

# **Financial Exam Help 123™**

## **2021 Level III Mock Exam**

### **Morning Session Sample Exam Questions**

This 2020/2021 Morning Session sample mock exam has 3 questions for a total of 48 points. For grading purposes, the maximum point value for each question is equal to the number of minutes allocated to that question.

<b>Question</b>	<b>Topic</b>	<b>Minutes</b>
1	Portfolio Management – Derivatives	22
2	Portfolio Management – Fixed Income	14
3	Portfolio Management – Individual/Behavioral	<u>12</u>
	<b>Total:</b>	48

**QUESTION 1 HAS TWO PARTS (A, B) FOR A TOTAL OF 22 MINUTES.**

Mathew Degenek manages the equity portfolio for the Australian Jelly Bean Workers Union (AJBWU). The portfolio is valued at AUD 200 million, and is allocated 70% to large-cap equities and 30% to small-cap equities. Degenek believes that large-cap equity returns are going to fall over the next 6 months while small-cap equity returns will rise; therefore, he wants to implement a temporary change in the AJBWU equity portfolio. Exhibit 1 shows the existing portfolio details and the target values.

<b>Exhibit 1</b>	
<b>AJBWU Equity Portfolio</b>	
<b>Current &amp; Target Values</b>	
Current portfolio value	AUD 200,000,000
<b>Large-Cap Equities</b>	
Current allocation	70%
Current beta	1.15
Target allocation	40%
Target beta	0.85
<b>Small-Cap Equities</b>	
Current allocation	30%
Current beta	0.90
Target allocation	60%
Target beta	1.25

To avoid the cost of selling and buying equities, Degenek will implement the change using futures contracts. He has gathered data on large-cap and small-cap equity futures contracts in Exhibit 2.

<b>Exhibit 2</b>	
<b>Futures Contract Information</b>	
<b>Large-Cap Equity Index Futures</b>	
Price	AUD 97,000
Beta	1.02
<b>Small-Cap Equity Index Futures</b>	
Price	AUD 104,000
Beta	1.30

- A. To achieve Degenek's target asset allocation and target betas, **determine** the number of:
- i. large-cap equity futures contracts to buy or sell (indicate which).
  - ii. small-cap equity index futures contracts to buy or sell (indicate which).

**Show** your calculations.

**(Answer 1-Ai on page 3 and 1-Aii on page 4)**

- B. **State** *two* alternative derivative strategies that Degenek could use to achieve his goals *instead of his proposed futures strategy*. For *each* strategy, **identify** the derivative securities that Degenek would use, and **describe** his position (e.g., long, short, buy, sell, etc.) in *each* derivative security.

Note: no calculations are required.

**(Answer 1-B on page 5)**

**QUESTION 2 HAS ONE PART FOR A TOTAL OF 14 MINUTES.**

Ignatiy Kuvvatov, María Paula Arroyo, Denso Deedson, and Anne Lugier are fixed income analysts at VMF<sup>2</sup>. As is typical for this group, their views on what will happen to the EUR yield curve over the next year differ markedly from each other:

- Kuvvatov believes that interest rates will rise sharply
- Arroyo is quite certain that interest rates will remain unchanged
- Deedson feels strongly that interest rates will change considerably, but has no idea what direction they'll move
- Lugier knows in her heart that interest rates will decline substantially

Eva Providence, the manager of VMF<sup>2</sup>'s flagship government/corporate bond fund (which holds only option-free, coupon bonds denominated in EUR), has matched the benchmark duration and convexity, but she has some scope to adjust those temporarily by using call options and put options on long-term EUR-denominated government bonds. Each analyst is charged with presenting their yield curve outlook, their recommendations on changes (if any) to the fund's duration and convexity consistent with that outlook, and their recommendations on which options (if any) to use to implement those changes.

For *each* analyst (Kuvvatov, Arroyo, Deedson, Lugier), **recommend** the *appropriate* adjustment (decrease, no change, increase) to the fund's **duration** consistent with their yield curve outlook. For *each* analyst, **recommend** the *appropriate* adjustment (decrease, no change, increase) to the fund's **convexity** consistent with their yield curve outlook. For *each* analyst, **recommend** the type(s) of options (calls or puts) to **buy**, if any, and **recommend** the type(s) of options (calls or puts) to **sell**, if any, consistent with their yield curve outlook.

Note: selecting option actions that are inconsistent with the recommended duration/convexity adjustment will receive no credit.

**(Answer 2 on page 6)**

**QUESTION 3 HAS ONE PART FOR A TOTAL OF 12 MINUTES.**

Bian Thành Chung, CFA is an investment advisor with Nguyen & Associates (Nguyễn & Công sự SC, NCS). For some time now, Thành Chung has been concerned that some of her clients experience emotional or cognitive biases, and she is determined to handle them in the best way possible. She believes that her clients may be experiencing these biases:

- Availability bias
- Confirmation bias
- Framing bias
- Hindsight bias
- Mental accounting bias
- Representativeness bias

Thành Chung has begun to interview each of her clients and prospective clients to determine which bias(es) they exhibit. She has started with Shomari Labrada, Sadie Lionel, and Carl Howell: three prospective clients who currently each manage their own accounts. Excerpts from her notes on the interviews are shown in Exhibit 1.

**Exhibit 1**  
**Behavioral Bias Excerpts**  
**Selected NCS Clients**

Client	Excerpt from Behavioral Bias Evaluation
Shomari Labrada	<p>Labrada categorizes all investments based on his perception of their risk. When he sees an equity investment, he immediately thinks, “high risk”, and when he sees a fixed income investment, he immediately thinks, “low risk”. He has no experience with commodities, real estate, and derivatives, so he classifies them as “high risk” as well.</p> <p>Labrada’s current portfolio is 70% equity and 30% fixed income. No alternative investments.</p>
Sadie Lionel	<p>Lionel currently maintains two investment accounts: her “core” account, which she expects to provide for her basic needs during her retirement, and her “mad money” account, which she hopes will be able to fund her extravagances (e.g., lavish vacations, a second home, and so on).</p> <p>Thành Chung notes that, surprisingly, Lionel’s core account is riskier (i.e., has a substantially higher standard deviation of returns) than her mad money account.</p>
Carl Howell	<p>Howell posts regularly on various internet investment fora. He asks for investment advice, but tends to accept the advice from people who agree with him and argue with those who don’t. He’s done fairly well on his own, but thinks that with professional help he could do even better.</p>

Bian Thành would prefer to mitigate her clients’ biases, but recognizes that she cannot correct some biases and, therefore, must adapt to them.

For *each* prospective client (Labrada, Lionel, Howell), **determine** which behavioral bias (availability, confirmation, framing, hindsight, mental accounting, representativeness) that client exhibits. For *each* prospective client, **explain** why that prospective client exhibits that bias based *solely* on the information given. For *each* prospective client, **determine** whether Bian Thành should try to mitigate the client’s bias or adapt to it.

**(Answer 3 on page 7)**