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Level 2
CAIA[®]
Book 2

Schweser Study Notes for the CAIA[®] Exam

CURRENT & INTEGRATED TOPICS

KAPLAN SCHWESER

Figure 11: Portfolio Values in a 4-Period Oscillating Market

<i>Strategy</i>	<i>Initial Value</i>	<i>Period 1 Return = +25%</i>	<i>Period 2 Return = -20%</i>	<i>Period 3 Return = +25%</i>	<i>Period 4 Return = -20%</i>
<i>Constant Mix</i>					
Stock index	\$60	75 / 69	55.2 / 60.72	75.9 / 69.83	55.86 / 61.45
T-bill	\$40	40 / 46	46 / 40.48	40.48 / 46.55	46.55 / 40.96
CM portfolio value	\$100	\$115	\$101.20	\$116.38	\$102.41
<i>Buy-and-Hold</i>					
Stock index	\$60	75	60	75	60
T-bill	\$40	40	40	40	40
BH portfolio value	\$100	\$115	\$100	\$115	\$100
<i>CPPI (m = 2, floor = 70)</i>					
Stock index	\$60	75 / 90	72 / 54	67.5 / 81	64.8 / 48.6
T-bill	\$40	40 / 25	25 / 43	43 / 29.5	29.5 / 45.7
CPPI portfolio value	\$100	\$115	\$97	\$110.50	\$94.30

As we can see from the data in Figure 11, in an oscillating market, constant mix strategies outperform buy-and-hold strategies, and buy-and-hold strategies outperform CPPI strategies. We can generalize that concave strategies (e.g., constant mix), which are contrarian (i.e., purchase risky assets after negative performance and sell risky assets after positive performance), outperform linear or convex strategies (e.g., CPPI) in a flat but oscillating market.

LO 8.13: Discuss the motivations for and impact of resetting the parameters of dynamic strategies.

The parameters of dynamic asset allocation strategies concern the decision rules that are to be followed when rebalancing. This matter is of particular relevance to the CPPI strategy and the specification of the floor and multiplier values. For example, it might be tempting, following a large increase in stock market value, to increase the value of the floor to lock in profits. For example, if the floor is initially set at \$70 and the value of the portfolio increases to \$150, increasing the floor to \$100 would lock in \$30 of profit. While this makes sense intuitively, if the floor increases in lockstep with the portfolio value, the CPPI strategy will effectively be transformed into a constant mix strategy. Similarly, if the value of the multiplier is set to one, the CPPI strategy will effectively be transformed into a buy-and-hold strategy. Thus, the manager must be aware of how resetting the parameters can alter the nature of the asset allocation strategy.

KEY CONCEPTS

1. Regardless of the allocation strategy used, a portfolio will have the same ending value prior to rebalancing. However, the allocation strategy used will determine the portfolio's rebalancing requirements. (LO 8.10.a, b, c)
2. Buy-and-hold portfolios have a linear payoff profile, CPPI and OBPI strategies generate a convex payoff profile, and constant mix strategies generate a concave payoff profile. (LO 8.11)
3. Relative portfolio performance will be determined by the asset allocation strategy and market conditions. (LO 8.12.a, b)
4. Convex strategies (CPPI, OBPI) are trend-following and outperform both buy-and-hold and concave strategies in trending (bull or bear) markets. (LO 8.12.a)
5. Concave strategies (constant mix) are contrarian, and outperform both buy-and-hold and convex strategies in flat but oscillating markets. (LO 8.12.b)
6. Changing the parameters that define the decision rules for a CPPI strategy can effectively transform it into a buy-and-hold or constant mix strategy. (LO 8.13)

CONCEPT CHECKERS

1. Use the following information to answer the following questions. Your portfolio begins with \$1,000: 60% in equities and 40% in the risk-free asset. Over the next period, the value of the equities increases by 100%, while the value of the risk-free asset is unchanged.
 - a. **Calculate** the resulting portfolio value, and **describe** numerically what actions should be taken under a buy-and-hold strategy.
 - b. **Calculate** the resulting portfolio value, and **describe** numerically what actions should be taken under a constant mix strategy.
 - c. **Calculate** the resulting portfolio value, and **describe** numerically what actions should be taken under a constant-proportion portfolio insurance strategy, if $m = 1.5$ and $F = \$600$.

2. **Describe** how the payoff profiles differ between the common asset allocation strategies.

3. **Discuss** which type of asset allocation strategy (buy-and-hold, constant mix, or CPPI/OBPI) works best in a trending market.

4. **Discuss** which type of asset allocation strategy (buy-and-hold, constant mix, or CPPI/OBPI) works best in a flat but oscillating market.

5. **Discuss** the motivation for resetting the parameters that underlie the decision rules guiding dynamic asset allocation strategies and the potential impact of such an action.

Sample

CONCEPT CHECKER ANSWERS

1.
 - a. New equity value = \$1,200 (which represents a 100% increase from the original equity position of \$600); total portfolio value = \$1,600. No adjustments are to be made to the allocation under the buy-and-hold strategy. The resulting allocation is now 75% stocks/25% risk-free assets.
 - b. New equity value = \$1,200; total portfolio value = \$1,600. Target allocation to equity = $0.6 \times \$1,600 = \960 , so sell \$240 equity and purchase \$240 of the risk-free asset. This restates the portfolio to its original 60% stocks/40% risk-free assets under the constant mix strategy.
 - c. New equity value = \$1,200; total portfolio value = \$1,600. Target allocation to equity = $(\$1,600 - 600) \times 1.5 = \$1,500$, so sell \$300 of the risk-free asset and purchase \$300 equity. This results in a revised allocation of \$1,500 in stocks (94%) and \$100 in risk-free assets (6%).
2. The payoff profile shows the relationship between the total value of assets held and the value of the risky assets. This relationship is linear for the buy-and-hold strategy, concave for the constant mix strategy, and convex for the CPPI and OBPI strategies.
3. Convex strategies, such as the CPPI and OBPI, perform best in trending markets. This is because they are trend-following strategies, requiring the portfolio manager to buy risky assets as they increase in value and sell risky assets as they decrease in value. So as long as the trend persists (increases are followed by increases, or decreases by decreases), these strategies will outperform.
4. Concave strategies, such as constant mix, perform best in oscillating markets. This is because they are contrarian strategies. Following an increase (decrease) in the value of risky assets, the portfolio manager is required to sell (buy) risky assets to maintain the constant mix. The net result is that in a market with reversals, the manager is forced to sell just prior to a drop in the value of the risky assets, and vice versa.
5. The motivation could be to adjust the aggressiveness of the strategy by changing the value of the multiplier or to lock in profits after a bull market by increasing the floor. As the multiplier approaches one, the CPPI strategy effectively becomes a buy-and-hold strategy. If the floor increases in lockstep with total account value, the CPPI strategy effectively becomes a constant mix strategy.



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PRACTICE EXAMS

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EXAM 1 PART 1: MULTIPLE CHOICE

Professional Standards and Ethics

1. Which of the following statements concerning knowledge of the law and member actions is **CORRECT**? In the event that there is a conflict between the Standards and the relevant local law:
 - A. the local law applies. In the event that a violation is detected, members are required to report to the appropriate governmental authorities.
 - B. the more strict of the two applies. In the event that a violation is detected, members are required to report to the appropriate governmental authorities.
 - C. the local law applies. In the event that a violation is detected, members are not required to report to governmental authorities, though this may be advisable in some circumstances.
 - D. the more strict of the two applies. In the event that a violation is detected, members are not required to report to governmental authorities, though this may be advisable in some circumstances.

2. Which of the following statements is **FALSE** with respect to the determination of investment suitability for a particular client?
 - A. Investments should be suitable given the investor's financial situation.
 - B. Each investment should be evaluated for its suitability on the basis of its total risk.
 - C. Investor information should be updated regularly, no less frequently than annually.
 - D. Investments should be evaluated in the context of the investor's risk and return objectives.

3. Wilson Briggs has received an offer from a client to pay him a \$10,000 bonus if certain performance objectives are met. With respect to this offer, which of the following statements is **CORRECT**?
 - A. He cannot accept the offer under any circumstances.
 - B. He can accept the offer if he receives written consent from his employer and the client.
 - C. He can accept the offer without written consent from any party because it is compensation for service.
 - D. He can accept the offer if he receives written consent from his employer, but does not need written consent from the client.

4. After working nearly 20 years on Wall Street, Kevin Gentry decides to leave New York and open his own investment firm on tiny, but wealthy, Turtle Island, located in the Caribbean. Gentry has selected Turtle Island as his new base of operations for the lifestyle it affords as well as the country's securities laws that are much less stringent than the Code of Ethics and the Standards of Professional Conduct that he had operated under while working in the United States. As anticipated, many of his U.S.-based clients have agreed to keep Gentry as their portfolio manager and move their assets to his new firm. After a few months of operations, Gentry has encountered several instances where Turtle Island regulations relieve him of disclosing information to investors that he had been required to disclose while working in New York. According to the Code and Standards, Gentry must adhere to the:
- A. laws of Turtle Island, since it is where his business is conducted.
 - B. Code and Standards because it is "more strict" than the applicable law.
 - C. laws of Turtle Island, but disclose any discrepancies to U.S.-based clients.
 - D. Code and Standards because he must adhere to the Code and Standards under all circumstances.
5. Julie Moore reports directly to Jim Black, who is the president of a mid-sized money management firm. Moore discovers that Black is the subject of several investigations by various authorities regarding alleged trading violations. She has worked closely with him and has observed some possible violations. Which course of action must Moore take in this situation?
- A. Cooperate with the Professional Conduct Program and provide all information requested.
 - B. Immediately resign her position and discontinue all participation in the investigation in order to preserve confidentiality to her former employer and clients.
 - C. Provide information regarding only those clients who have given their written consent.
 - D. Execute a settlement agreement with the money management firm with a confidentiality clause that will relieve her of any obligation to provide information.
6. Jonathan Song has recently been hired as a portfolio manager for a small investment advisory firm that specializes in managing personal trusts. The firm hired Song in preparation for a new marketing campaign aimed at attracting new clients. One of Song's first tasks is to prepare an investment performance presentation for prospective clients that will clearly and accurately represent the firm's track record. Which of the following strategies adheres the closest to the obligations of the Standards of Professional Conduct? The firm should:
- A. include terminated accounts as a part of performance history.
 - B. present a minimum of five years of historical performance data.
 - C. comply with the Global Investment Performance Standards (GIPS).
 - D. present an estimate of returns over the next 12 months, given the current portfolio composition.

7. Rob Carter works for a Wall Street investment banking institution as an analyst for the consumer goods industry. Carter is preparing a research report on Clean Bright, a U.S.-based company that manufactures cleaning products used in the home. Clean Bright was once an industry leader, but has suffered several years of lackluster sales after the death of its founder. After reviewing industry statistics and consulting with several suppliers of Clean Bright, Carter discovers that Clean Bright has become alarmingly slow in meeting its accounts payable obligations. Carter believes that the company may soon face bankruptcy. Before Carter can issue a sell recommendation in his research report, Carter is required to:
- A. take no additional action.
 - B. wait until suppliers contact other analysts about Clean Bright.
 - C. make full disclosure of the conversations with the suppliers to a compliance officer at his firm.
 - D. contact management at Clean Bright to disclose the results of his conversations with suppliers.
8. Two Level 1 CAIA candidates working in the same large investment firm have purchased two different independent review materials to help them prepare for the CAIA exam. Although the materials are copyright protected, the candidates make copies and exchange them with one another. According to the Standards of Professional Conduct:
- A. the candidates have violated the Standards.
 - B. so long as no legal charges are brought, no violation has occurred.
 - C. in the absence of legal copyrights within the candidates' home country, no violation has occurred.
 - D. until at least one of the candidates has completed Level 1, the Standards do not apply.
9. The Northern Saving Trust department has an internally managed, commingled stock fund where all of its smaller client accounts are pooled together. For larger clients, Northern handles the accounts individually, setting up individual portfolios for each customer. The stocks held in the individual accounts are by and large the same as those held in the commingled fund. Northern always trades in the individual accounts first, and in the commingled fund last. This policy is:
- A. in violation of the Standards by failing to deal fairly with all clients.
 - B. in violation of the Standards by inappropriately using the same investment strategy for individual and commingled accounts.
 - C. in violation of the Standards by pooling individual investments into a commonly managed fund.
 - D. acceptable under the Standards.

EXAM 1 PART 1 ANSWERS

Professional Standards and Ethics

1. **D** When there is a conflict between the Standards, local law, regulations, or other rules, the more strict measure applies to member actions. Thus, members can be held to a standard that is higher than the local law. When a violation is detected, members are not necessarily required to report to governmental authorities, but it may be advisable to do so in some circumstances. (LO 1.1.a)
2. **B** An investment should *not* be evaluated on the basis of its total risk. Investments should instead be evaluated in a portfolio context in order to determine suitability. All of the other statements are correct. (LO 1.3.c)
3. **B** The Standard concerning additional compensation arrangements states that such compensation can only be accepted if written consent is obtained from all parties involved. All parties involved would include both the employer and client. (LO 2.1.b)
4. **B** Standard I(A). When applicable law and the Code and Standards have differing requirements, candidates and members must follow the “more strict” of either the local law or the Code and Standards. (LO 1.1a)
5. **A** Standard III(E). Members will not be violating their duty to preserve confidentiality by forwarding confidential information to CFA Institute. (LO 1.3.e)
6. **C** Compliance with the GIPS standards is the best method for members and candidates to meet their obligations under Standard III(D). (LO 1.3.d)
7. **A** Standard II(A). According to Standard II(A), the analyst’s conclusions are covered by the mosaic theory, so no additional disclosure is required. (LO 1.2.a)
8. **A** Standard I(D). Unauthorized copying of copyrighted materials is theft and would be a clear violation of the Standard. (LO 1.1.d)
9. **A** Standard III(B). The policy is consistent but unfair and would be in violation even if disclosed. Standard VI(B) covers trading activity in one’s own account ahead of employers or clients; it does not address putting one client’s interests ahead of another’s. (LO 1.3.b)
10. **C** Standard II(B), Market Manipulation, is not intended to prohibit transactions that are done in order to minimize income taxes or trading strategies that are NOT intended to distort prices or artificially inflate trading volume. Thus, neither Gordon nor Turpin is in violation. (LO 1.2.b)
11. **C** Standard VI(A). Members shall disclose to their clients and prospects all matters that could impair the member’s ability to make objective recommendations. (LO 2.3.a)