations. The size of the asset owner will largely determine whether it is able to develop sufficient skills and expertise to manage assets internally. If not, the owner will need to outsource some investment activities to external asset managers who act as **agents**.

Asset managers can be relatively small, specialized firms or extremely large firms that manage trillions of dollars in assets. In addition, they may choose to concentrate on only one asset class (e.g., fixed income, equities, alternative investments) or invest in numerous asset classes.

Additional **stakeholders** such as consultants, brokers, and data providers provide specialized services—and, in the process, add value (within the **value chain**) to clients and the overall system. Other participants, such as governments and regulators, operate in a more administrative and oversight role.

Industry Purpose

The purpose of the investment industry can be broken down into four parts: (1) intrinsic, (2) core, (3) fundamental, and (4) collateral.

The **intrinsic purpose** refers to simply matching savers (those with excess capital to invest) with spenders (those who need to borrow capital to achieve their objectives). There is also the **core purpose**, which is portfolio management. This involves picking the most appropriate investments that will generate optimal returns over the long term, but within the constraint of acceptable risk levels. In addition, there is the **fundamental purpose**, which is to enhance overall societal wealth and well-being. The investment industry enhances societal well-being if its activities result in greater access to capital markets for everyone. Finally, the **collateral purpose** looks to provide opportunities for employment as well as investment firm growth.

Industry Changes

The investment industry exhibits path dependency, whereby the current system has evolved from past systems (e.g., the development of new asset classes such as alternative investments). Thus, the current system will shape the types of changes that occur in the future. Alternative systems could replace current aspects of the investment industry regarding fiduciary duties. For example, the increasing prominence of decentralized finance or transactions involving cryptocurrency assets may avoid regulatory restrictions. Ultimately, any evolution of the investment industry would still require trust and value creation to ensure use and acceptance by society in general.

VALUE CREATION

LO 1.1.2: Demonstrate knowledge of the purpose of the investment industry and value creation within the industry.

Including:

- **Assess how value is created in the investment industry.**
- **Understand the role of sustainable finance.**
- **Understand the role of capital allocation in the investment industry.**
- **Describe how public and private markets create value.**
- **Describe stewardship with respect to investment industry activity.**
- **Understand different value models.**

Capital allocation involves transferring surplus funds from savers to entities that require funds for implementing investment ideas. In theory, providing and allocating capital is one of the main objectives of the investment industry. However, in practice, raising capital occurs less than expected, given the frequent use of cash and share buybacks to reduce the amount of equity shares outstanding. Given the limited role of capital allocation as a wealth-creating activity (e.g., new investment), private markets are more successful than public markets in value creation.

In the investment industry, wealth and risk management are the main forms of value creation. These activities occur most frequently during portfolio creation and portfolio management (i.e., balancing returns with investor risk tolerances over the long term). Current attention is placed on risk management at given points in time as well as relative risk (i.e., portfolio risk relative to an appropriate benchmark). Improvement in this area would be more focus on continuous risk management as well as absolute risk.

Another important form of value creation is **stewardship**, which focuses on improving societal wealth and well-being. Stewardship involves activities such as creating a dialogue with corporate managers to promote sustainable long-term growth and to manage relevant risks. A relatively untapped source of value creation in the investment industry involves allocating capital to new investments (e.g., alternative energy sources).

Sustainable Finance

The value that is created by a firm must consider the individual characteristics of the firm, as noted in the firm's mission or objective. That value creation should also consider all relevant stakeholders, including society in general.

The main idea behind **sustainable finance** is to satisfy asset owners' current needs while not jeopardizing the interests of future stakeholders. In that regard, financial professionals frequently rank profit for clients and investors as the primary goal (more traditional), but additional potential goals include improved organizational and/or societal well-being (more focused on **sustainability**). Ideally, the primary and potential goals will not conflict, which will allow profit and sustainability objectives to be pursued concurrently.

The investment industry operates on the basis of implied consent from society to pursue profit-oriented objectives, while at the same time improving the well-being of society and the environment. This **social license principle** has a direct impact on the chosen sustainability strategies.

System-Value Perspective

The **triple bottom line** concept suggests that corporations should consider not only their economic contributions but also their environmental and social effects. From a system-value perspective, the investment industry and society are integrated and must be evaluated together. Value creation is earning a required financial return (i.e., maximizing shareholder *value*) and potentially an even higher return (i.e., maximizing shareholder *welfare*). The investment industry positively impacts society by providing employment opportunities and capital. Whether the industry achieves its objective will be determined by the degree of impact it achieves on society and the level of value creation.

Three key aspects of creating value within the investment industry include the following:

- Having activities to promote the wealth and well-being of stakeholders.
- Being evaluated differently (and subjectively) by various stakeholders.
- Occurring over a long time horizon so that value creation can be evaluated by analyzing the past and projecting the future.

FIDUCIARY DUTY

LO 1.1.3: Demonstrate knowledge of professionalism and fiduciary responsibility.

Including:

- **Evaluate the purpose of fiduciary duty and the four areas of fiduciary obligations.**
- **Understand the five values that support a true fiduciary and professional mindset.**
- **Assess the role of culture on industry professionalism.**
- **Understand the challenges that associate with the four areas of fiduciary obligations.**

Fiduciary duty attempts to hold investment professionals to high standards when performing duties on behalf of their clients. Fiduciary obligations typically cover the following four areas:

Loyalty. In the context of investment strategies, clients/beneficiaries always come first, and there should be no conflicts of interest between clients/beneficiaries and the investment professional.

Prudence and care. Perform duties with sufficient care and judgment to the level of a prudent individual.

Diversification. Achieve sufficient diversification consistent with modern portfolio theory and accepted industry practices.

Impartiality. Ensure that the investment professional does not favor any client/beneficiary over another.

Fiduciary Duty Challenges

One challenge to the area of fiduciary obligations is that an exact application of each area is problematic, as there will likely be multiple valid approaches. As a result, modern portfolio theory and industry practice are often used in conjunction with each other.

The definition of *fiduciary duty* naturally changes as investment theory and practice change over time. For example, when dealing with new areas such as sustainable investing, how fiduciary duty is applied will not be the same as in more traditional types of investing.

Furthermore, there is no universal definition of exactly what fiduciary duty involves (e.g., which investment personnel are subject to fiduciary duty). Some jurisdictions base it on common law principles developed over time, and others base it on specific legislation. Despite the differences, the fundamental concepts behind fiduciary duty are largely similar in all jurisdictions where one party invests funds owned by another party.

Finally, within the context of sustainable investing, the inclusion of environmental, social, and governance (ESG) factors is now seen more as an opportunity to improve investment performance (with additional corresponding risk) as opposed to the previous consensus, where it was seen more as a drag on performance for the sake of "doing something good."

In short, the four areas of fiduciary duty essentially address the concept of professionalism in the investment industry. Additionally, in the context of making investment decisions, the areas require the fiduciary to consider not only client needs but also the overall needs of society.

Supporting a Professional Mindset

A true fiduciary and professional mindset involves anticipating a long-term relationship with a client that provides value and financial rewards. It involves performing fiduciary duties with loyalty, care, and prudence (i.e., a professional mindset). Together with strong technical skills and experience (i.e., a professional skill set), the investment professional would be able to provide a high level of service to clients on an ongoing basis while always considering the client's best interests.

Five specific values to consider within the professional mindset are as follows:

Ethical and professional behavior. Such behavior is heavily embedded in firm culture so that personnel are motivated and possibly even rewarded for behaving in an ethical and professional manner.

Partnership. The investment firm functions as a partner to the client, and the firm's employees use their professional skills to help achieve the client's investment objectives. This relationship is maintained for an extended period with candid and open discussions, along with the management of client expectations.

Client first. Knowledge of clients and their needs is an important first step upon which investment decisions are made that are congruent with those needs.

Loyalty to the client is paramount, where the main purpose is to act in the client's best interests.

Transparency, integrity, and accountability. These are pervasive values for professionals in general, but when interacting with stakeholders, information relayed to them should be clear, thorough, and not misleading.

Public responsibility and a clean license to operate. Investment professionals must strive to achieve investment results that enhance the firm's and the industry's reputation. In other words, there is an implied duty to society to consider its needs in addition to those of the firm's clients (i.e., a **social license compact**). This can be achieved through responsible behavior by the investment professional in performing their duties. Responsible behavior includes fair practices, specified knowledge requirements, accreditation standards for the industry, formalized codes of conduct, and enforced disciplinary measures.

Role of Culture

Culture is an accumulated set of thoughts and behaviors within a specific group over the long term (a group may be a team, company, or industry). Culture is often influenced by the top leaders within the group, and the leaders who demonstrate professionalism serve as role models for others within the group. Behaviors reflect a group's culture, which means all members influence the culture through their consistent professional behavior. The impact of culture is seen both in the group's past and future activities.

Culture impacts a group in the following three main ways:

Integration of values and beliefs, setting expectations, creating trust, and providing a greater amount of certainty.

Focusing on the most important issues to the group.

Capitalizing on effective communication and engagement (both internally and externally).

A culture that aligns with these three points is a significant contributor toward demonstrating professionalism within the investment industry.

CLIENT-FIRST MINDSET

LO 1.1.4: Demonstrate knowledge of a client-first approach.

Including:

- **Discuss the role of trust in client relationships.**
- **Contrast the professional mindset with the characteristics and trademarks of our current system.**
- **Recommend how investors can navigate instances when the "right" choice is not obvious.**
- **Justify the role a professional mindset has in creating value for a client.**
- **Describe the virtuous circle of positive forces with respect to the fiduciary and professional mindset.**

Client Trust

In a manager-client relationship, trust is given by the client and sought by the asset manager. The client trusts that the asset manager will manage the risk and return elements of the client's investment portfolio for the client's benefit (more trust is required the greater the risk taken and the longer it is taken).

Gaining a client's trust requires the following elements:

- **Credibility.** The asset manager is licensed and qualified to provide the service and has met all relevant regulatory requirements. Additionally, there is a sufficient performance history of success to warrant the client placing trust in the asset manager.
- **Communication.** The asset manager communicates with clients on a timely and thorough basis, using relevant technology where applicable.
- **Professionalism.** The asset manager has the ability to deliver the service at the appropriate skill level, together with loyalty, care, and prudence. This is a more subjective element than credibility and communication.

There are additional features of trust applicable to manager-client relationships:

- Clients who grant the asset manager the requisite trust will allow for the value creation process to occur and grow over the long term.
- Trust granted by clients is affected by geographic and demographic factors. Culture and past involvement with investments also impact trust.
- Trust is especially important at key times during an investment (e.g., market downturns) when the asset manager's involvement is crucial.
- Both technology and personal involvement by the asset manager must be used together effectively to gain a client's trust.
- A good (bad) brand (e.g., reputation of firm or advisor) can enhance or detract from the level of trust.
- The more (less) informed the client, the more (less) the client will trust the asset manager and the investment industry in general. In that regard, asset

managers may want to take basic steps to increase the financial literacy of their clients.

- Effective use of technology can increase trust and client engagement. Additionally, it may encourage some clients to be more receptive to innovative financial products and alternative financial strategies.

There are three general instances to consider when the “right choice” is not obvious:

Conflicts of interest. Conflicts of interest may occur between the firm and the client and/or between clients. Many firms may be able to satisfy client needs with their own products, which would benefit the firm. The question becomes, “Is the choice of investment product for the client truly in the best interests of the client, or does the firm stand to benefit more?” The best choice may, in fact, be one of the firm’s products, but this would give the appearance of a conflict of interest.

Tradeoff between benefits and costs. From a financial perspective, if an investment has a positive net present value (NPV), it should be pursued by the investor. However, there is a cost-benefit tradeoff if this investment also happens to generate excessive pollution, which harms the health of the beneficiaries of the investment.

Insufficient knowledge of the client. Knowledge, in this case, could include investment objectives and client beliefs and values. For example, client return objectives may actually be to earn stable returns over the long term rather than higher returns over the short term (e.g., annually). The short-term return may require more risk to generate a higher return, which may be appropriate on a stand-alone investment basis. However, within a total portfolio context, it may be inappropriate due to amplified risk compared with other existing positions in the portfolio.

Based on these considerations, the investment decisions should occur under a methodical and transparent application of rules and principles that embed the firm’s underlying culture.

Professional Mindset for Creating Value

A professional and fiduciary mindset may create value for clients in the following circumstances: