



**Subject: Portfolio Theory and
Security Analysis**

Chapter: Unit 2

Category: Practice questions

1. A Japanese institutional investor has a portfolio valued at ¥10 billion. The investor expresses his first risk objective as a desire not to lose more than ¥1 billion in the coming 12-month period. The investor specifies a second risk objective of achieving returns within 4 percent of the return to the TOPIX stock market index, which is the investor's benchmark. Based on this information, address the following:

- A. Characterize the first risk objective as absolute or relative.
- B. Characterize the second risk objective as absolute or relative.

2. Read the following case study and answer the question.

Henri Gascon is so pleased with the services provided by the financial adviser, that he suggests to his brother Jacques that he should also consult the adviser. Jacques thinks it is a good idea. Jacques is a self-employed computer consultant also based in Paris. He is 40-years old and divorced with four children, aged between 12 and 16. The financial adviser notes the following aspects of Jacques' situation:

- Jacques' consultancy earnings average €40,000 per annum, but are quite volatile.
- Jacques is required to pay €10,000 per year to his ex-wife and children.
- Jacques has a mortgage on his apartment of €100,000 and €10,000 of savings.
- Jacques has a good knowledge of financial matters and expects that equity markets will deliver very high returns over the longer term.
- In the risk tolerance questionnaire, Jacques strongly disagrees with the statements "I am more comfortable putting my money in a bank account than in the stock market" and "When I think of the word "risk" the term "loss" comes to mind immediately."
- Jacques expects that most of his savings will be required to support his children at university.

Based on the above information, which statement is correct?

- A Jacques has a low ability to take risk, but a high willingness to take risk.
- B Jacques has a high ability to take risk, but a low willingness to take risk.
- C Jacques has a high ability to take risk, and a high willingness to take risk.

3. Henri Gascon continues to discuss his investment requirements with the financial adviser. The financial adviser begins to draft the constraints section of the IPS. Gascon expects that he will continue to work for the oil company and that his relatively high income will continue for the foreseeable future. Gascon and his wife do not plan to have any additional

children, but expect that their son will go to a university at age 18. They expect that their son's education costs can be met out of their salary income. Gascon's emergency reserve of €100,000 is considered to be sufficient as a reserve for unforeseen expenditures and emergencies. His retirement savings of €900,000 has been contributed to his defined-contribution pension plan account to fund his retirement. Under French regulation, pension fund contributions are paid from gross income (i.e., income prior to deduction of tax) and pension fund returns are exempt from tax, but pension payments from a fund to retirees are taxed as income to the retiree.

With respect to Gascon's retirement savings portfolio, refer back to Example 2 as needed and address the following:

1 As concerns liquidity,

- A. a maximum of 50 percent of the portfolio should be invested in liquid assets.
- B. the portfolio should be invested entirely in liquid assets because of high spending needs.
- C. the portfolio has no need for liquidity because there are no short-term spending requirements.

2 The investment time horizon is closest to

- A. 5 years.
- B. 20 years.
- C. 40 years.

3 As concerns taxation, the portfolio

- A. should emphasize capital gains because income is taxable.
- B. should emphasize income because capital gains are taxable.
- C. is tax exempt and thus indifferent between income and capital gains.

4 The principle legal and regulatory factors applying to the portfolio are

- A. US Securities laws.
- B. European banking laws.
- C. French pension fund regulations.

5 As concerns unique needs, the portfolio should

- A. have a high weighting in oil and other commodity stocks.
- B. be invested only in responsible and sustainable investments.
- C. not have significant exposure to oil and other commodity stocks.

4. Specifying Asset Classes The strategic asset allocations of many institutional investors make a distinction between domestic equities and international equities, or between developed market equities and emerging market equities. Often, equities are separated into different market capitalization brackets, resulting, for example, in an asset class such as domestic small- cap equity.

The correlation matrix in Exhibit 5 shows the paired correlations of monthly returns between different equity asset classes and other asset classes. Specifically, these correlations are measured over the period from December 2000 through August 2018. In addition, the exhibit shows the annualized volatility of monthly returns.

Correlations	US Equities	Emerging Markets	European Equities	Japanese Equities	US Small- Cap Equities	Commodities	European Gov't. Bonds	US Treasuries	US Credits	US High- Yield Credit
US Equities	1.00	0.78	0.88	0.59	0.89	0.32	0.08	-0.37	0.19	0.66
Emerging Markets Equities	0.78	1.00	0.84	0.64	0.75	0.46	0.21	-0.24	0.34	0.70
European Equities	0.88	0.84	1.00	0.64	0.79	0.43	0.16	-0.28	0.29	0.68
Japanese Equities	0.59	0.64	0.64	1.00	0.57	0.32	0.24	-0.18	0.29	0.52
US Small-Cap Equities	0.89	0.75	0.79	0.57	1.00	0.32	0.09	-0.36	0.19	0.69
Commodities	0.32	0.46	0.43	0.32	0.32	1.00	0.13	-0.18	0.12	0.36
European Gov't. Bonds	0.08	0.21	0.16	0.24	0.09	0.13	1.00	0.45	0.60	0.30
US Treasuries	-0.37	-0.24	-0.28	-0.18	-0.36	-0.18	0.45	1.00	0.58	-0.19
US Credits	0.19	0.34	0.29	0.29	0.19	0.12	0.60	0.58	1.00	0.54
US High-Yield Credit	0.66	0.70	0.68	0.52	0.69	0.36	0.30	-0.19	0.54	1.00
Volatility	14.3%	21.6%	18.4%	15.6%	18.4%	22.3%	4.9%	4.4%	5.5%	9.3%

1. Contrast the correlations between equity asset classes with the correlations between equity asset classes and US Treasuries.
2. The monthly returns of which equity asset class differ the most from US equities?

5. Which of the following is least important as a reason for a written investment policy statement (IPS)?

- A. The IPS may be required by regulation.
- B. Having a written IPS is part of best practice for a portfolio manager.
- C. Having a written IPS ensures the client's risk and return objectives can be achieved.

6. Which of the following best describes the underlying rationale for a written investment policy statement (IPS)?

- A. A written IPS communicates a plan for trying to achieve investment success.
- B. A written IPS provides investment managers with a ready defense against client lawsuits.
- C. A written IPS allows investment managers to instruct clients about the proper use and purpose of investments.

7. A written investment policy statement (IPS) is most likely to succeed if:

- A. it is created by a software program to assure consistent quality.
- B. it is a collaborative effort of the client and the portfolio manager.
- C. it reflects the investment philosophy of the portfolio manager.

8. The section of the investment policy statement (IPS) that provides information about how policy may be executed, including investment constraints, is best described as the:

- A. Investment Objectives.
- B. Investment Guidelines.
- C. Statement of Duties and Responsibilities.

9. Which of the following is least likely to be placed in the appendices to an investment policy statement (IPS)?

- A. Rebalancing Policy.
- B. Strategic Asset Allocation.
- C. Statement of Duties and Responsibilities.

10. Which of the following typical topics in an investment policy statement (IPS) is most closely linked to the client's "distinctive needs"?

- A. Procedures.
- B. Investment Guidelines.
- C. Statement of Duties and Responsibilities.

11. An investment policy statement that includes a return objective of outperforming the FTSE 100 by 120 basis points is best characterized as having a(n):

- A. relative return objective.
- B. absolute return objective.
- C. arbitrage- based return objective.

12. Risk assessment questionnaires for investment management clients are most useful in measuring:

- A. value at risk.
- B. ability to take risk.
- C. willingness to take risk.

13. Which of the following is best characterized as a relative risk objective?

- A. Value at risk for the fund will not exceed US\$3 million.
- B. The fund will not underperform the DAX by more than 250 basis points.
- C. The fund will not lose more than €2.5 million in the coming 12- month period.

14. In preparing an investment policy statement, which of the following is most difficult to quantify?

- A. Time horizon.
- B. Ability to accept risk.
- C. Willingness to accept risk.

15. After interviewing a client in order to prepare a written investment policy statement (IPS), you have established the following:

- The client has earnings that vary dramatically between £30,000 and £70,000 (pre- tax) depending on weather patterns in Britain.
- In three of the previous five years, the after- tax income of the client has been less than £20,000.
- The client's mother is dependent on her son (the client) for approximately £9,000 per year support.
- The client's own subsistence needs are approximately £12,000 per year.
- The client has more than 10 years' experience trading investments including commodity futures, stock options, and selling stock short.
- The client's responses to a standard risk assessment questionnaire suggest he has above average risk tolerance.

The client is best described as having a:

- A. low ability to take risk, but a high willingness to take risk.
- B. high ability to take risk, but a low willingness to take risk.
- C. high ability to take risk and a high willingness to take risk.

16. After interviewing a client in order to prepare a written investment policy statement (IPS), you have established the following:

- The client has earnings that have exceeded €120,000 (pre- tax) each year for the past five years.
- She has no dependents.
- The client's subsistence needs are approximately €45,000 per year.
- The client states that she feels uncomfortable with her lack of understanding of securities markets.
- All of the client's current savings are invested in short- term securities guaranteed by an agency of her national government.
- The client's responses to a standard risk assessment questionnaire suggest she has low risk tolerance.

The client is best described as having a:

- A. low ability to take risk, but a high willingness to take risk.
- B. high ability to take risk, but a low willingness to take risk.
- C. high ability to take risk and a high willingness to take risk.

17. A client who is a 34- year old widow with two healthy young children (aged 5 and 7) has asked you to help her form an investment policy statement. She has been employed as an administrative assistant in a bureau of her national government for the previous 12 years. She has two primary financial goals—her retirement and providing for the college education of her children. This client's time horizon is best described as being:

- A. long term.
- B. short term.
- C. medium term.

18. The timing of payouts for property and casualty insurers is unpredictable ("lumpy") in comparison with the timing of payouts for life insurance companies. Therefore, in general, property and casualty insurers have:

- A. lower liquidity needs than life insurance companies.
- B. greater liquidity needs than life insurance companies.
- C. a higher return objective than life insurance companies.

19. A client who is a director of a publicly listed corporation is required by law to refrain from trading that company's stock at certain points of the year when disclosure of financial results are pending. In preparing a written investment policy statement (IPS) for this client, this restriction on trading:

- A. is irrelevant to the IPS.
- B. should be included in the IPS.
- C. makes it illegal for the portfolio manager to work with this client.

20. Tactical asset allocation is best described as:

- A. attempts to exploit arbitrage possibilities among asset classes.
- B. the decision to deliberately deviate from the policy portfolio.
- C. selecting asset classes with the desired exposures to sources of systematic risk in an investment portfolio.



INSTITUTE OF ACTUARIAL
& QUANTITATIVE STUDIES