



Class: SY BSc

Subject : Portfolio Theory and Security Analysis

Subject Code:

Chapter: Unit 2 Chapter 2

Chapter Name: Portfolio Theory: Portfolio Planning

Agenda

1. Portfolio Planning
2. Investment Policy Statement
 1. Risk Tolerance
 2. Return Objective
 3. Time Horizon
 4. Tax Imposure
 5. Liquidity Needs
 6. Legal Constraints
 7. Unique Circumstances
3. Portfolio Construction
 1. Capital Market Expectation
 2. Strategic Asset Allocation
 3. Tactical Asset Allocation
 4. Security Selection
 5. Feedback

0 Activity

Write down a portfolio of assets which you want to hold and list the proportion allocated to each asset.

After doing this what kind of question came to your mind?

1 Portfolio Planning

- Portfolio planning can be defined as a program developed in advance of constructing a portfolio that is expected to define the client's investment objectives
- The written document governing this process is the investment policy statement (IPS).
- The IPS is sometimes complemented by a document outlining policy on sustainable investing—distinguishing between companies (or sectors) that either can or cannot efficiently manage their financial, environmental, and human capital resources to generate attractive long- term profitability.
- Policies on sustainable investing may also be integrated within the IPS itself.

2 The Investment Policy Statement

- The IPS is the starting point of the portfolio management process.
- The IPS is typically developed following a fact- finding discussion with the client. This fact- finding discussion can include the use of a questionnaire designed to articulate the client's risk tolerance as well as specific circumstances. In the case of institutional clients, the fact finding may involve asset-liability management studies, identification of liquidity needs, and a wide range of tax and legal considerations .
- The IPS can take a variety of forms. A typical format will include the client's investment objectives and the constraints that apply to the client's portfolio.
- Having a well constructed IPS for all clients should be standard procedure for an investment manager. The investment manager should build the portfolio with reference to the IPS and be able to refer to it to assess the suitability of a particular investment for the client.

2 The Investment Policy Statement

- The constraints section covers factors that need to be taken into account when constructing a portfolio for the client that meets the objectives. The typical categories are liquidity requirements, time horizon, regulatory requirements, tax status, and unique needs. The constraints may be internal (i.e., set by the client), or external (i.e., set by law or regulation). These are discussed in detail below.



Investment Client



**Portfolio Manager /
Advisor**

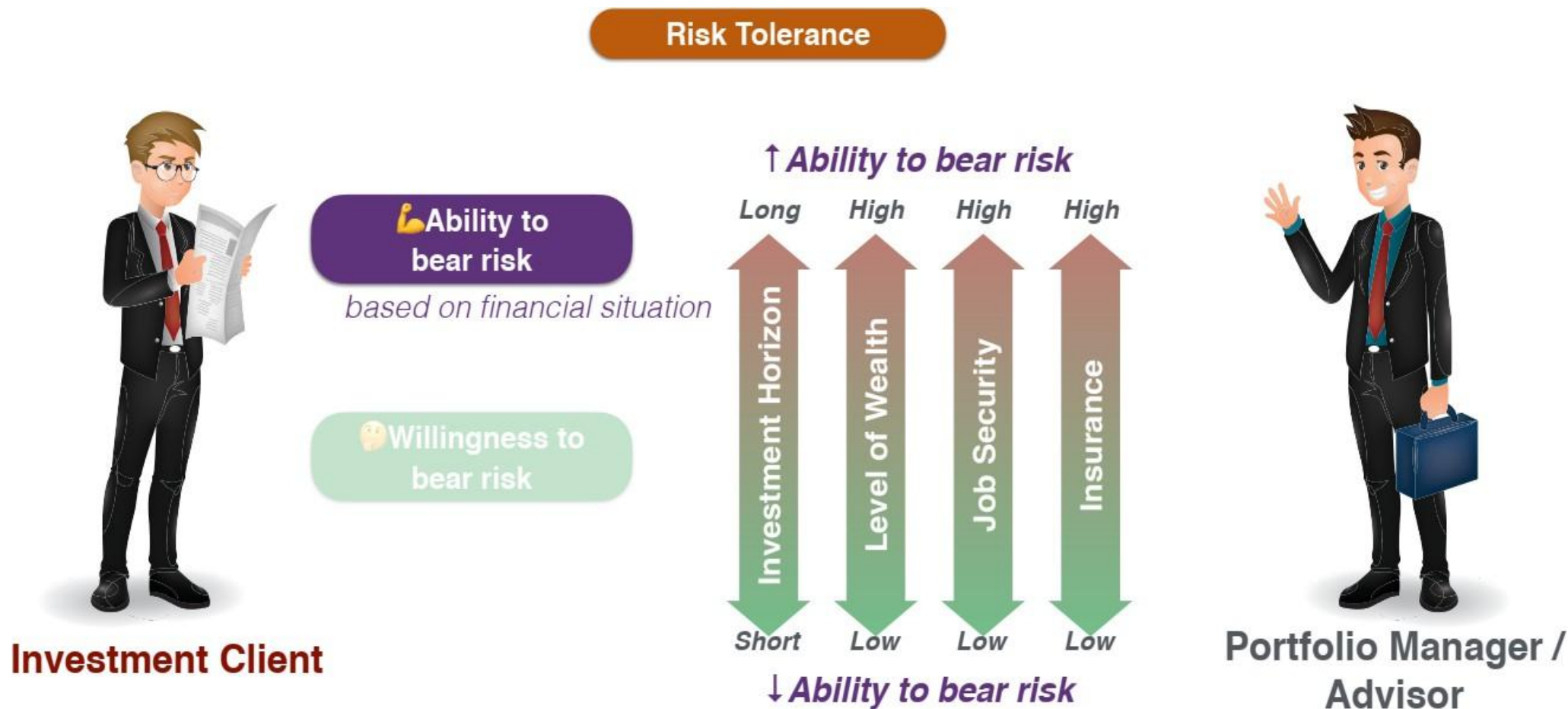
2.1 Risk Tolerance

When constructing a portfolio for a client, it is important to ensure that the risk of the portfolio is suitable for the client. The IPS should state clearly the risk tolerance of the client. Quantitative risk objectives can be absolute or relative or a combination of the two

1. Absolute objectives are not related to investment market performance, good or bad, and are absolute in the sense of being self- standing.
2. Relative risk objectives, which relate risk relative to one or more benchmarks perceived to represent appropriate risk standards.

A client's overall risk tolerance is a function of the client's ability to bear (accept) risk and his or her "risk attitude," which might be considered as the client's willingness to take risk. For ease of expression, from this point on we will refer to ability to bear risk and willingness to take risk as the two components of risk tolerance

2.1 Risk Tolerance



2.1 Case study

Henri Gascon is an energy trader who works for a major French oil company based in Paris. He is 30- years old and married with one son, aged 5. Gascon has decided that it is time to review his financial situation and consults a financial adviser. The financial adviser notes the following aspects of Gascon's situation:

- Gascon's annual salary of €250,000 is more than sufficient to cover the family's outgoings.
- Gascon owns his apartment outright and has €1,000,000 of savings.
- Gascon perceives that his job is reasonably secure.
- Gascon has a good knowledge of financial matters and is confident that equity markets will deliver positive returns over the longer term.
- In the risk tolerance questionnaire, Gascon strongly disagrees with the statements that "making money in stocks and bonds is based on luck" and that "in terms of investing, safety is more important than returns."
- Gascon expects that most of his savings will be used to fund his retirement, which he hopes to start at age 50.

Based only on the information given, which of the following statements is most accurate?

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

2.1 Solution

C is correct.

Reason:

Gascon has a high income relative to outgoings, a high level of assets, a secure job, and a time horizon of 20 years. This information suggests a high ability to take risk. At the same time, Gascon is knowledgeable and confident about financial markets and responds to the questionnaire with answers that suggest risk tolerance. This result suggests he also has a high willingness to take risk.

2.1 Question

An analyst gathers the following information for the asset allocations of three portfolios:

Portfolio	Fixed Income (%)	Equity (%)	Alternative Assets (%)
1	25	60	15
2	60	25	15
3	15	60	25

Which of the portfolios is *most likely* appropriate for a client who has a high degree of risk tolerance?

- A Portfolio 1.
- B Portfolio 2.
- C Portfolio 3.

2.2 Return Objectives

- A client's return objectives can be stated in a number of ways.
- Similar to risk objectives, return objectives may be stated on an absolute or a relative basis. Some institutions also set their return objective relative to a peer group or universe of managers.
- The return objective could be a required return—that is, the amount the investor needs to earn to meet a particular future goal—such as a certain level of retirement income.
- The manager or adviser must ensure that the return objective is realistic.
- When a client has unrealistic return expectations, the manager or adviser will need to counsel them about what is achievable in the current market environment and within the client's tolerance for risk.

2.2 Return Objectives

Return Objectives



Investment Client

Absolute Return Objective

Strict Limits

e.g. "no decrease in value by more than 3% at any point over any 12-month period"

Probability

e.g. "no greater than a 5% **probability** of returns below -3% in any 12-month period."

Nominal

e.g. "an overall return of at least 7% per year"

Real

e.g. "a return of 4% more than the inflation rate each year."



Portfolio Manager /
Advisor

2.2 Return Objectives

Return Objectives

Relative Return Objective

Strict
Limits

Returns will be not be more
than 3% below the ...

Probability

No greater than 5%
probability of returns
more than 3% below...

VS

Benchmark



Investment Client



**Portfolio Manager /
Advisor**

2.2 Return Objectives

Return Objectives



Investment Client

Relative Return Objective

Benchmark *often chosen according to type of client*

Most common

Equity Index *e.g. S&P500*

Companies with Floating Rate Liabilities

Interest Rate *e.g. 180-day LIBOR*

Bank

Cost of Funds *interest rate that it pays for deposits*

Institutions (e.g. endowment)

Peer Performance *e.g. "top quartile of endowment fund returns"*

Not investable *no way to replicate the benchmark return before the fact*



**Portfolio Manager /
Advisor**

2.2 Return Objectives



2.2 Case Study

Having assessed his risk tolerance, Henri Gascon now begins to discuss his retirement income needs with the financial adviser. He wishes to retire at age 50, which is 20 years from now. His salary meets current and expected future expenditure requirements, but he does not expect to be able to make any additional pension contributions to his fund. Gascon sets aside €100,000 of his savings as an emergency fund to be held in cash. The remaining €900,000 is invested for his retirement. Gascon estimates that a before- tax amount of €2,000,000 in today's money will be sufficient to fund his retirement income needs. The financial adviser expects inflation to average 2 percent per year over the next 20 years. Pension fund contributions and pension fund returns in France are exempt from tax, but pension fund distributions are taxable upon retirement.

1. Which of the following is closest to the amount of money Gascon will have to accumulate in nominal terms by his retirement date to meet his retirement income objective (i.e., expressed in money of the day in 20 years)?

A .€900,000
B .€2,000,000
C .€3,000,000

2.2 Case Study

2 Which of the following is closest to the annual rate of return that Gascon must earn on his pension portfolio to meet his retirement income objective?

- A .2.0%
- B. 6.2%
- C. 8.1%

2.2 Solution

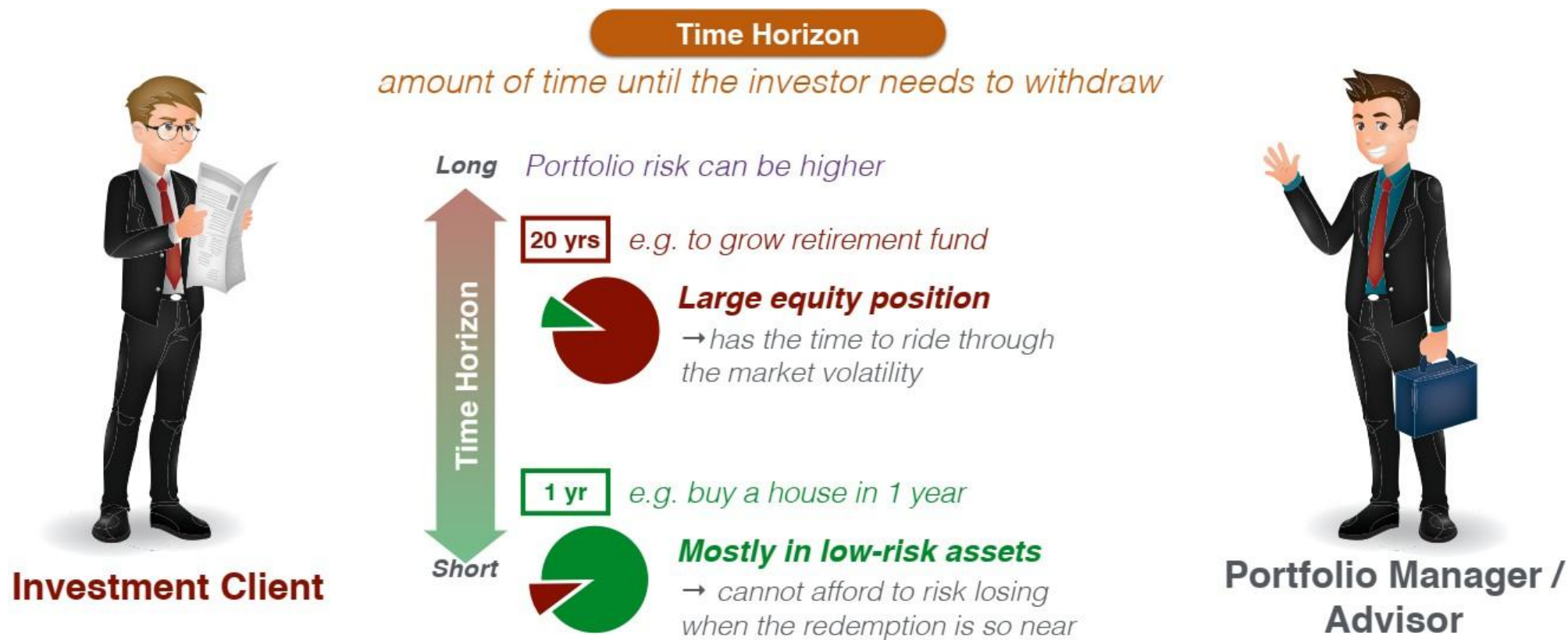
Answer 1. C is correct. At 2 percent annual inflation, €2,000,000 in today's money equates to €2,971,895 in 20 years measured in money of the day $[2m \times (1 + 2\%)^{20}]$.

Answer 2. B is correct. €900,000 growing at 6.2 percent per year for 20 years will accumulate to €2,997,318, which is just above the required amount. (The solution of 6.2 percent comes from $€2,997,318/€900,000 = (1 + X)^{20}$, where X is the required rate of return.)

2.3 Time Horizon

- The IPS should state the time horizon over which the investor is investing.
- It may be the period over which the portfolio is accumulating before any assets need to be withdrawn; it could also be the period until the client's circumstances are likely to change.
- The time horizon of the investor will affect the nature of investments used in the portfolio. Illiquid or risky investments may be unsuitable for an investor with a short time horizon because the investor may not have enough time to recover from investment losses.

2.3 Time Horizon



2.3 Discuss

Al Smith has to pay a large tax bill in six months and wants to invest the money in the meantime. Which investment is likely to be the least suitable for a major allocation in Smith's portfolio?

- A. Listed equities
- B. Private equity
- C. US Treasury bills

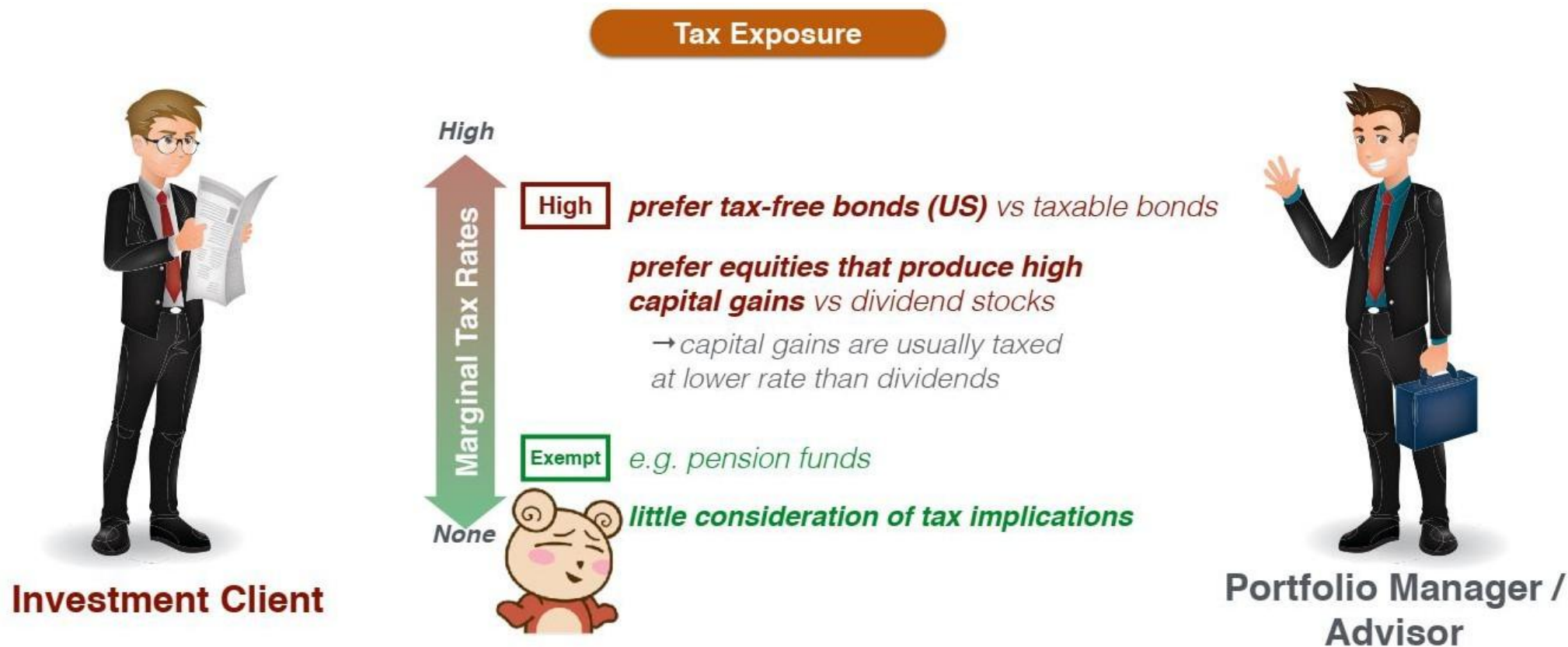
2.3 Solution

B is correct. Private equity is risky, has no public market, and is the least liquid among the assets mentioned

2.4 Tax Exposure

- Tax status varies among investors. Some investors will be subject to taxation on investment returns and some will not.
- Typically, when there is a differential, income is taxed more highly than gains. Income may be taxed as it is earned, whereas gains may be taxed when they are realized.
- The portfolio should reflect the tax status of the client.
For example, a taxable investor may wish to hold a portfolio that emphasizes capital gains and receives little income. A taxable investor based in the United States is also likely to consider including U.S. municipal bonds (“munis”) in his or her portfolio because interest income from munis, unlike from treasuries and corporate bonds, is exempt from taxes. A tax- exempt investor, such as a pension fund, will be relatively indifferent to the form of returns.

2.4 Tax Exposure



2.5 Liquidity Needs

- The IPS should state what the likely requirements are to withdraw funds from the portfolio.
- When the client does have such a requirement, the manager should allocate part of the portfolio to cover the liability. This part of the portfolio will be invested in assets that are liquid—that is, easily converted to cash—and have low risk when the liquidity need is actually present.

2.5 Liquidity Needs

Liquidity Needs

ability to turn assets into cash in a short period of time without having to make significant price concessions



High
↑
Liquidity Needs
↓
Low

High

e.g. banks and insurance companies



to meet unexpected increase in withdrawals / insurance claims

e.g. hedge funds/ PE funds too illiquid to be in bank/insurance company's portfolio

Low

e.g. defined benefit pension plans, endowment funds



amount of unanticipated needs for cash is low



Portfolio Manager / Advisor

2.6 Legal Constraints

- The IPS should state any legal and regulatory restrictions that constrain how the portfolio is invested.
- When an individual has access to material nonpublic information about a particular security, this situation may also form a constraint.
- The IPS should note this constraint so that the portfolio manager does not inadvertently trade the stock on the client's behalf.

2.6 Legal Constraints

Legal Constraints

investors are required to comply with applicable laws and regulations



Investment Client

General Financial Regulations

applies to all market participants

Specific Regulations

applies to particular types of investors



*Restriction from investing in **particular types** of securities and assets*



*Restrictions on **percentage allocations** to specific types of investments*



*Corporate officers / directors barred from trading in the **securities of their firms** or related firms*



Portfolio Manager / Advisor

2.7 Unique Circumstances

- IPS should cover any other aspect of the client's circumstances, including beliefs and values, that is likely to have a material impact on the composition of the portfolio. A client may have considerations derived from his or her religion or ethical values that could constrain investment choices.
 - A client may have personal objections to certain products (e.g., weapons, tobacco, gambling) or practices (e.g., environmental impact of business activities, human impact of government policies, labor standards), which could lead to the exclusion of certain companies, countries, or types of securities.
 - Such considerations are often referred to as **ESG (environmental, social, governance)**, and investing in accordance with such considerations is referred to as **SRI (socially responsible investing)**.
1. The oldest form is **negative screening (or exclusionary screening)**, which refers to the practice of excluding certain sectors or excluding companies that deviate from accepted standards or norms.
 2. **Best-in-class**, whereby investors seek to identify companies within an industry that rank (or score) most favorably based on ESG considerations
 3. **Shareholder engagement** (sometimes call active ownership) is the practice of entering into a dialogue with companies

2.7 Unique Circumstances

4. **Thematic investing and impact investing** focus on investment in objectives, themes, and trends that relate positively to ESG issues.
 5. **ESG integration**, refers to the integration of qualitative and quantitative ESG factors into traditional security and industry analysis. The focus of ESG integration is to identify risks and opportunities arising from ESG factors and to determine whether a company is properly managing its ESG resources in accordance with a sustainable business model.
- These ESG implementation approaches may impact a portfolio manager's investment universe and, in some cases, the manner in which investment management firms operate.

2.7 Unique Circumstances

Unique Circumstances

Not legal requirements

investor preferences / restrictions on which securities and assets may be purchased for the portfolio



Investment Client

Ethical Preferences



Religious Preferences

Preclude investments inconsistent with investor's faith
 e.g. 🇹🇷 Islamic law prohibits lending on interest
 → preclude bonds

Diversification Needs

Avoid concentration risk by excluding industry the client works in



Portfolio Manager / Advisor

3 Portfolio Construction

- Once the IPS has been compiled, the investment manager can construct a suitable portfolio.
- Strategic asset allocation is a traditional focus of the first steps in portfolio construction.
- The strategic asset allocation (SAA) is the set of exposures to IPS- permissible asset classes that is expected to achieve the client's long- term objectives given the client's risk profile and investment constraints. An SAA could include a policy of hedging portfolio risks not explicitly covered by asset class weights.
- The focus on the SAA is the result of a number of important investment principles.
 1. One principle is that a portfolio's systematic risk accounts for most of its change in value over the long term .
 2. A second principle is that the returns to groups of similar assets (e.g., long- term debt claims) predictably reflect exposures to certain sets of systematic factors

3 Portfolio Construction

Planning

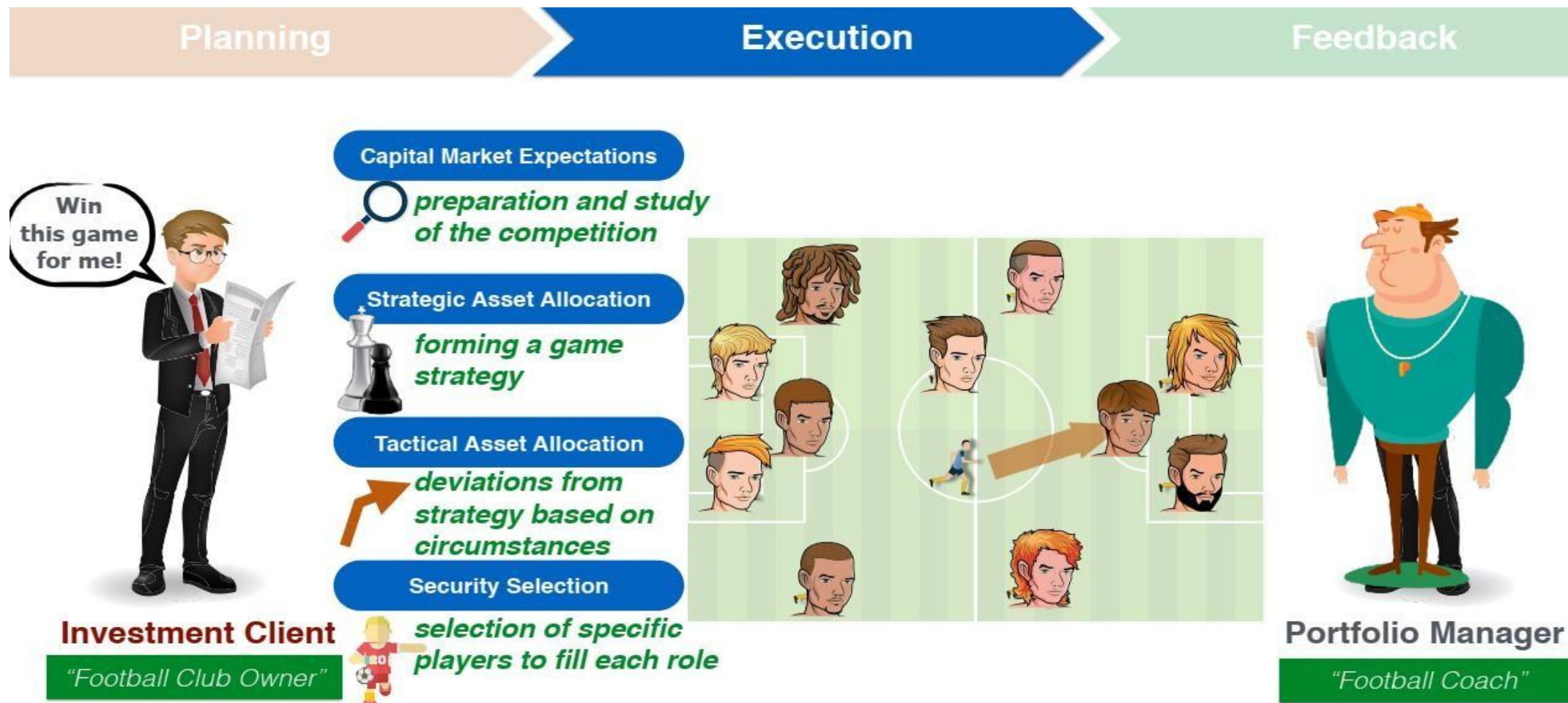
Execution

Feedback

construct suitable portfolio based on IPS



3 Portfolio Construction



3.1 Capital Market Expectations

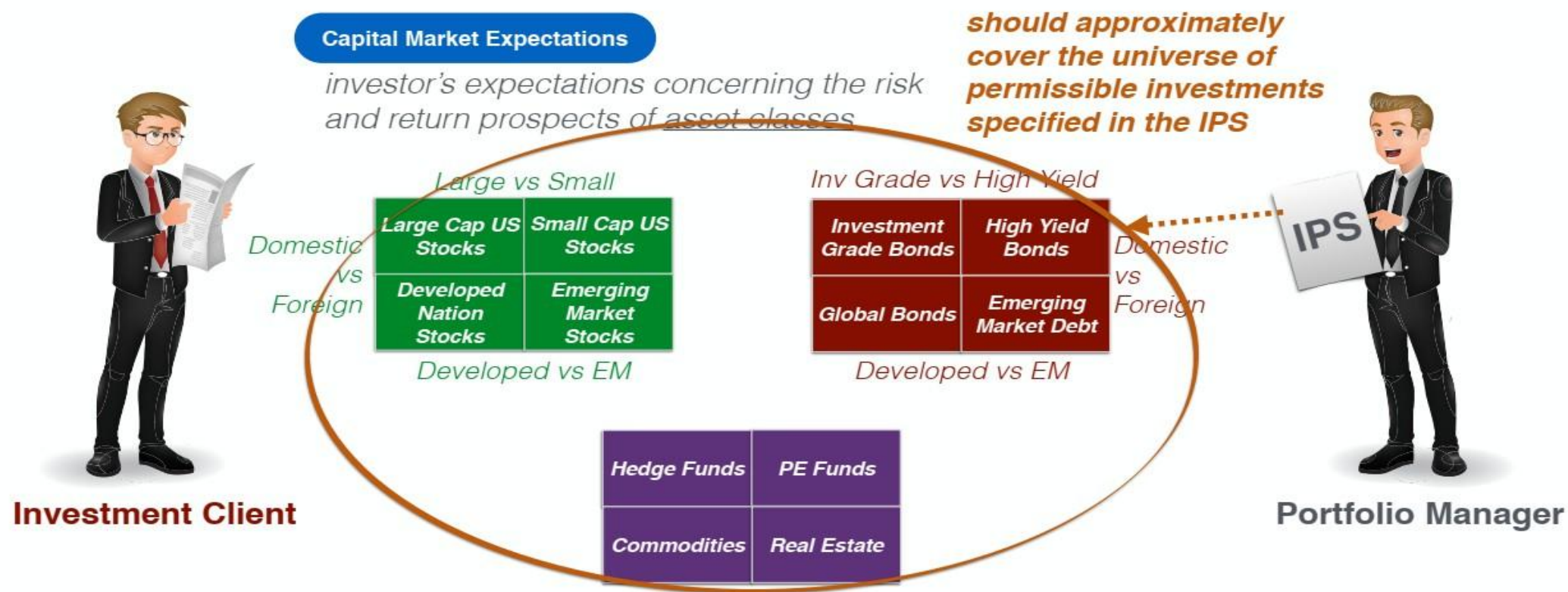
- Capital market expectations are the investor's expectations concerning the risk and return prospects of asset classes, however broadly or narrowly the investor defines those asset classes.
- When associated with the client's investment objectives, the result is the strategic asset allocation that is expected to allow the client to achieve his or her investment objectives (at least under normal capital market conditions).
- Traditionally, capital market expectations are quantified in terms of asset class expected returns, standard deviation of returns, and correlations among pairs of asset classes.
- Formally, the expected return of an asset class consists of the risk-free rate and one or more risk premium(s) associated with the asset class. Expected returns are in practice developed in a variety of ways, including the use of historical estimates, economic analysis, and various kinds of valuation models.
- Standard deviations and correlation estimates are frequently based on historical data and risk models.

3.1 Capital Market Expectations

Planning

Execution

Feedback



3.1 Capital Market Expectations

Planning

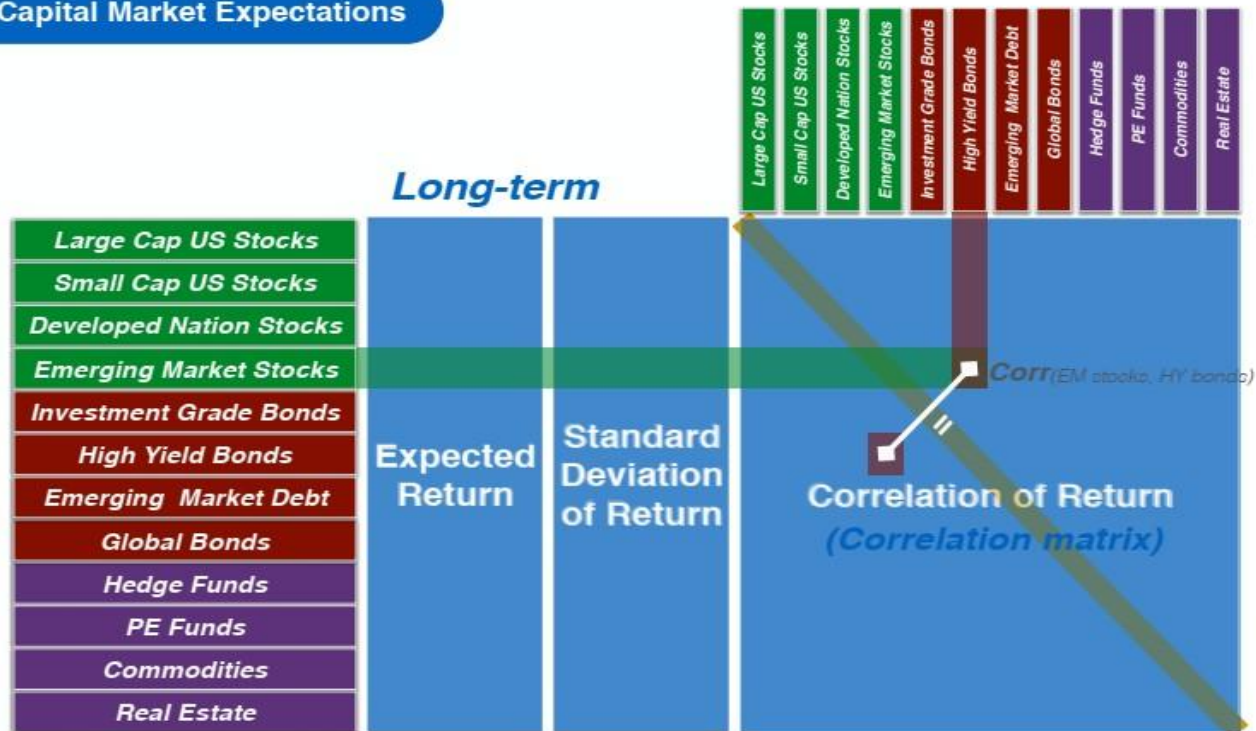
Execution

Feedback

Capital Market Expectations



Investment Client



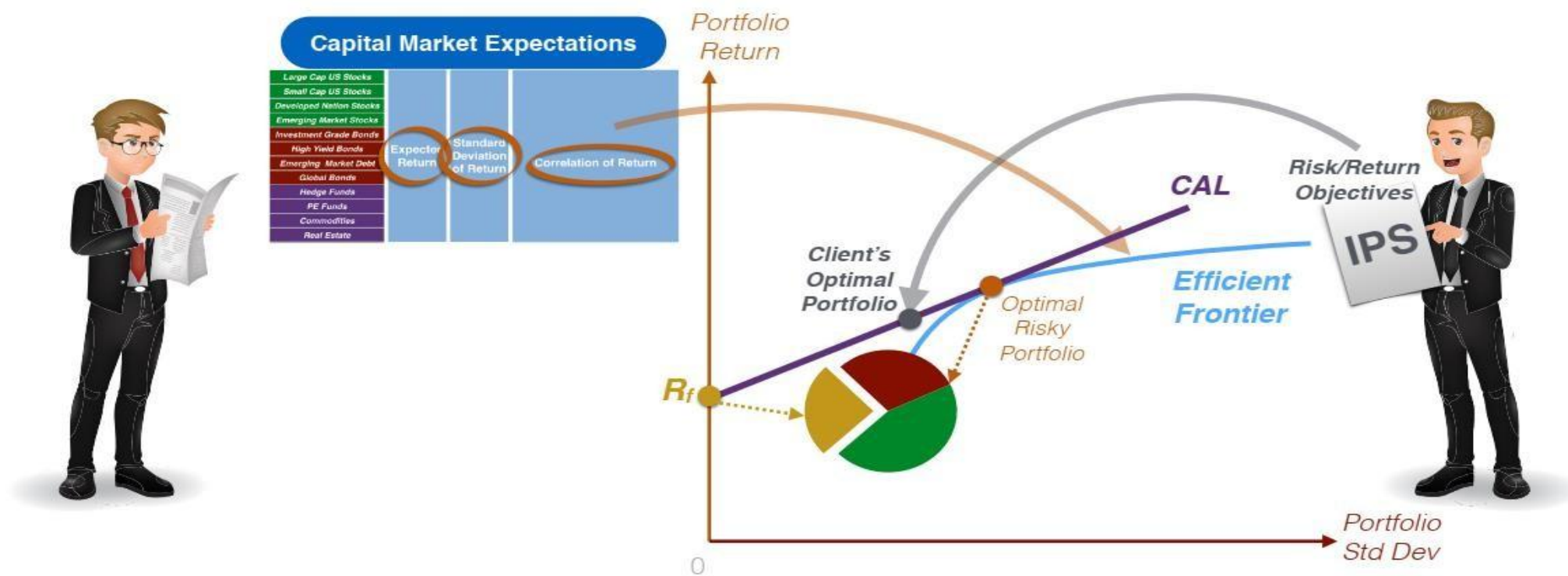
Portfolio Manager

3.1 Capital Market Expectations

Planning

Execution

Feedback



3.1 Capital Market Expectations

Planning

Execution

Feedback

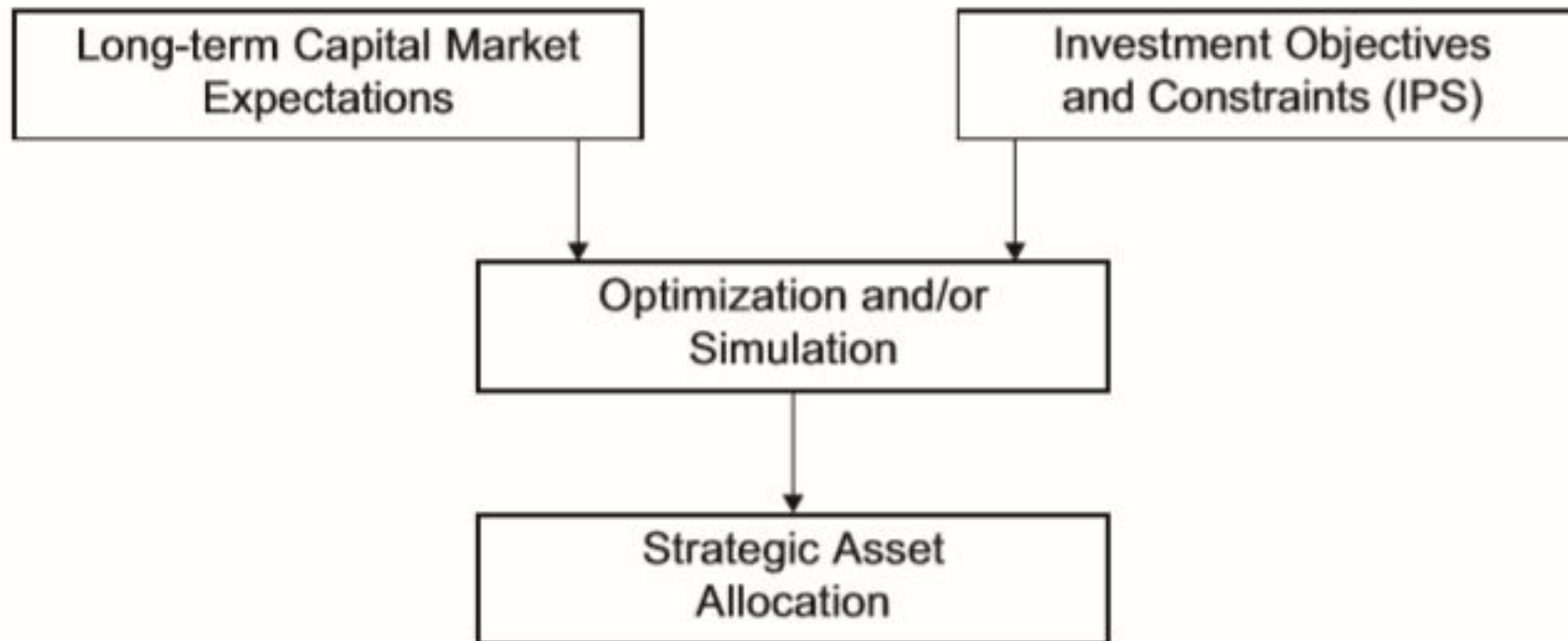


3.2 Strategic Asset Allocation

- The strategic asset allocation is built up by asset classes, the decision about how to define those asset classes is an important one. Defining the asset classes also determines the extent to which the investor controls the risk and return characteristics of the eventual investment portfolio.
- An asset class should contain relatively homogeneous assets while providing diversification relative to other asset classes. In statistical terms, risk and return expectations should be similar and paired correlations of assets should be relatively high within an asset class but should be lower versus assets in other asset classes. Also, the asset classes, while being mutually exclusive, should add up to a sufficient approximation of the relevant investable universe.
- A strategic asset allocation results from combining the constraints and objectives articulated in the IPS and long- term capital market expectations regarding the asset classes.

3.2 Strategic Asset Allocation

Process of Strategic Asset Allocation



3.2 Strategic Asset Allocation

Planning

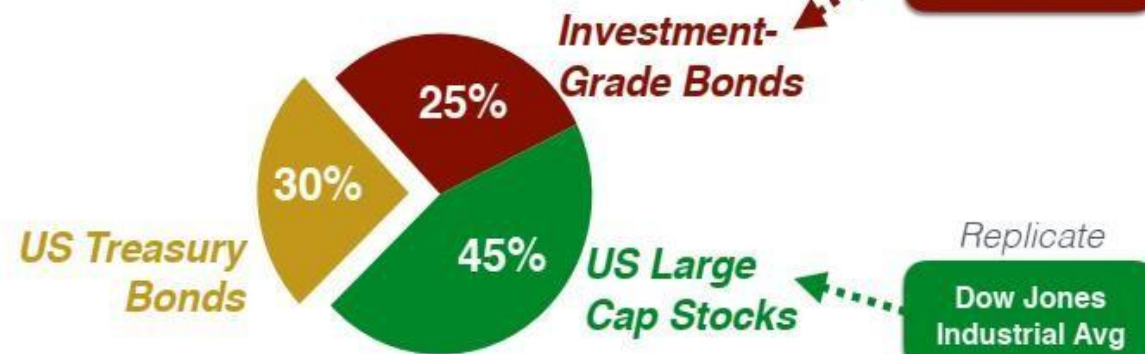
Execution

Feedback

Strategic Asset Allocation

Passive Management

construct and **maintain** the proportions as per SAA

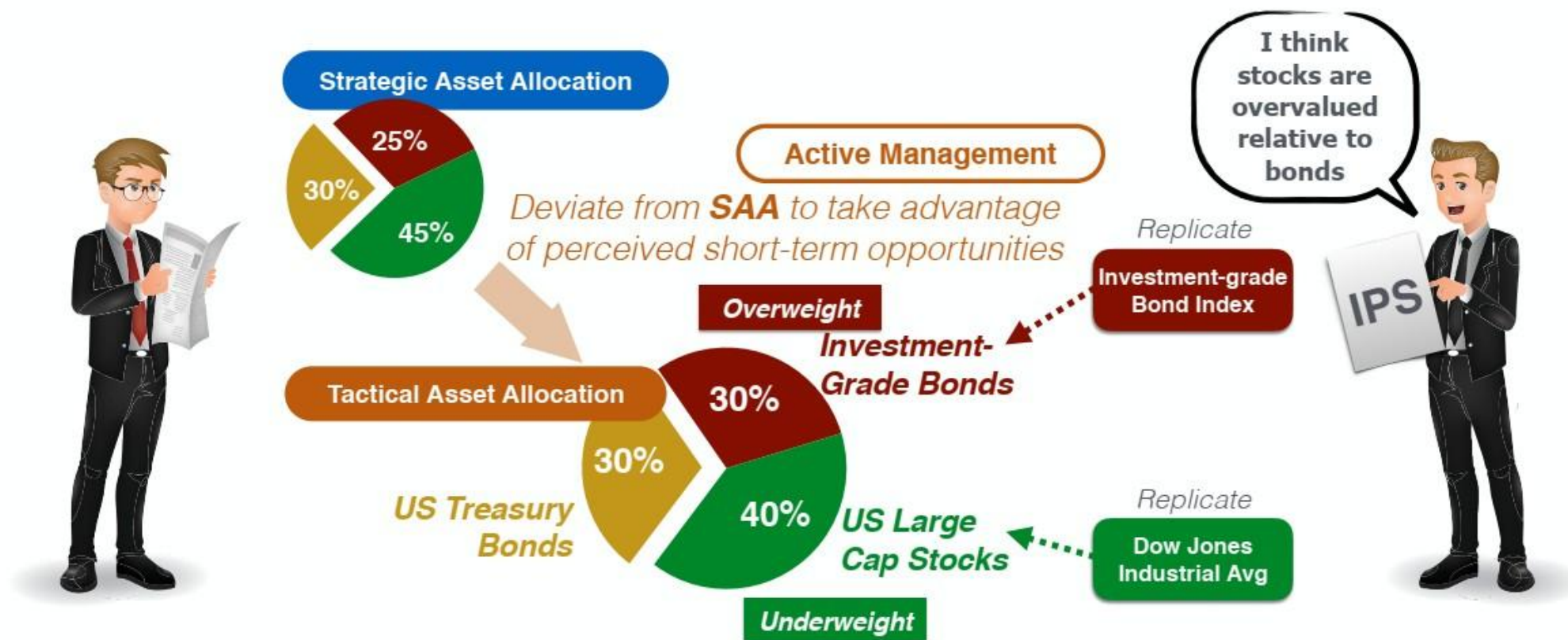


3.2 Strategic Asset Allocation

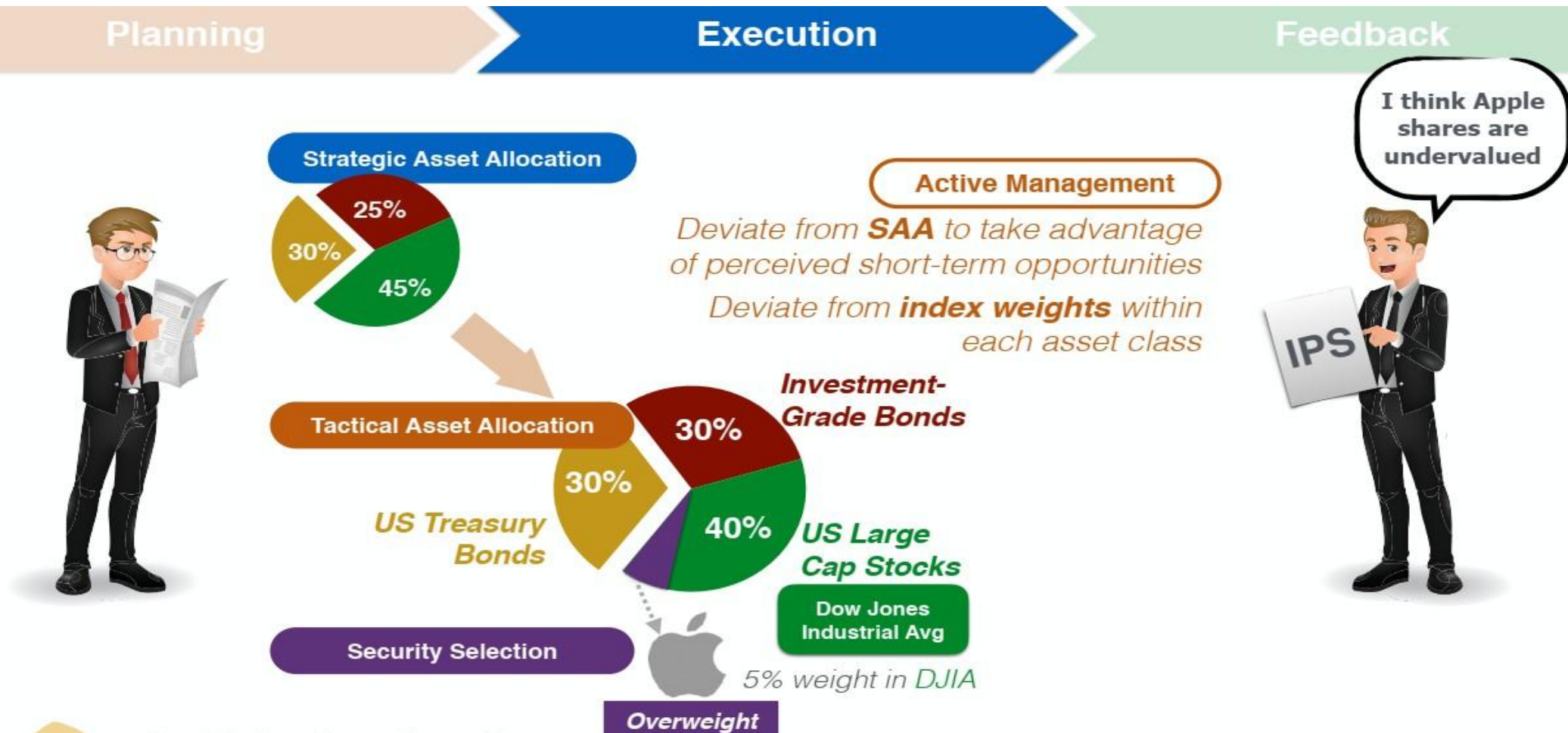
Planning

Execution

Feedback



3.2 Strategic Asset Allocation



3.3 Tactical Asset Allocation



Passive

Strategic Asset Allocation

Active

+risk

Tactical Asset Allocation

+risk

Security Selection

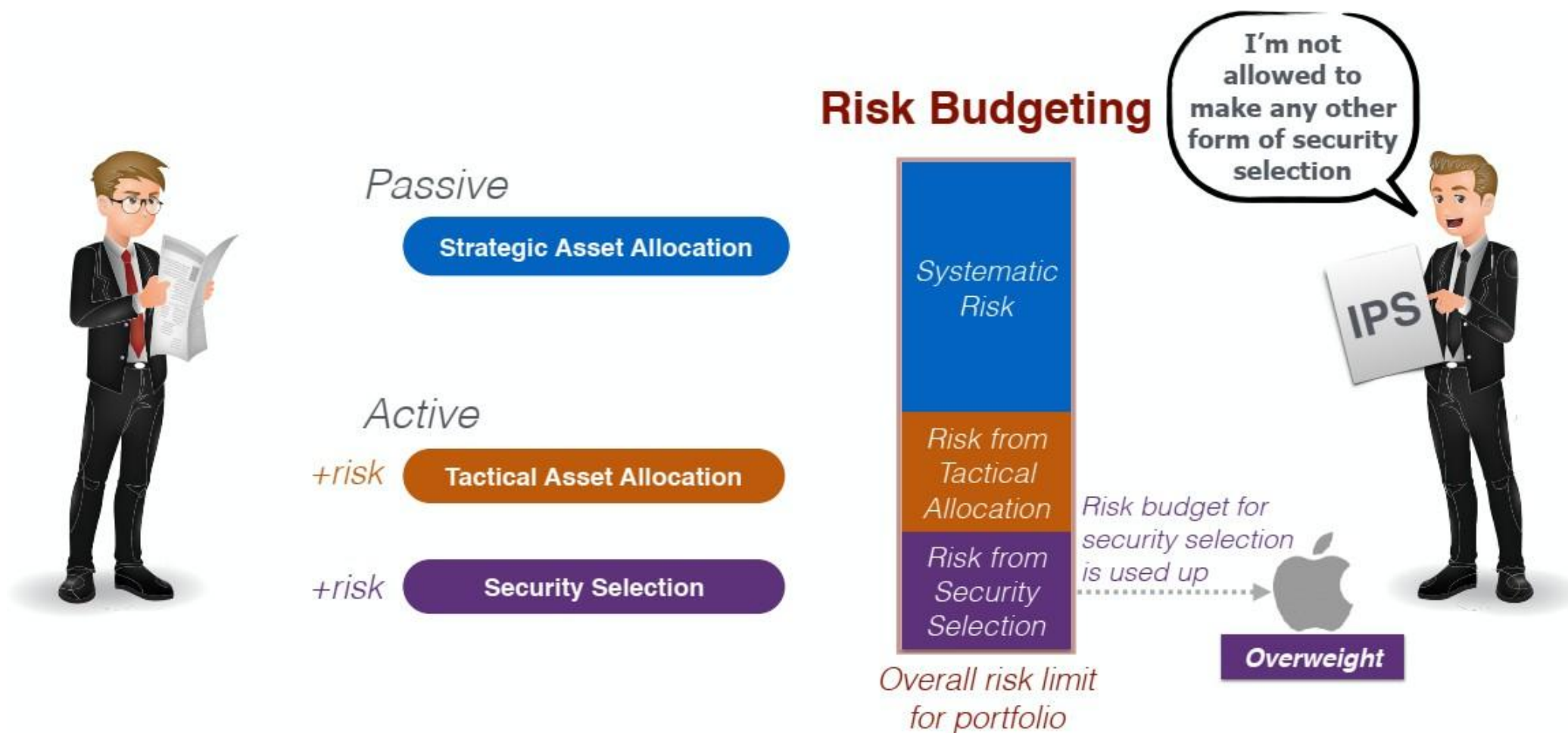
Risk Budgeting



*Overall risk limit
for portfolio*



3.4 Security Selection



3.4 Security Selection



3.4 Security Selection

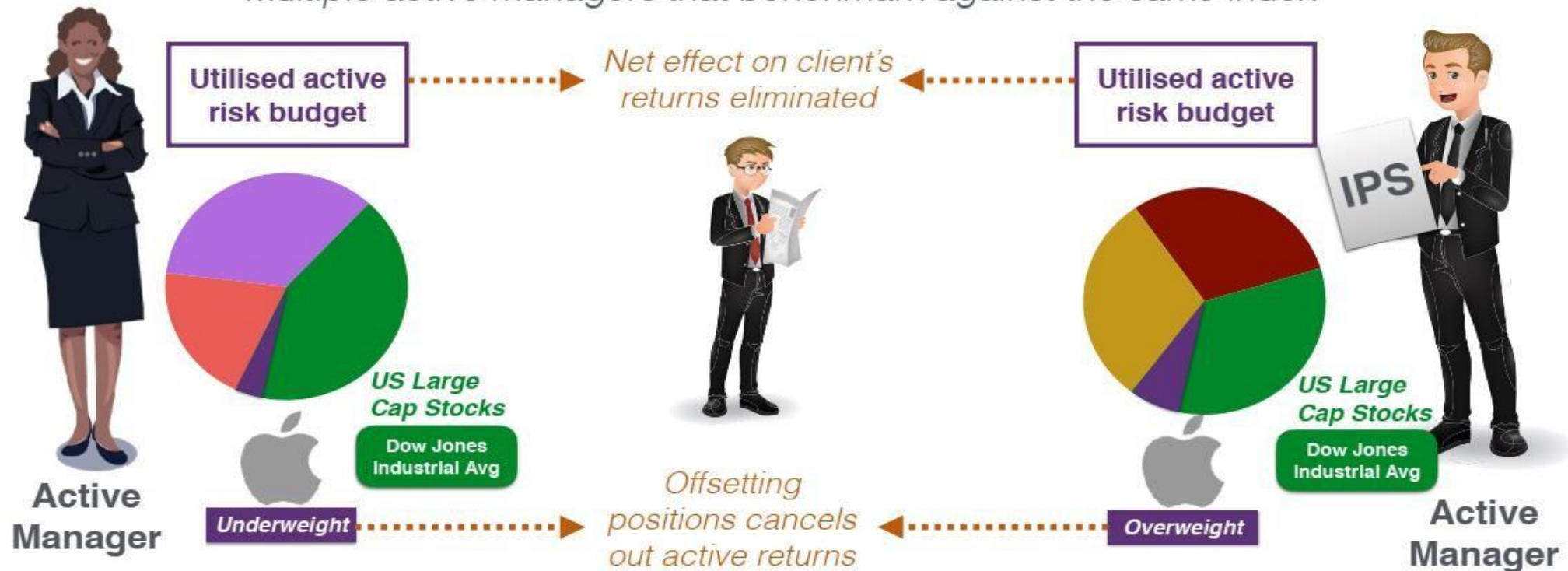
Planning

Execution

Feedback

Issues with Active Management

Multiple active managers that benchmark against the same index



3.4 Security Selection

Planning

Execution

Feedback

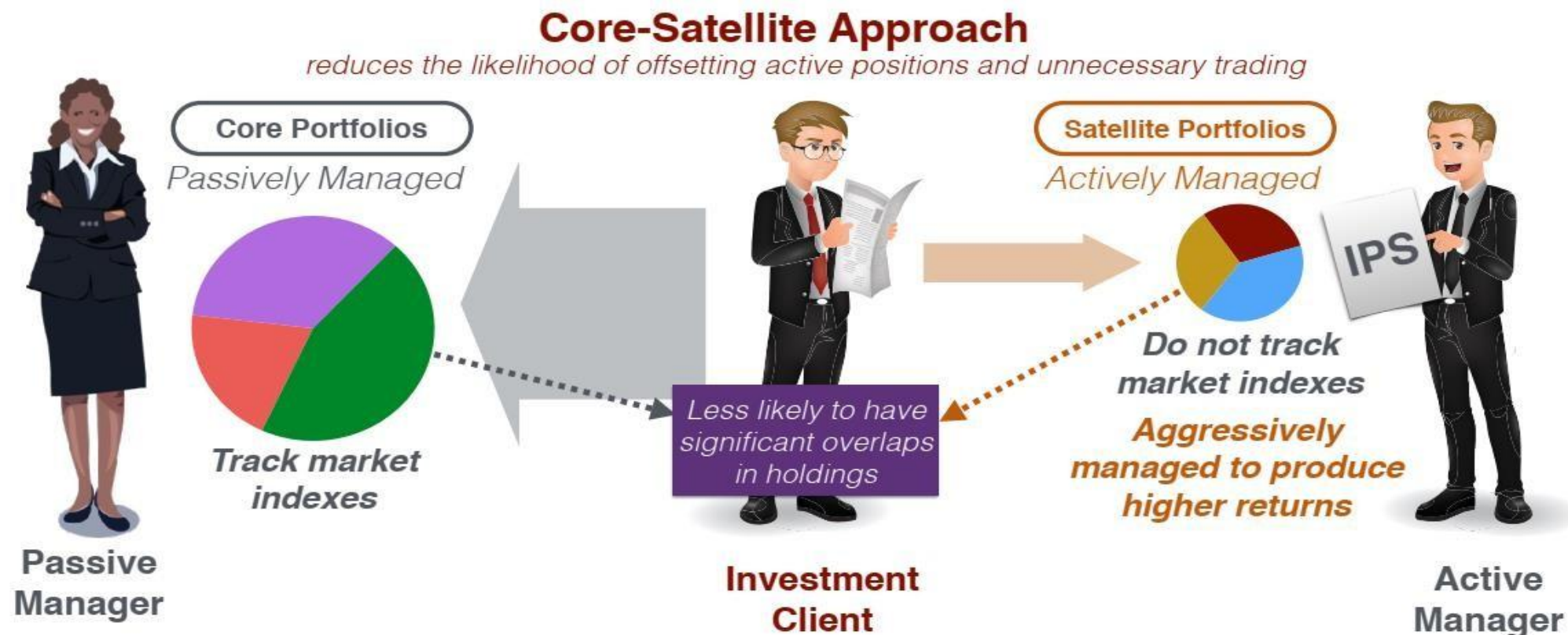


3.4 Security Selection

Planning

Execution

Feedback



3.5 Feedback

A. Portfolio Monitoring and Rebalancing:

Once the portfolio has been constructed, it needs to be monitored and reviewed and the composition revised as the security analysis changes because of changes in security prices and changes in fundamental factors.

B. Performance evaluation and Reporting:

Finally, the performance of the portfolio must be evaluated, which will include assessing whether the client's objectives have been met.

For example, the investor will wish to know whether the return requirement has been achieved and how the portfolio has performed relative to any benchmark that has been set.

Summary

- **Return** objective is simply the return needed on a portfolio to achieve the stated objective. For example, an investor's objective might be for the portfolio to provide enough money to meet spending needs in retirement.
- **Risk tolerance** is a function of an investor's willingness and ability to take on risk in the portfolio.
- **Time horizon** is very simply the length of time until the monies are needed and for how long. The shorter the time horizon, the lower the ability to take on risk.
- **Taxes** are the most unique constraint for individual investors. The best strategy to minimize tax drag on a portfolio will be highly specific to each client's situation.
- **Liquidity** is the portfolio's ability to meet expected and unexpected needs for cash.
- The most typical **legal constraint** encountered is specific mandates of a trust. For example, the trust could mandate that 10% of the account be distributed annually to the beneficiaries.
- **Unique circumstances** is the catch-all section for items that do not neatly fall into the previous six categories, but are still important to note in the asset allocation process.