CFA Institute®
Investment Foundations

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Module 6: SERVING CLIENT NEEDS

Chapter 16: Investors and Their Needs

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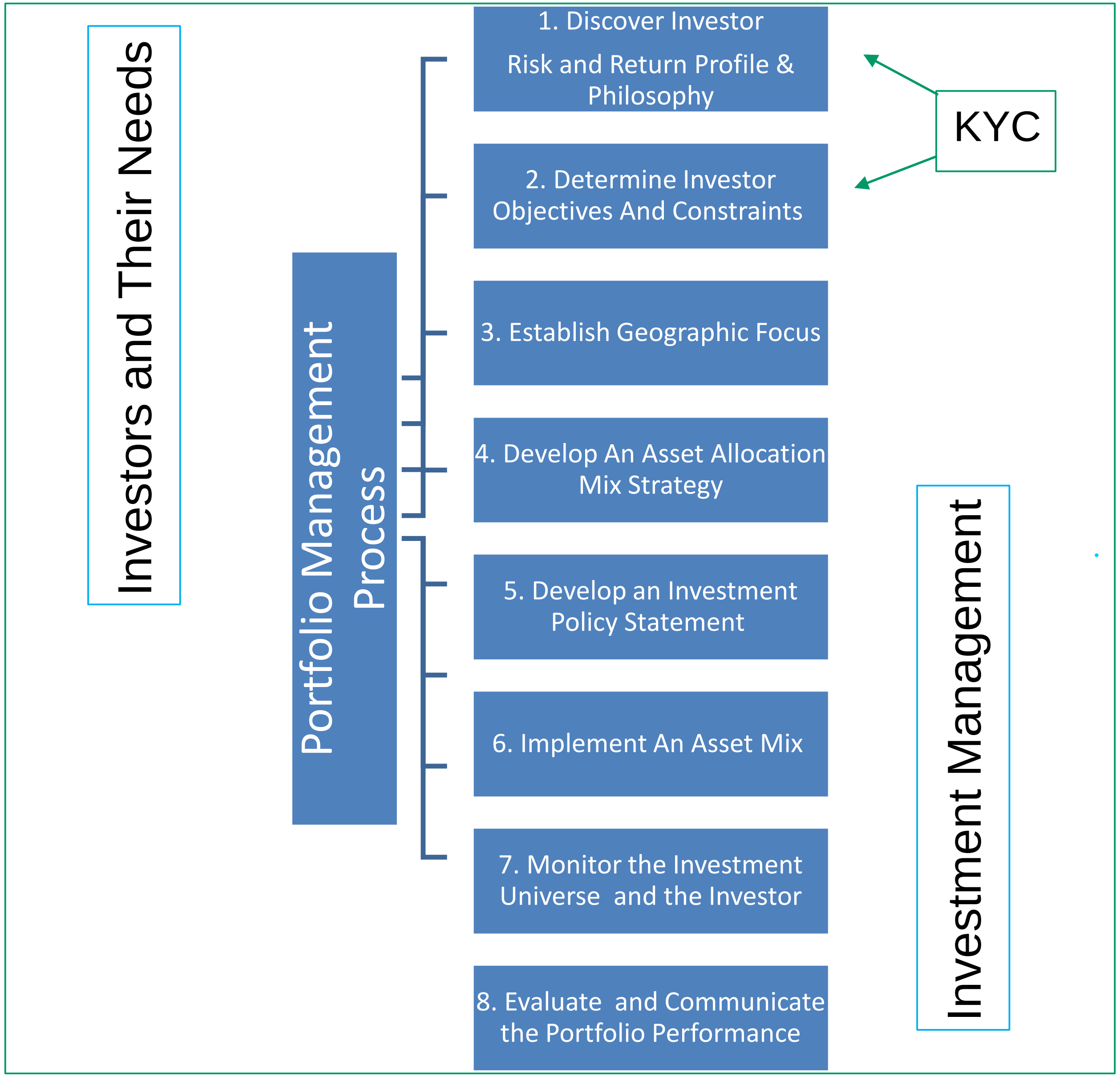
Faculty Bio

Module	Topic	Weight	LOS	Exam Qs	Hours to Study	Module Practice Qs	Chapter Practice Qs
Module 1	**Industry overview**	5%	7	6	5	28	28
Chapter 1	The Investment Industry: A Top-Down View						
Module 2	**Ethics and regulation**	10%	14	12	10	91	
Chapter 2	Ethics and Investment Professionalism						49
Chapter 3	Regulation						42
Module 3	**Inputs and tools**	20%	50	24	20	291	
Chapter 4	Microeconomics						53
Chapter 5	Macroeconomics						57
Chapter 6	Economics of International Trade						47
Chapter 7	Financial Statements						70
Chapter 8	Quantitative Concepts						64
Module 4	**Investment instruments**	20%	29	24	20	213	
Chapter 9	Debt Securities						69
Chapter 10	Equity Securities						72
Chapter 11	Derivatives						42
Chapter 12	Alternative Investments						30
Module 5	**Industry structure**	20%	27	24	20	96	
Chapter 13	Structure of the Investment Industry						28
Chapter 14	Investment Vehicles						29
Chapter 15	The Functioning of Financial Markets						39
Module 6	**Serving client needs**	5%	12	6	5	76	
Chapter 16	Investors and Their Needs						35
Chapter 17	Investment Management						41
Module 7	**Industry controls**	20%	24	24	20	154	
Chapter 18	Risk Management						51
Chapter 19	Performance Evaluation						53
Chapter 20	Investment Industry Documentation						50
	Total	**100%**	**163**	**120**	**100**	**949**	**949**

AFTER COMPLETING THIS CHAPTER, YOU SHOULD BE ABLE TO DO THE FOLLOWING:

a) Describe the importance of identifying investor needs to the investment process;
b) Identify, describe, and compare types of individual and institutional investors;
c) Compare defined benefit pension plans and defined contribution pension plans;
d) Explain factors that affect investor needs;
e) Describe the rationale for and structure of investment policy statements in serving client needs.

PORTFOLIO MANAGEMENT PROCESS



LOS a: Describe the importance of identifying investor needs to the investment process.

INVESTOR NEEDS

Client Characteristics					
Objectives	Financial Resources	Personal Situation	Financial Expertise	Attitudes	Other Factors

Investment Needs	
What Services They Require	What Investments Are Appropriate

LOS a: Describe the importance of identifying investor needs to the investment process.

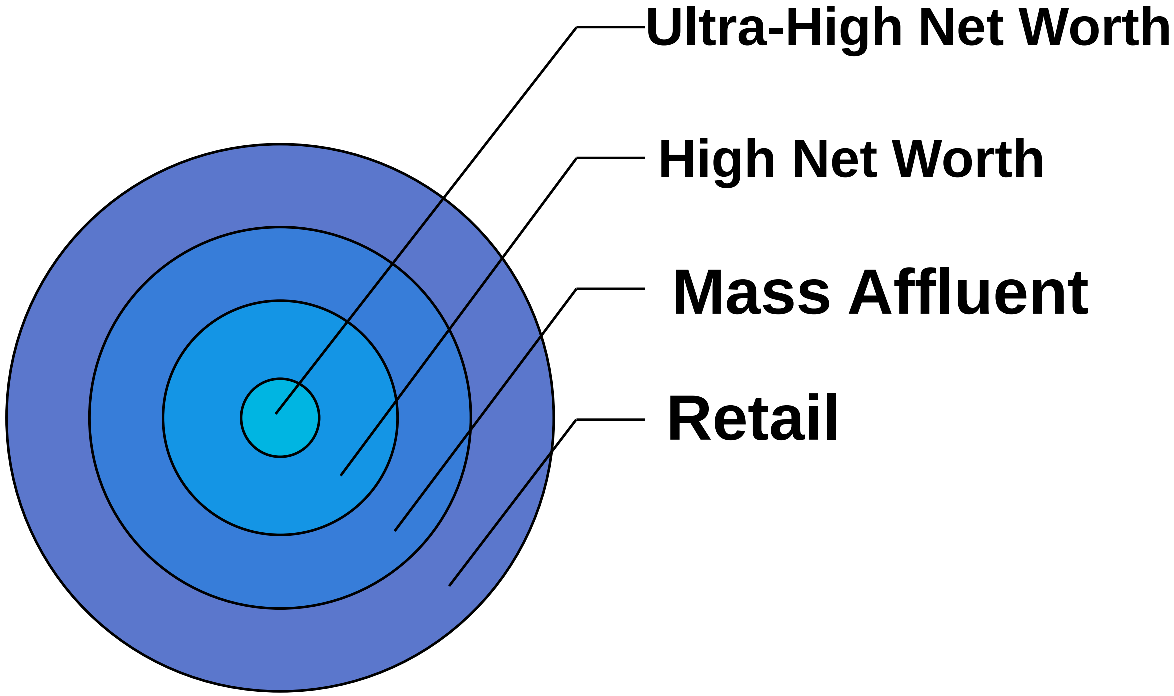
TYPES AND CHARACTERISTICS OF INVESTORS

Investors
Individual
• Often differentiated based on their resources—for example, retail investors, mass affluent, high net worth, ultra-high net worth
Institutional
• Invest to advance their missions (such as pension plans, endowment funds and foundations, trusts, governments and sovereign wealth funds, and non-financial companies) • Invest to provide financial services (such as investment companies, banks, and insurance companies)

LOS b: Identify, describe, and compare types of individual and institutional investors.

INDIVIDUAL INVESTORS

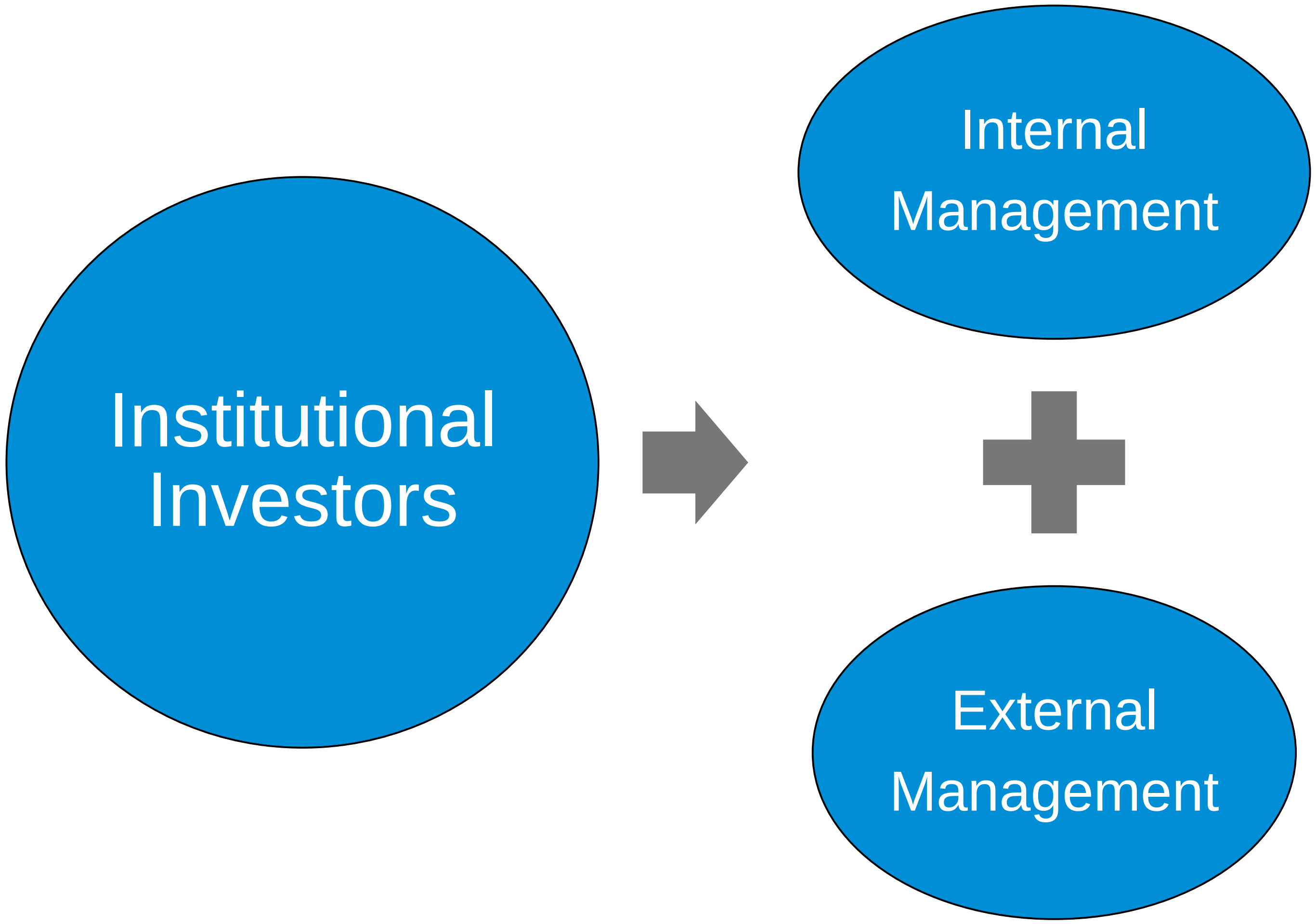
Individual investors vary in their level of **investment knowledge and expertise**.



The services offered by investment firms and the investments available will typically vary by the amount of money the client has to invest.

LOS b: Identify, describe, and compare types of individual and institutional investors.

INSTITUTIONAL INVESTORS



LOS b: Identify, describe, and compare types of individual and institutional investors.

INSTITUTIONAL INVESTORS

Endowment funds are long-term funds of not-for-profit institutions, such as universities, colleges, schools, museums, theatres, opera companies, hospitals, and clinics.

Foundations are grant-making institutions funded by gifts and by the investment income that they produce

LOS b: Identify, describe, and compare types of individual and institutional investors.

INSTITUTIONAL INVESTORS

Governments and Sovereign Wealth Funds

Governments receive money from collecting taxes or selling bonds.

Non-Financial Companies

Non-financial companies invest money that they do not presently require to run their businesses.

LOS b: Identify, describe, and compare types of individual and institutional investors.

INSTITUTIONAL INVESTORS

Investment companies

Pooled investment vehicles and include

- mutual funds,
- hedge funds, and
- private equity funds.

LOS b: Identify, describe, and compare types of individual and institutional investors.

INSTITUTIONAL INVESTORS

Insurance Companies

- Property and casualty insurance companies prefer shorter-term investments that are more conservative and liquid.
- Life insurance companies have longer-term time horizons and more predictable payouts and, therefore, have more latitude to invest in riskier assets.

LOS b: Identify, describe, and compare types of individual and institutional investors.

DEFINED BENEFIT VS. DEFINED CONTRIBUTION PENSION PLANS

- **Defined benefit plans** promise a defined annual amount to their retired members.
- The defined amount typically varies by member based on such factors as years of service and annual compensation while employed.
- The pension may be adjusted for inflation over time.
- The employer will make contributions to the pension fund to fulfil the promise.
- Employees may also be asked to contribute.
- Defined benefit pension funds, particularly those of government-sponsored plans, are among the largest institutional investors.
- Pension funds may invest in equity securities, debt securities, and alternative investments because they typically have relatively long time horizons.
- In a defined benefit plan, the employer bears the risk that the investments made by the pension fund fail to perform as expected. Defined benefit plans are becoming less common around the globe and are being replaced by defined contribution plans.

Defined Contribution Pension Plans

- The pension sponsor typically contributes an agreed-on amount—the defined contribution—to an account set up for each employee.
- Employees also generally contribute to their own retirement plan accounts, usually through employee payroll deductions.
- The contributions are then invested, normally in funds that the employee chooses from a list of eligible funds within the plan.
- In defined contribution plans, the member (or employee) bears the risk that the pension account's investments fail to perform as expected.
- If the retirement fund is less than expected, the employee may have to make do with less retirement income or, possibly, defer retirement.

LOS c: Compare defined benefit pension plans and defined contribution pension plans.

PRACTICE Q: DIFFICULT

Defined benefit pension plans often shift to holding more liquid assets in their portfolios when:

A. equity prices fall.
B. taxes are due on the plan's investment gains.
C. pension payments exceed new contributions to the plan.

PRACTICE Q: DIFFICULT

Defined benefit pension plans often shift to holding more liquid assets in their portfolios when:

A. equity prices fall.
B. taxes are due on the plan's investment gains.
C. **pension payments exceed new contributions to the plan.**

C is correct. Defined benefit pension plans often shift to holding more liquid assets in their portfolios when pension payments exceed new contributions to the plan.

A is incorrect. DB liquidity needs/constraints are typically not a function of market fluctuations. Rather, they are a function of the plan’s liabilities.

B is incorrect. Pension plans are typically tax-exempt.

INDIVIDUAL & INSTITUTIONAL INVESTORS: CFA LEVEL I TABLE

Client	Time Horizon	Risk Tolerance
Individual investors	Varies by individual	Varies by individual Typically quite high
Defined benefit pension plans	Typically long term	Typically high
Endowments and foundations	Very long term	Typically high
Banks	Short term	Quite low
Insurance companies	Short term for property and casualty: long term for life insurance companies	Typically quite low
Investment companies	Varies by fund	Varies by fund

Client	Income Needs	Liquidity Needs
Individual investors	Varies by individual	Varies by individual
Defined benefit pension plans	High for mature funds; low for growing funds	Typically quite low
Endowments and foundations	To meet spending commitments	Typically quite low
Banks	To pay interest on deposits and operational expenses	High to meet repayment of deposits
Insurance companies	Typically low	High to meet claims
Investment companies	Varies by fund	High to meet redemptions

LOS b: Identify, describe, and compare types of individual and institutional investors.

EXAMPLE PRACTICE QUESTIONS: CFA LEVEL I

In general, which of the following institutions will most likely have a high need for liquidity and a short investment time horizon?

A. Banks
B. Endowments
C. Defined benefit pension plans

A is correct. Banks have a short term horizon and high liquidity needs.

Which of the following types of institutions is most likely to have a long investment time horizon and a higher level of risk tolerance?

A. A bank
B. An endowment
C. An insurance company

B is correct.

Endowments have a long investment time horizon and a high level of risk tolerance.

Which of the following institutional investors are most likely to have a low tolerance for investment risk and relatively high liquidity needs?

A. Insurance company
B. Charitable foundation
C. Defined benefit pension plan

A is correct because insurance companies need to be relatively conservative and liquid given the necessity of paying claims when due.

PRACTICE Q: EXPERT

Which of the following is not a rationale investment firms use to differentiate individual investors by level of affluence?

A. Apply appropriate regulatory restrictions.
B. Optimise administration of client holdings.
C. Provide portfolio management services that are economical.

PRACTICE Q: EXPERT

Which of the following is not a rationale investment firms use to differentiate individual investors by level of affluence?

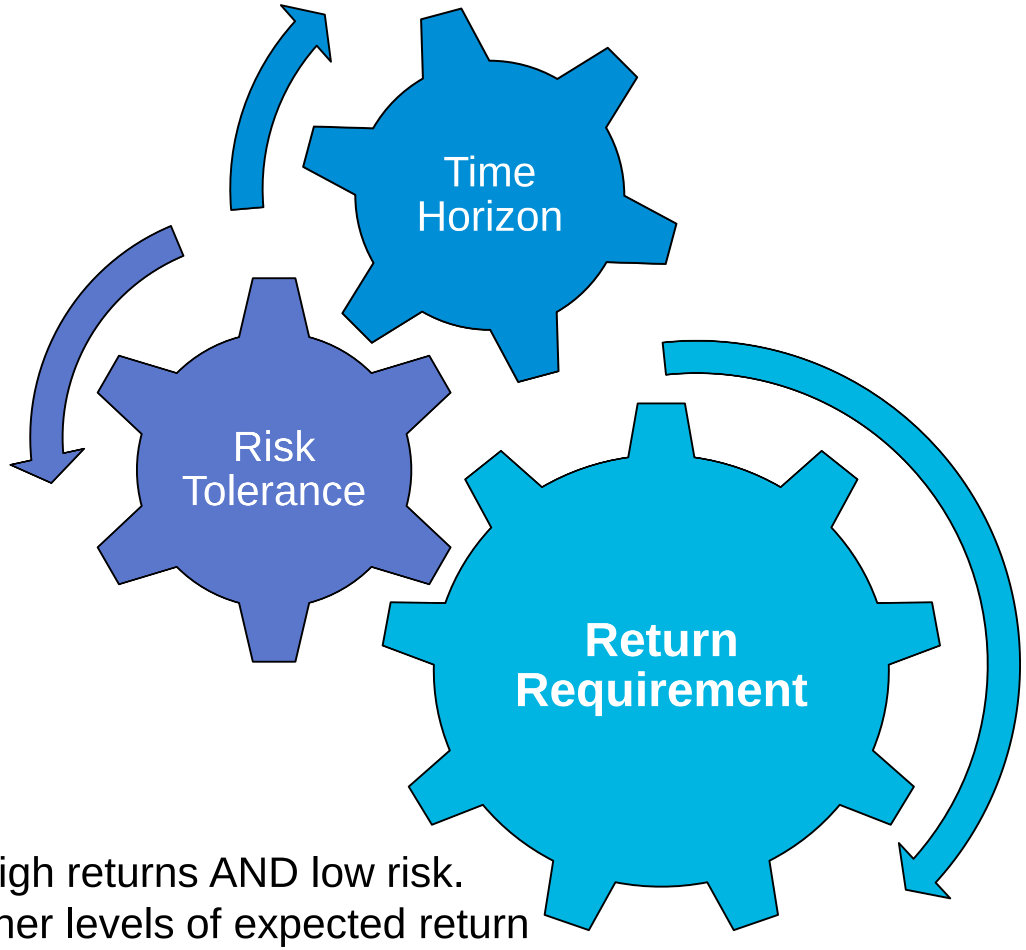
A. Apply appropriate regulatory restrictions.

B. Optimise administration of client holdings.

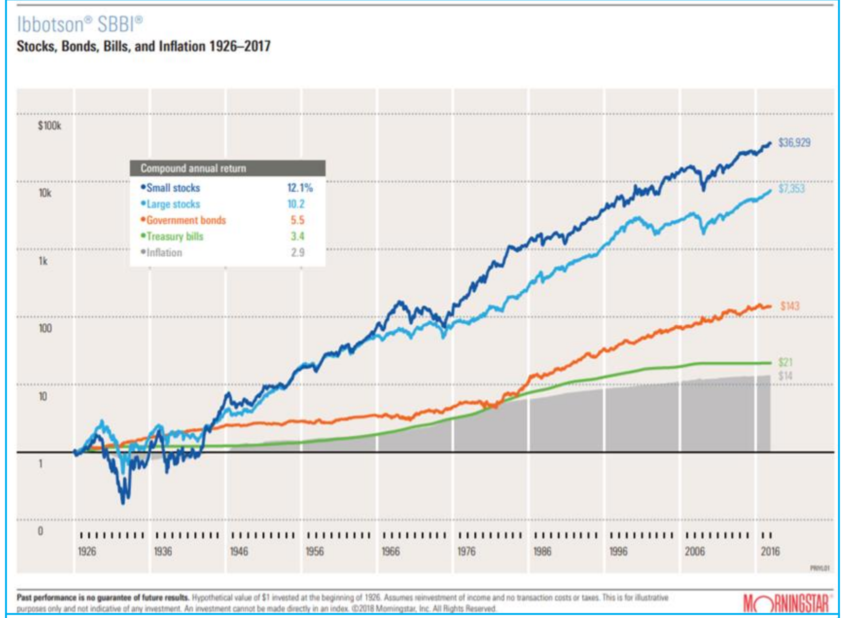
C. Provide portfolio management services that are economical.

A is correct. The key reason to segment individual investors by level of wealth is to provide the appropriate level of service and vehicles given client needs, expectations, and fees associated with the size of the account. Regulatory restrictions may be applied to individuals with limited resources but it is not a primary driver behind the differentiation.

COMMON FACTORS THAT AFFECT ALL INVESTORS' NEEDS



- Investors want high returns AND low risk.
- But typically, higher levels of expected return will require higher levels of risk to be taken.



1926–2012* Returns RISK

	Asset Class	Annual Returns	Standard Deviation
STOCKS	Small-cap	11.9%	33.0%
	Large-cap	**9.8%**	20.9%
BONDS	LT Corporate Bonds	5.7%	9.4%
	LT Treasury Bonds	5.5%	9.0%
CASH	Treasury Bills	3.6%	3.1%
	Inflation	3.0%	4.2%

Source: 2012 Ibbotson SBBI Classic Yearbook

LOS d: Explain factors that affect investor needs.

INVESTORS' OBJECTIVES

Client Characteristics					
Objectives	Financial Resources	Personal Situation	Financial Expertise	Attitudes	Other Factors

Return objectives may be stated on an **absolute** or a **relative** basis.

As an example of an absolute objective, the client may want to achieve a particular percentage rate of return, for example, X percent. This could be a nominal rate of return or be expressed in real (inflation-adjusted) terms.

Alternatively, the return objective can be stated on a relative basis, for example, relative to a benchmark return. The benchmark could be an equity market index, such as the S&P 500.

1. **Capital preservation**: Earning a return at least equal to the inflation rate
2. **Current income**: Earning a return to generate income, normally to pay living expenses or some other planned spending need
3. **Total return**: Meeting a future need through both capital appreciation and current income
4. **Capital appreciation**: Earning a return that exceeds the rate of inflation (most risky objective)

LOS d: Explain factors that affect investor needs.

COMMON FACTORS THAT AFFECT ALL INVESTORS' NEEDS

Client Characteristics					
Objectives	**Financial Resources**	**Personal Situation**	**Financial Expertise**	Attitudes	**Other Factors**

LOS d: Explain factors that affect investor needs.

RISK OBJECTIVES: ABILITY & WILLINGNESS

Risk objectives are specifications for portfolio risk that reflect the **risk tolerance of the client**.

	Ability to Take Risk	
Willingness to Take Risk	*Below Average*	*Above Average*
Below average	Lower risk tolerance	**Education** or resolution required
Above average	**Education** or resolution required	Higher risk tolerance

LOS d: Explain factors that affect investor needs.

PRACTICE Q: DIFFICULT

When an investor’s willingness and ability to take risk differ, the investment adviser should counsel the investor to use a risk level based on the:

A. ability to take risk only.

B. willingness to take risk only.

C. lesser of the two risk levels.

PRACTICE Q: DIFFICULT

When an investor's willingness and ability to take risk differ, the investment adviser should counsel the investor to use a risk level based on the:

A. ability to take risk only.

B. willingness to take risk only.

C. lesser of the two risk levels.

C is correct. There may be situations in which an investor's willingness to take risk and his or her ability to take risk are different. In such situations, the investment adviser should counsel the investor about risk and determine the appropriate level of risk to take in the portfolio, taking into account both the investor's ability and willingness to take risk. The lesser of the two risk levels should be the risk level assumed.

A and B are incorrect because both the ability and willingness to take risk must be considered.

PRACTICE Q: CFA LEVEL I

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.*

PRACTICE Q: CFA LEVEL I

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

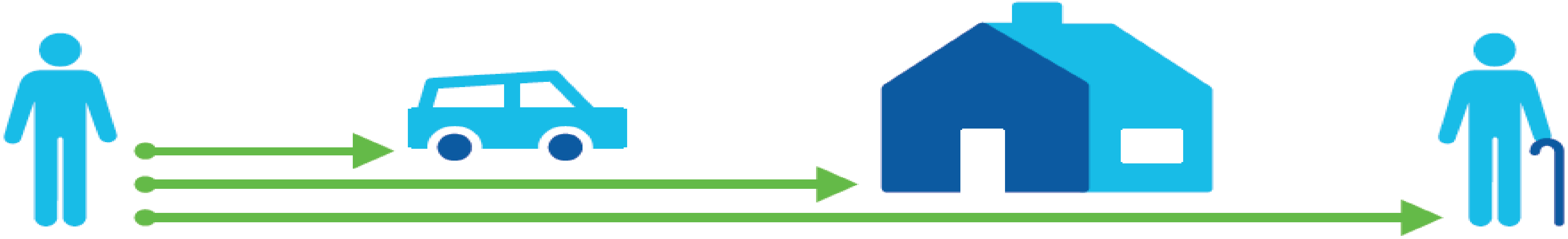
A. *Time horizon.*

B. *Ability to accept risk.*

C. *Willingness to accept risk.*

C is correct. *Measuring willingness to take risk (risk tolerance, risk aversion) is an exercise in applied psychology. Instruments attempting to measure risk attitudes exist, but they are clearly less objective than measurements of ability to take risk. Ability to take risk is based on relatively objective traits such as expected income, time horizon, and existing wealth relative to liabilities.*

Time Horizon



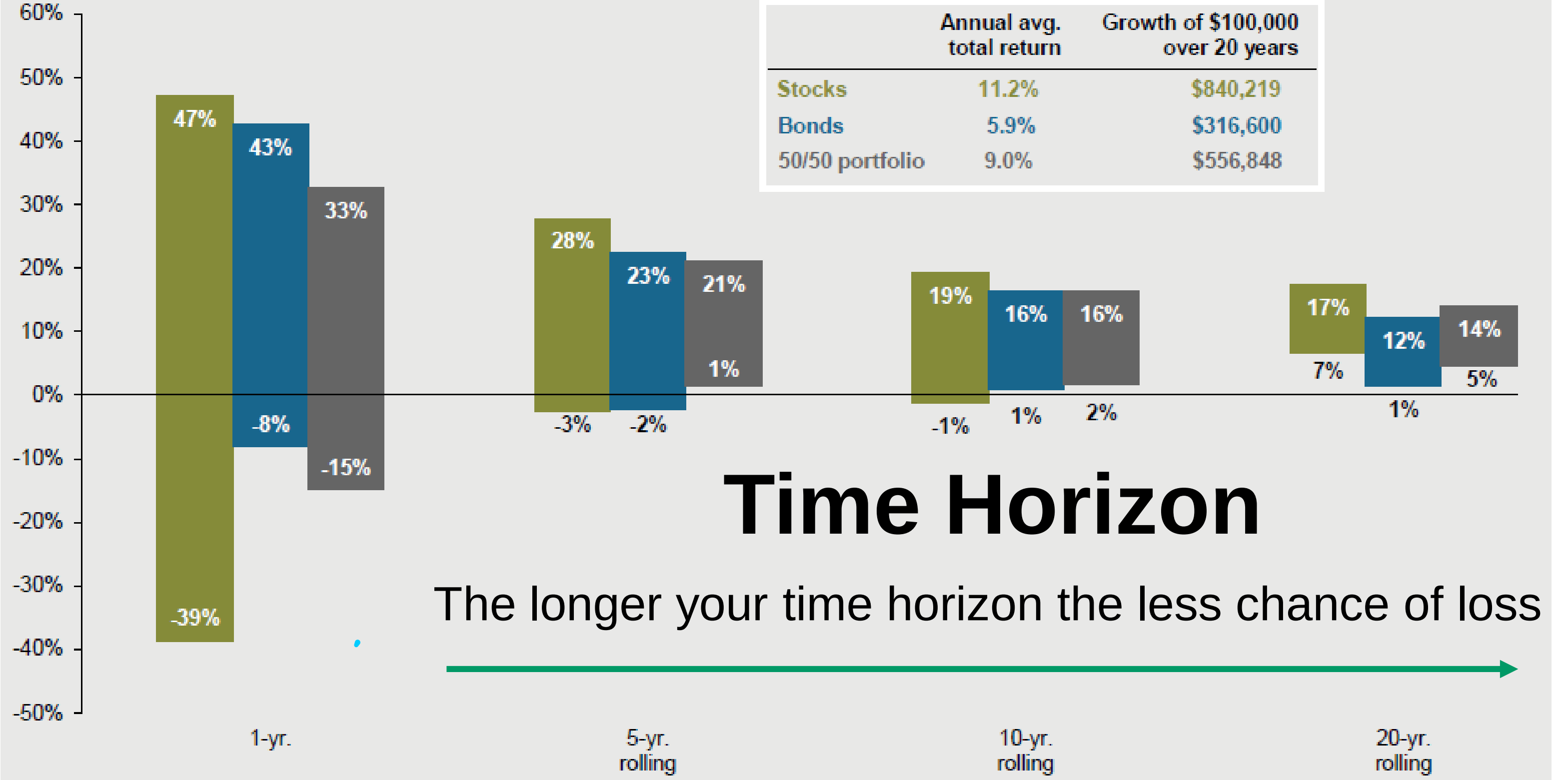
- **The investment horizon** has important implications for how much risk can be taken with the portfolio and the level of liquidity that may be required.
- **Liquidity** is the ease with which an investment can be converted into cash.

LOS d: Explain factors that affect investor needs.

CONSTRAINTS: COMMON FACTORS THAT AFFECT ALL INVESTORS' NEEDS

Time, diversification and the volatility of returns

Range of stock, bond and blended total returns
Annual total returns, 1950-2017



	Annual avg. total return	Growth of $100,000 over 20 years
Stocks	11.2%	$840,219
Bonds	5.9%	$316,600
50/50 portfolio	9.0%	$556,848

Time Horizon

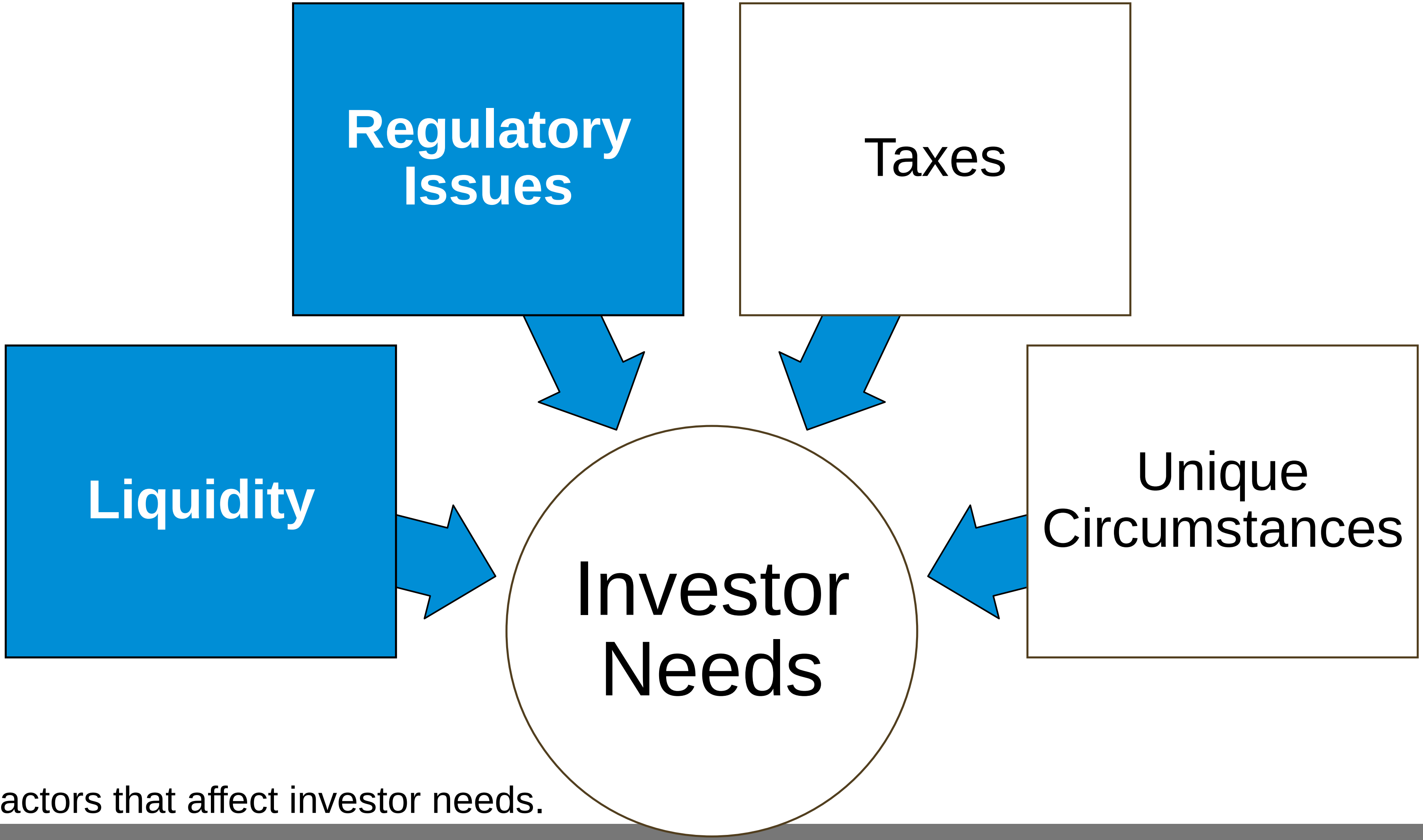
The longer your time horizon the less chance of loss

Source: Barclays, Bloomberg, FactSet, Federal Reserve, Robert Shiller, Strategas/Ibbotson, J.P. Morgan Asset Management.
Returns shown are based on calendar year returns from 1950 to 2017. Stocks represent the S&P 500 Shiller Composite and Bonds represent Strategas/Ibbotson for periods from 1950 to 2010 and Bloomberg Barclays Aggregate thereafter. Growth of $100,000 is based on annual average total returns from 1950 to 2017.
Guide to the Markets – U.S. Data are as of September 30, 2018.

J.P.Morgan Asset Management

LOS d: Explain factors that affect investor needs.

CONSTRAINTS: COMMON FACTORS THAT AFFECT ALL INVESTORS' NEEDS



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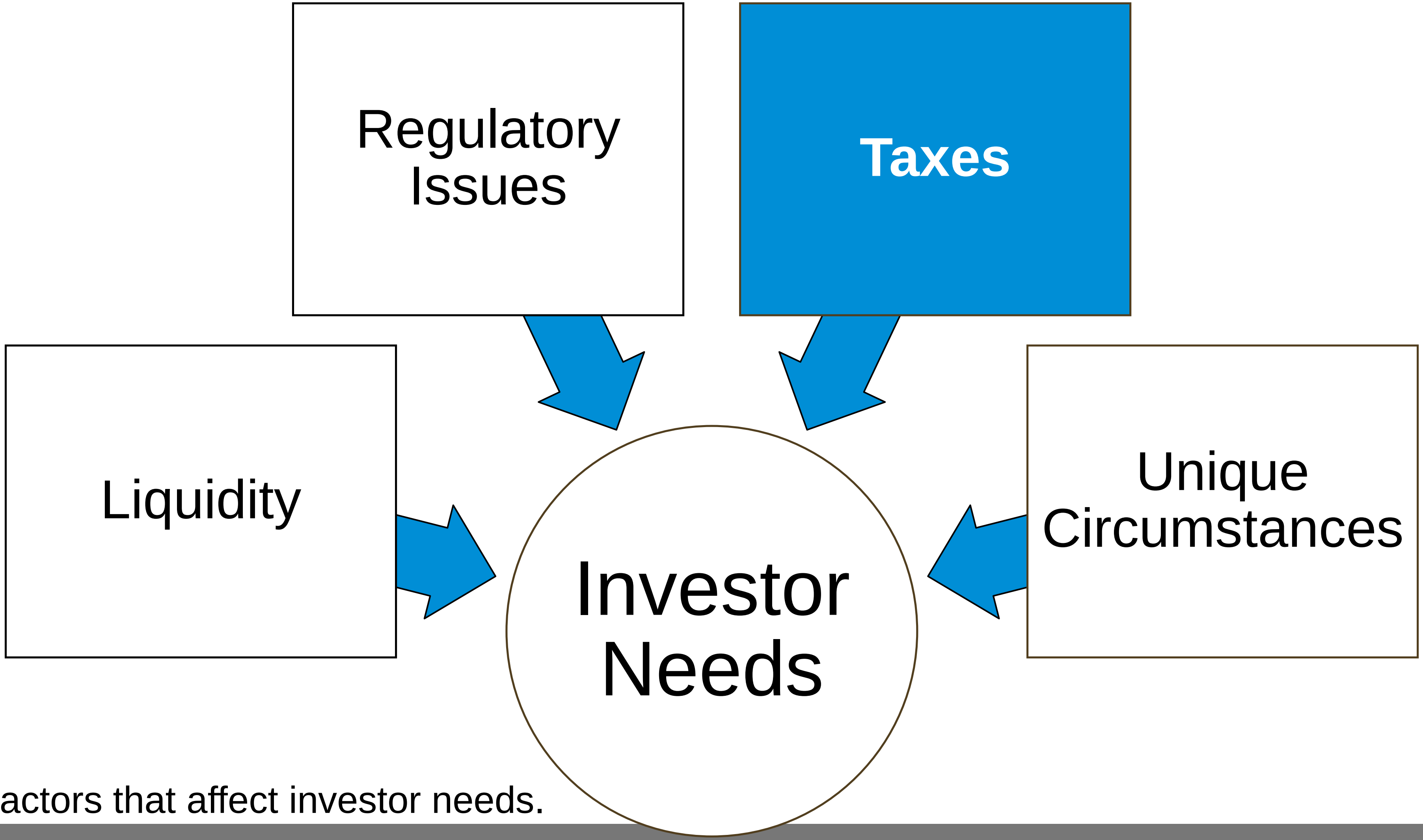
CONSTRAINTS: COMMON FACTORS THAT AFFECT ALL INVESTORS' NEEDS



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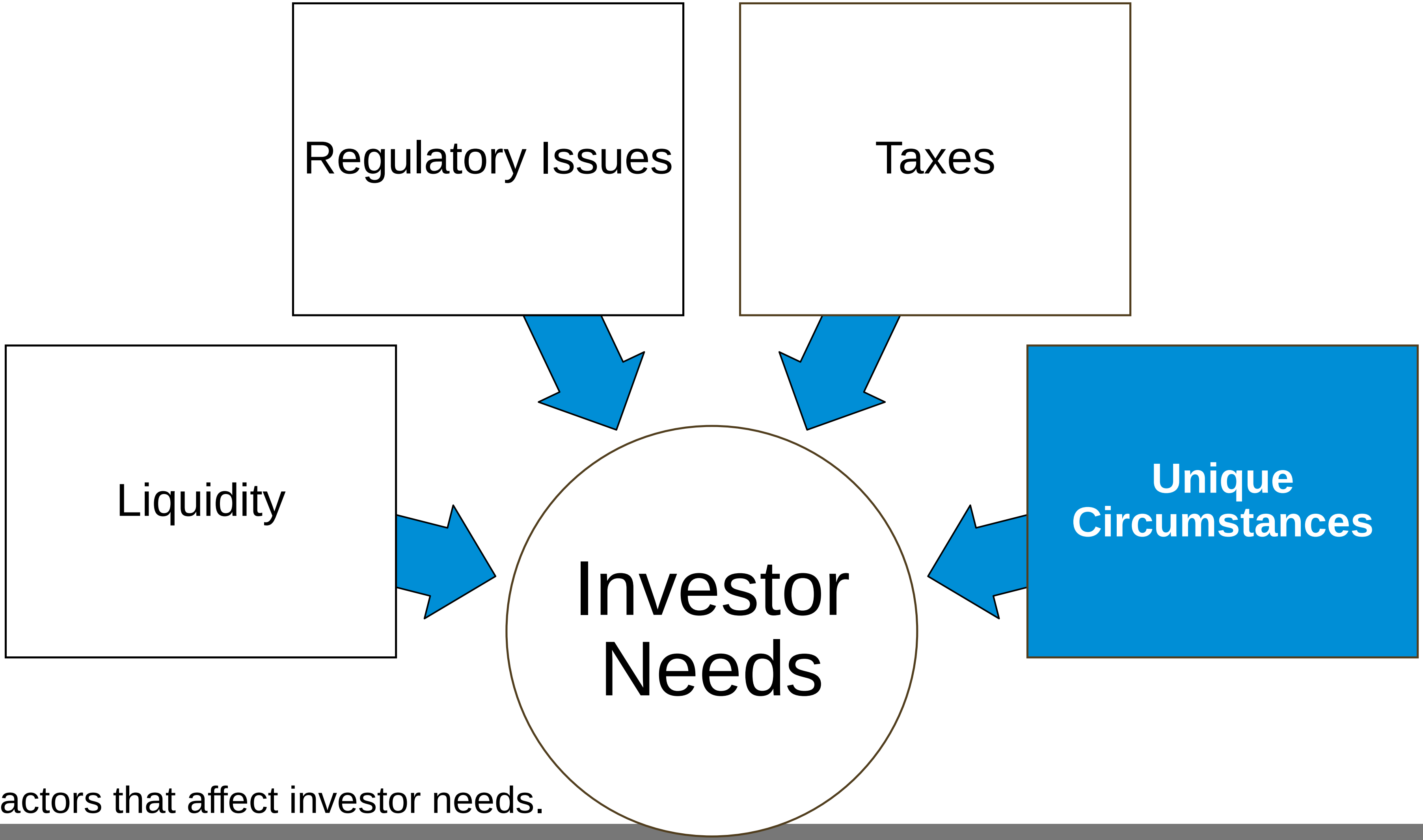


LOS d: Explain factors that affect investor needs.

THE INVESTMENT POLICY STATEMENT

The IPS is a key step in the portfolio management process. Without a full understanding of the client's situation and requirements, it is unlikely that successful results will be achieved.

The IPS can take a variety of forms. A typical format will include the client's investment objectives and also list the constraints that apply to the client's portfolio. An IPS:

- Identifies client objectives and constraints
- Has a clear statement of client risk tolerance
- Imposes investment discipline on both client and manager
- Identifies risks
- Identifies a benchmark portfolio consistent with client preferences

LOS e: Describe the rationale for and structure of investment policy statements in serving client needs.

THE INVESTMENT POLICY STATEMENT

Major Components:

1. Description of client circumstances
2. Purpose of the IPS
3. Duties and responsibilities of all parties
4. Procedures to update IPS, resolve problems
5. Investment objectives and constraints
6. Investment guidelines
7. Evaluation of performance, benchmark
8. Appendices: Strategic asset allocation, permitted deviations, rebalancing procedures

LOS e: Describe the rationale for and structure of investment policy statements in serving client needs.

INSTITUTIONAL INVESTORS AND THE INVESTMENT POLICY STATEMENT (IPS)

Most institutional investors create and adopt a comprehensive IPS.

In addition to the items on the previous slide, these statements specify many of the following points:

- The relative importance of capital preservation and capital growth
- The asset classes in which the institution is allowed to invest
- A target asset allocation that indicates what proportion of the investment funds will be invested in each asset class
- Whether leverage (use of debt) or short positions are allowed
- How actively the institution will trade
- How investment decisions will be made
- The benchmarks against which the institution will measure overall investment returns

LOS e: Describe the rationale for and structure of investment policy statements in serving client needs.

PRACTICE Q: EXPERT

A difference in investment policy statements for institutional investors and individual investors most likely relates to the inclusion of:

A. client constraints.
B. investment objectives.
C. procedural and governance issues.

PRACTICE Q: EXPERT

A difference in investment policy statements for institutional investors and individual investors most likely relates to the inclusion of:

A. client constraints.
B. investment objectives.
C. procedural and governance issues.

C is correct. Procedural and governance issues are constraints specific to many institutional investors.

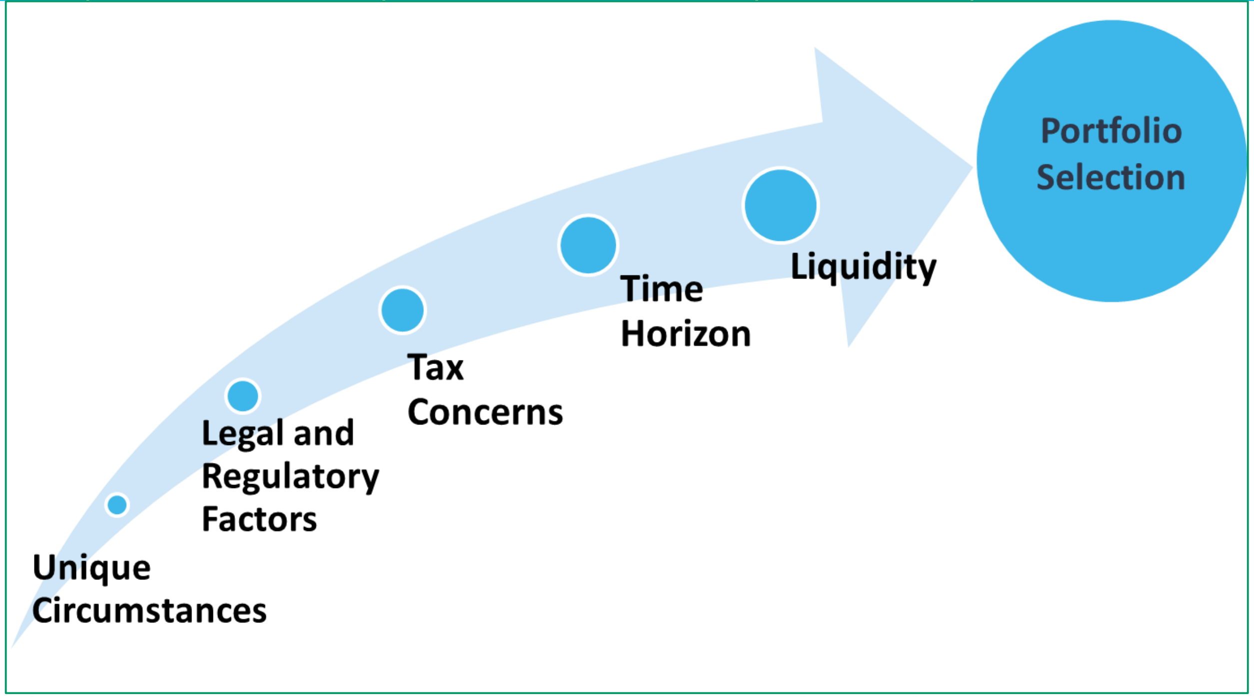
A and B are incorrect because the investment policy statement for both institutional investors and individual investors will include client constraints and investment objectives.

THE INVESTMENT POLICY STATEMENT

Investment Policy Statement						
Objectives		Constraints				
Return Requirements	Risk Tolerance	Time Horizon	Liquidity	Regulatory Constraints	Taxes	Unique Circumstances

1. Capital preservation
2. Current income
3. Total return
4. Capital appreciation

1. Ability &
2. Willingness



LOS e: Describe the rationale for and structure of investment policy statements in serving client needs.

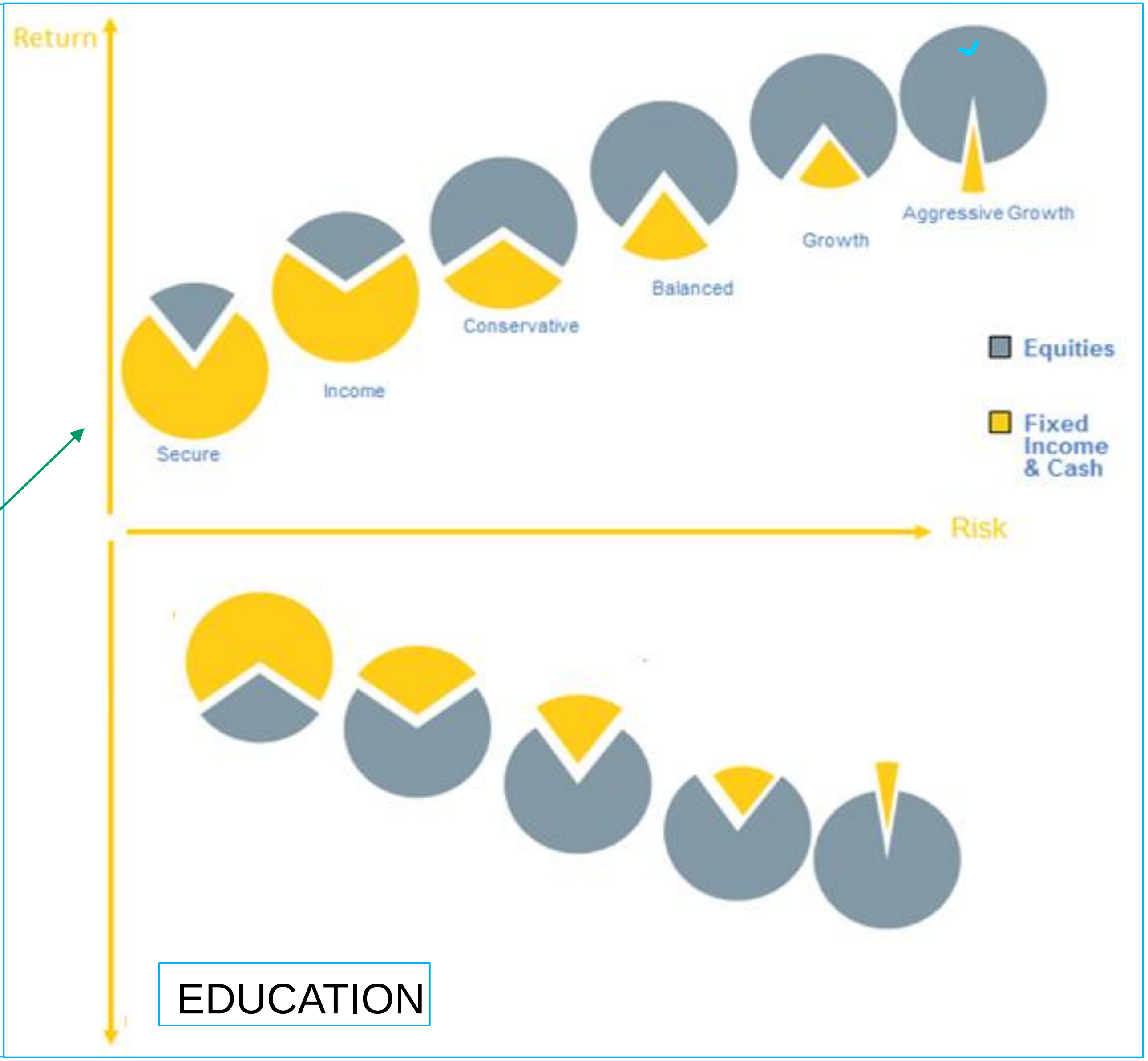
PORTFOLIO SELECTION: STRATEGIC ASSET ALLOCATION

Investors and Their Needs

Portfolio Management Process

1. Discover Investor Risk and Return Profile & Philosophy
2. Determine Investor Objectives And Constraints
3. Establish Geographic Focus
4. Develop An Asset Allocation Mix Strategy
5. Develop an Investment Policy Statement
6. Implement An Asset Mix
7. Monitor the Investment Universe and the Investor
8. Evaluate and Communicate the Portfolio Performance

Investment Management



PORTFOLIO SELECTION: STRATEGIC ASSET ALLOCATION

The Strategic Asset Allocation

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 investment constraints.

- Based on risk, returns, and correlations of asset classes
- Correlations of returns of assets within an asset class should be relatively high
- Correlations of returns between asset classes should be low
- Traditionally, investors have distinguished **cash, equities, bonds, and real estate** as the **major asset classes**. In recent years, this list has been expanded with private equity, hedge funds, and commodities. In addition, such assets as art and intellectual property rights may be considered asset classes for those investors prepared to take a more innovative approach and to accept some illiquidity. Combining such new asset classes as well as hedge funds and private equity under the header "alternative investments" has become accepted practice.

PORTFOLIO SELECTION: STRATEGIC ASSET ALLOCATION

Ibbotson® SBBI®

Stocks, Bonds, Bills, and Inflation 1926–2017

Past performance is no guarantee of future results. Hypothetical value of $1 invested at the beginning of 1926. Assumes reinvestment of income and no transaction costs or taxes. This is for illustrative purposes only and not indicative of any investment. An investment cannot be made directly in an index. ©2018 Morningstar, Inc. All Rights Reserved.

MORNINGSTAR

1926–2012* Returns RISK

Asset Class	Annual Returns	Standard Deviation
STOCKS: Small-cap	11.9%	33.0%
STOCKS: Large-cap	**9.8%**	20.9%
BONDS: LT Corporate Bonds	5.7%	9.4%
BONDS: LT Treasury Bonds	5.5%	9.0%
CASH: Treasury Bills	3.6%	3.1%
Inflation	3.0%	4.2%

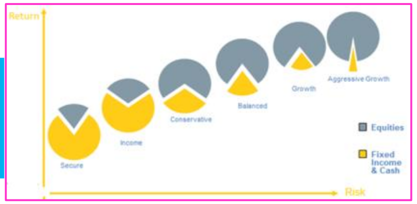
Source: 2012 Ibbotson SBBI Classic Yearbook

Long Term Capital Market Expectations:
Expected returns, variances, covariance's

Investment Policy Statement:
Objectives and Constraints

Optimization or Simulation

Strategic Asset Allocation:
Optimal portfolio



Investment Strategy

	Strategic Asset Allocation	Tactical Asset Allocation
Goal:	Definition of the optimal long-term investment strategy (5-10 yrs)	Taking advantage of short- to medium term opportunities (0-3 yrs)
Assumptions:	Markets are efficient, assets are at fair value	Markets are inefficient, (some) assets are not at fair value
Application:	Definition of benchmark	Active management
Required Input:	Long term risk- and return assumptions	Models to identify mis-valuation of assets

Asset class returns

2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	YTD	2003 - 2017 Ann.	2003 - 2017 Vol.
EM Equity 56.3%	REITs 31.6%	EM Equity 34.5%	REITs 35.1%	EM Equity 39.8%	Fixed Income 5.2%	EM Equity 79.0%	REITs 27.9%	REITs 8.3%	REITs 19.7%	Small Cap 38.8%	REITs 28.0%	REITs 2.8%	Small Cap 21.3%	EM Equity 37.8%	Small Cap 11.5%	EM Equity 12.7%	EM Equity 23.0%
Small Cap 47.3%	EM Equity 26.0%	Comdty. 21.4%	EM Equity 32.6%	Comdty. 16.2%	Cash 1.8%	High Yield 59.4%	Small Cap 26.9%	Fixed Income 7.8%	High Yield 19.6%	Large Cap 32.4%	Large Cap 13.7%	Large Cap 1.4%	High Yield 14.3%	DM Equity 25.6%	Large Cap 10.6%	Small Cap 11.2%	REITs 22.3%
DM Equity 39.2%	DM Equity 20.7%	DM Equity 14.0%	DM Equity 26.9%	DM Equity 11.6%	Asset Alloc. -25.4%	DM Equity 32.5%	EM Equity 19.2%	High Yield 3.1%	EM Equity 18.6%	DM Equity 23.3%	Fixed Income 6.0%	Fixed Income 0.5%	Large Cap 12.0%	Large Cap 21.8%	Asset Alloc. 2.9%	REITs 11.1%	Small Cap 18.8%
REITs 37.1%	Small Cap 18.3%	REITs 12.2%	Small Cap 18.4%	Asset Alloc. 7.1%	High Yield -26.9%	REITs 28.0%	Comdty. 16.8%	Large Cap 2.1%	DM Equity 17.9%	Asset Alloc. 14.9%	Asset Alloc. 5.2%	Cash 0.0%	Comdty. 11.8%	Small Cap 14.6%	REITs 1.8%	Large Cap 9.9%	Comdty. 18.8%
High Yield 32.4%	High Yield 13.2%	Asset Alloc. 8.1%	Large Cap 15.8%	Fixed Income 7.0%	Small Cap -33.8%	Small Cap 27.2%	Large Cap 15.1%	Cash 0.1%	Small Cap 16.3%	High Yield 7.3%	Small Cap 4.9%	DM Equity -0.4%	EM Equity 11.6%	Asset Alloc. 14.6%	Cash 1.3%	High Yield 9.6%	DM Equity 18.4%
Large Cap 28.7%	Asset Alloc. 12.8%	Large Cap 4.9%	Asset Alloc. 15.3%	Large Cap 5.5%	Comdty. -35.6%	Large Cap 26.5%	High Yield 14.8%	Asset Alloc. -0.7%	Large Cap 16.0%	REITs 2.9%	Cash 0.0%	Asset Alloc. -2.0%	REITs 8.6%	High Yield 10.4%	High Yield -0.6%	DM Equity 8.6%	Large Cap 14.5%
Asset Alloc. 26.3%	Large Cap 10.9%	Small Cap 4.6%	High Yield 13.7%	Cash 4.8%	Large Cap -37.0%	Asset Alloc. 25.0%	Asset Alloc. 13.3%	Small Cap -4.2%	Asset Alloc. 12.2%	Cash 0.0%	High Yield 0.0%	High Yield -2.7%	Asset Alloc. 8.3%	REITs 8.7%	DM Equity -1.0%	Asset Alloc. 8.3%	High Yield 11.3%
Comdty. 23.9%	Comdty. 9.1%	High Yield 3.6%	Cash 4.8%	High Yield 3.2%	REITs -37.7%	Comdty. 18.9%	DM Equity 8.2%	DM Equity -11.7%	Fixed Income 4.2%	Fixed Income -2.0%	EM Equity -1.8%	Small Cap -4.4%	Fixed Income 2.6%	Fixed Income 3.5%	Fixed Income -1.6%	Fixed Income 4.1%	Asset Alloc. 11.0%
Fixed Income 4.1%	Fixed Income 4.3%	Cash 3.0%	Fixed Income 4.3%	Small Cap -1.6%	DM Equity -43.1%	Fixed Income 5.9%	Fixed Income 6.5%	Comdty. -13.3%	Cash 0.1%	EM Equity -2.3%	DM Equity -4.5%	EM Equity -14.6%	DM Equity 1.5%	Comdty. 1.7%	Comdty. -2.0%	Cash 1.2%	Fixed Income 3.3%
Cash 1.0%	Cash 1.2%	Fixed Income 2.4%	Comdty. 2.1%	REITs -15.7%	EM Equity -53.2%	Cash 0.1%	Cash 0.1%	EM Equity -18.2%	Comdty. -1.1%	Comdty. -9.5%	Comdty. -17.0%	Comdty. -24.7%	Cash 0.3%	Cash 0.8%	EM Equity -7.4%	Comdty. -0.3%	Cash 0.8%

Source: Barclays, Bloomberg, FactSet, MSCI, NAREIT, Russell, Standard & Poor's, J.P. Morgan Asset Management.
Large cap: S&P 500, Small cap: Russell 2000, EM Equity: MSCI EME, DM Equity: MSCI EAFE, Comdty: Bloomberg Commodity Index, High Yield: Bloomberg Barclays Global HY Index, Fixed Income: Bloomberg Barclays US Aggregate, REITs: NAREIT Equity REIT Index. The "Asset Allocation" portfolio assumes the following weights: 25% in the S&P 500, 10% in the Russell 2000, 15% in the MSCI EAFE, 5% in the MSCI EME, 25% in the Bloomberg Barclays US Aggregate, 5% in the Bloomberg Barclays 1-3m Treasury, 5% in the Bloomberg Barclays Global High Yield Index, 5% in the Bloomberg Commodity Index and 5% in the NAREIT Equity REIT Index. Balanced portfolio assumes annual rebalancing. Annualized (Ann.) return and volatility (Vol.) represents period of 12/31/02 – 12/31/17. Please see disclosure page at end for index definitions. All data represents total return for stated period. Past performance is not indicative of future returns.
Guide to the Markets – U.S. Data are as of September 30, 2018.

J.P.Morgan Asset Management

Correlations and volatility

GTM - U.S. | 55

	U.S. Large Cap	EAFE	EME	Bonds	Corp. HY	Munis	Currcy.	EMD	Cmdty.	REITs	Hedge funds	Private equity	Ann. Volatility
U.S. Large Cap	1.00	0.89	0.79	-0.31	0.72	-0.18	-0.51	0.58	0.66	0.83	0.87	0.85	15%
EAFE		1.00	0.90	-0.17	0.77	-0.06	-0.67	0.69	0.64	0.75	0.85	0.79	18%
EME			1.00	-0.09	0.88	0.01	-0.70	0.84	0.70	0.66	0.85	0.73	22%
Bonds				1.00	-0.04	0.83	-0.12	0.27	-0.22	0.04	-0.29	-0.39	3%
Corp. HY					1.00	0.08	-0.53	0.87	0.71	0.72	0.83	0.68	12%
Munis						1.00	-0.14	0.43	-0.19	0.10	-0.12	-0.26	4%
Currencies							1.00	-0.61	-0.56	-0.44	-0.44	-0.54	7%
EMD								1.00	0.59	0.63	0.69	0.53	8%
Commodities									1.00	0.56	0.72	0.76	17%
REITs										1.00	0.71	0.74	25%
Hedge funds											1.00	0.84	6%
Private equity												1.00	10%

Source: Barclays Inc., Bloomberg, Cambridge Associates, Credit Suisse/Tremont, FactSet, Federal Reserve, MSCI, NCREIF, Standard & Poor's, J.P. Morgan Asset Management.
Indices used – Large Cap: S&P 500 Index; Currencies: Federal Reserve Trade Weighted Dollar; EAFE: MSCI EAFE; EME: MSCI Emerging Markets; Bonds: Bloomberg Barclays Aggregate; Corp HY: Bloomberg Barclays Corporate High Yield; EMD: Bloomberg Barclays Emerging Market; Cmdty.: Bloomberg Commodity Index; Real Estate: NAREIT ODCE Index; Hedge Funds: CS/Tremont Hedge Fund Index; Private equity: Cambridge Associates Global Buyout & Growth Index. Private equity data are reported on a one-quarter lag. All correlation coefficients and annualized volatility are calculated based on quarterly total return data for period 9/30/08 to 9/30/18, except for Private equity, which is based on the period from 6/30/08 to 6/30/18. This chart is for illustrative purposes only.
Guide to the Markets – U.S. Data are as of September 30, 2018.

J.P.Morgan Asset Management

PORTFOLIO SELECTION: STRATEGIC ASSET ALLOCATION

Stick to simplicity.

- "Don't complicate the process. Basic investing is simple—a sensible asset allocation to **stocks, bonds, and cash**."
- Perhaps the most critical decision you face is getting **the proper allocation of assets** in your investment portfolio.
- **Stocks are designed to provide growth of capital and growth of income, while bonds are for conservation of capital and current income.**
- Once you get your balance right, then just hold tight, no matter how high a greedy stock market flies, nor how low a frightened market plunges.
- Change the allocation only as your investment profile changes. **The paradox is that in these times of increasing complexity, simplicity underlies the best investment strategy**." (Bogle 2012)