CONVENTIONAL PORTFOLIO THEORY

1. *The Portfolio Management Process*

- Portfolio management is a DYNAMIC, CONTINUOUS, and SYSTEMATIC process involving 4 ELEMENTS
  - Identify & Evaluate the Investor's Objectives, Preferences, and Constraints that will be the basis for developing a policy statement that will guide further investment actions
  - Develop and Implement Strategies that offer the best means of achieving the investor's objectives, while staying within the constraints and preferences already determined. This means setting guidelines that will be used to determine what a normal allocation of assets will be and defining under what circumstances, and by what means, the asset allocation will be changed from this norm
  - Monitor Market & Investor Conditions. The former is required to determine the relative values, expected returns, and risks of various asset classes and securities in the marketplace, which are in a continual state of flux. The latter is necessary to know the investor's needs, circumstances, and objectives and whether or not they are changing over time
  - Adjust the portfolio as appropriate in order to keep a proper alignment between expected returns and risks available in the securities markets with the needs, circumstances and objectives of the investor
- There are FOUR Steps to the PORTFOLIO MANAGEMENT PROCESS

1. ***Construct an Investment Policy Statement*** that Identifies the Investor's Investment Goals, Objectives, Preferences, Constraints and Strategy Guidelines that are designed to meet the objectives, while staying within the boundaries imposed by the constraints preferences. Once an Investment Policy is decided upon, it should be made EXPLICIT by putting it in written form. There are several important reasons for doing this:

- PROTECT the Investment Program from AD HOC Revisions and keeps all parties from deviating from long-term objectives because of short-run considerations or circumstances
- It helps the investor UNDERSTAND his/her own Investment Objectives and constraints and how constraints impose limits on the returns that can be expected. As a result, investors can become more realistic in terms of setting goals and expectations
- PROTECTS the investor against inappropriate investments and/or unethical behavior on the part of the investment manager

2. ***Study Current Economic and Financial Market Conditions in order to Determine the Future Trends regarding assets and asset classes*.** Specifically, the investment manager should focus on forecasting the **expected returns, standard deviations, and correlation coefficients** of and between assets and asset classes, because these are the primary determinants of the risk and return characteristics of investment

portfolios. Because markets are continually in a state of flux, this is an ongoing process that has to be constantly monitored, updated and reappraised.

3. ***Construct an OPTIMUM Portfolio*** that meets the Needs, Circumstances, and Objectives of the Investor. This requires the Portfolio Manager to Find that allocation of assets that will optimally meet the investor's objectives, while remaining inside of the boundaries imposed by the investor's constraints and preferences, under the market conditions that are expected to prevail over the applicable investment horizon. In practical terms, this usually means to find that allocation of asset classes and that allocation of individual assets within each asset class that will provide the highest after-tax expected portfolio return without exceeding the risk limits imposed by the investor's needs, circumstances, objectives, and preferences.

4. ***Monitor BOTH the Capital Markets and the Investor's Needs, Circumstances, and Objectives*** in order to determine whether or not changes in either require changes be made to either the portfolio, the investment policy statement, or both. The investment manager should constantly reassess the expected returns and risks of assets and asset classes in order to determine whether or not the current portfolio needs to be REBALANCED in order to maintain optimality. Plus, it is the investment manager's AFFIRMATIVE RESPONSIBILITY to remain informed about any changes in an investor's NEEDS, Circumstances, or objectives that might warrant a change in investment policy and/or the investment portfolio. Monitoring the process should include a COMPETENT EVALUATION of the PERFORMANCE of the PORTFOLIO to determine whether or not the manager is staying within the risk and other constraints imposed by the investment policy and whether or not the investor's return and other objectives are being maximized to the extent possible when operating within those constraints and preferences.

2. ***Analyzing & Defining Investor Objectives & Risk Constraints***

- In defining the objectives and constraints that apply to a particular portfolio, it is important to analyze the needs of the client in several critical areas. MEMORIZE THIS for the LEVEL III EXAM
- **INVESTMENT OBJECTIVES**
  - The Objectives of an Investor MUST be Expressed in Terms of BOTH RISK & RETURN, because the expected return of an investment is conditioned upon its risk. The goal to maximize return by taking minimal risk is consistent with a fundamental principle of investment theory, which is that return and risk are related to one another. Thus, the AMOUNT of RISK an Investor is Willing to take MUST Precede any Discussion of Return Objectives.
  - Thus, the FIRST Element of an INVESTOR PROFILE one should analyze is the client's Ability to TOLERATE RISK

  1. Risk Tolerance

    - Determine How Much Volatility in Portfolio Value the Client can accept. This can be examined in 3 Ways
      - Free Equity = Portfolio Value – Expected Obligations & Expenses
      - What are the Probable EMOTIONAL Reactions of the Investor to an Adverse Outcome?
      - How Much Volatility can be comfortably accepted as measured by the client's level of "RISK AVERSION"? Risk Aversion can be QUANTIFIED (see Later)
    - There are FOUR Important Strategic Decisions that should be Addressed in an Investment Policy Statement. How they are addressed is Primarily Related by the amount of risk that the investor is willing to take. These decisions relate to:
      - The **Asset Classes** that are to be deemed Appropriate for Investment in the Target Portfolio. Usually, asset classes are stocks, bonds, and cash; though they can included foreign investments, precious metals, venture capital, real estate, private companies, tax-sheltered investments, mutual funds, etc. Conservative investors should choose high-quality fixed-income asset classes while aggressive investors look to lower-quality equity investments. Conservative Investors seek asset classes with low volatility while aggressive investors look to asset classes with high volatility
      - The **Portfolio's Normal Asset Mix**. This is a STRATEGIC (long-term) policy decision relating to the normal long-term percentage allocation among the chosen asset classes. Conservative investors orient towards cash and short-term bonds, while aggressive investors place more assets in more risk equities.
      - The **Allowable Range of Asset Mixes**. This is a TACTICAL (short-term) policy regarding how much discretion should be given to the portfolio manager to deviate from the normal asset mix when, in his opinion, short-term market conditions warrant such deviation from the prevailing asset mix. Conservative investors

tend to maintain the normal long-term mix at all times (will not try to Market Time); while Aggressive investors may allow the manager to attempt Market Timing by Varying the Asset Mix

- The **Allowable Risk Level for Individual Securities within Asset Classes**. Within each asset class, the types of securities that are used can also be altered:

Asset Class	Conservative	Aggressive
Cash	Treasuries	Commercial Paper
US Stocks	Quality	Speculative
Foreign Stocks	Diversified Fund	Individual Securities
Real Estate	Un-leveraged	Leveraged

2. *Return Requirements*

- It is natural to assume that the Goal of Investors is to Maximize their Investment Returns. This may NOT be correct for 2 Reasons; First, investors might be concerned about the FORM of their Returns as well as the SIZE of their returns. Second, Maximum Returns are ONLY possible if one is willing to take UNLIMITED Risk. Consequently, the REALISTIC Investment Goal should be to produce the Optimum Portfolio return that is possible for form of return that the investor desires and the level or risk that the investor is willing to take
- **Return Form Requirements**. The Investment Policy statement should state the form in which the investor desires to receive his returns.
  - *Current Income or Long-Term Capital Growth*. The importance of current income can be determined by measuring the MINIMUM INVESTMENT INCOME REQUIREMENT of the portfolio investment program. This can be done by Subtracting the income that is generated from sources outside the portfolio (wages, social security, etc.) from the current income needs of the client. The resultant income required to be generated from the portfolio can then be divided by the size of the portfolio to determine the current yield that should be generated from it.

    Min. Inv. Inc. Req. = Min. Income Needed – Non-portfolio Income

    Min. Port. Yld. = Min. Inv. Inc. Req. / Total Value of Portfolio

    It really makes no difference whether Current Needs are MET from the Cash Yield generated by a Portfolio or by selling off part of its principal value. Since capital gains rates are less than ordinary income rates, using capital growth to fund current income needs might be advantageous in terms of after-tax returns and growth rates
  - *Importance of NOMINAL as compared to REAL RETURNS and preservation of nominal/real value of the Corpus*. The greater the importance on REAL Returns, the more INFLATION protection must be built into the investment program. One way to determine the need for Real Returns is to analyze how the MIN. INV. INC. REQ. is likely to Change over time due to Inflation. Assuming the

Min. Inv. Inc. Req. will grow over time due to inflation, the more fixed his/her non-portfolio income is, the greater the need to generate real returns over time. Another way to determine the need for inflation protection is to determine for what PURPOSE the Assets in the Portfolio will be used. If assets are used to fund some future liabilities that are fixed in nominal terms, there is little need to preserve the real value of the portfolio. But, if the assets are used to fund some future liabilities which will grow with inflation, inflation protection is requires.

  - *Currency Used to Measure the Returns*: This becomes more important in a Global Economy with Investment programs managed on a Global Basis.

- **Return Size Requirements**

Asset Class	(R) pre-Tax & I	(R) post-tax	(R) post-Tax & I	σ
Stocks	10.1%	7.0%	1.2%	22.0%
Bonds	8.3%	5.7%	-- --	8.8%
Bills	7.0%	4.1%	- 1.5%	3.3%
Munis	6.5%	6.5%	0.8%	N/A

- **INVESTMENT CONSTRAINTS**
  - The most important constraints are:

1. ***Liquidity & Market Requirements***
   - The degree of Liquidity that is required is based upon the probably need for ready cash. There are 4 categories of Liquidity
     - EMERGENCY CASH (3-6 mos. of normal expenditures)
     - Cash needed to meet known OBLIGATIONS
     - Cash needed to pay TAXES (including taxes generated by portfolio)
     - Cash needed to provide INVESTMENT FLEXIBILITY
   - Marketability is the ease with which an Asset can be sold without having to make a price concession or waiting a long time. The marketability required depends upon the probability that assets might have to be sole quickly to meet an emergency need for cash.
2. ***The Investment Time Horizon***
   - Acceptable Volatility depends upon the investor's time horizon. The longer the time horizon, the more the portfolio can be managed using concepts related to MODERN PORTFOLIO THEORY. As the time horizon shrinks, more importance must be attached to the current outlook and the likely relative performance of various asset classes
3. ***Tax Considerations***
   - Investment managers should attempt to maximize the investor's after-tax returns. Thus, one needs to know the investor's tax situation, as well as how the returns on various securities are Taxed
   - From an investment Perspective, 2 Types of Taxes are important
     - ORDINARY INCOME TAXES are applied to the Current Income generated from investments, such as dividends, interest & rent

    - CAPITAL GAINS TAXES are applied to the REALIZED gains on the Purchase & Sale of Capital Assets
- Usually, Ordinary Rates are much Higher than Capital Rates. But, Taxable Capital Gains are NOT ADJUSTED for INFLATION, so that the effective capital gains tax rate on real capital appreciation can be much higher than the statutory tax rate, especially in periods of high inflation
- Other aspects of tax planning → STATE & LOCAL Taxes on Income & Capital Gains can INCREASE the Effective Taxes applied to these sources of income making the effective tax rates higher than the statutory federal rates suggest. The INTEREST Income from STATE & LOCAL GOV'T BONDS (munis) are NOT subject to federal ordinary income tax; & interest income from treasury bonds are NOT subject to state income tax.
- ESTATE & GIFT Taxes are important considerations as well; as well as reducing the effective tax on investment programs such as IRAS, 401(k)s, etc. Investing annually in growth stocks means that at death, the cost basis will be stepped up (reducing, though not eliminating estate taxes)

4. ***Legal & Regulatory Constraints***
    - The Legal Constraints on a Portfolio must be understood and explained in a policy statement:
        - ERISA – governs most qualified retirement portfolios
        - PRUDENT MAN / PRUDENT INVESTOR – governs most Personal Trust Portfolios
        - UMIFA (Uniform Management of Institutional Funds Act) – governs most Charitable and Endowment Fund portfolios
        - General FIDUCIARY Duties of LOYALTY, CARE, PRUDENCE, IMPARTIALITY, and DISCRETION govern ALL Persons entrusted with the management of assets for others
5. ***Unique Needs or Preferences of the Client***
    - The Investment Manager must ASCERTAIN if the Client Prefers to Invest (or not invest0 in certain types of securities, industries, or companies. Client instructions should be well understood and adhered to under the fiduciary duty to be OBEDIENT to one's trust. These unique needs or preferences should be explicitly identified in the Investment Policy Statement

- **INVESTMENT STRATEGY**
  - The Portfolio Policy should also outline the BASIC STRATEGIC PLAN that the client and the manager mutually agree should be followed on a LONG-TERM BASIS.
  - Normally, the centerpiece of the Strategy is the ASSET MIX
  - A Famous study by Brinson, Singer & Beebower suggest that 85-95% of the long-run returns generated by investment portfolios are the result of decisions regarding what asset classes to include in the portfolio and how funds were to be allocated among them
  - Individual security selection & market timing contribute little to the long-run return. Even modest turnover generates taxes & commissions that can negatively impact long-term results
  - Usually, a PASSIVE (Indexed) Approach works best. However, having superior analytical insight is a compelling reason for not employing a completely passive approach. However, even with a superior analyst, who possesses information that the rest of the market does not, though one need not index the portfolio, one must still:
    - Ensure the OVERALL Risk Level of the Portfolio MATCHES the Risk Tolerance of the Client
    - DIVERSIFY the portfolio so as to ELIMINATE UNSYSTEMATIC Risk regarding the Total Portfolio (a portfolio will need at least 15-20 or as many as 100 well-chosen securities)
    - MINIMIZE Transaction cost by Keeping TURN-OVER to a minimum and trading in relatively LIQUID Securities

- **DETERMINANTS OF INVESTMENT PORTFOLIO POLICY**
  - Seven Elements determine an INVESTOR'S RISK PROFILE

I. Investment Policies for Individual Investors

- **General Guidelines**
  - Portfolios of Individual Investors include traditional financial assets (stocks & bonds) but physical & other financial assets that a person might possess, as well as their own Personal LIABILITIES (Home/Mortgage, Car/Loan, Personal Possessions & other Personal Liabilities, Life Insurance Policies & Policy Loans, Art Collections, Other Real Assets & Liabilities, Bank Accounts & Money Market Securities, Capital Market Instruments, Real Estate Investments, etc.)
  - ERGO, individual portfolio analysis includes an appraisal of the returns, risk, and interactions among a diverse set of assets & liabilities
  - Before Commencing an Investment Program, the Investor must already possess
    - Sufficient LIFE INSURANCE to cover 7-10 times the person's annual income (though this changes over time)

        - TERM LIFE – cheapest, though the premium increases with age. Pays a death benefit if the insured dies before policy expiration
        - UNIVERSAL & VARIABLE LIFE – both life insurance & a savings plan. The premium paid exceeds the cost of the life insurance itself with the excess invested in a vehicle of the policy holders choice.
      - Sufficient HEALTH & DISABILITY INSURANCE
      - CASH RESERVES of at least 6-months living expenses
    - The Individual Investor has the widest possible option of portfolio objectives including investing in:
      - RISK-FREE Investment (assets whose return is certain and equal to the risk-free rate)
      - FAIR GAMES (investments whose Expected Returns are equal to the risk-free rate)
      - SPECULATIONS (investments whose Expected Returns are commensurate with the risk taken, from POV investor)
      - GAMBLES (investment whose Expected Returns are less than commensurate with the risk taken, from POV investor)
      - To determine the difference between a Speculation & a Gamble, one must know how the investor views risk and how much extra return the investor requires as compensation for taking a certain amount of risk (plus, need to measure expected return and risk of an investment objectively)
      - One way to measure risk is through a Quantified RISK-AVERSION FACTOR (A) that can be determined from Psychographics & investor utility function $U_I = R_I - ½Aσ^2_I$
- **Types of Investor**
    - RISK-AVERSE – have positive Risk-aversion factors. Will only engage in Risk-Free Investments or Speculations. They view the true return that is earned on an investment as being its expected return less the amount that compensates its risk
      - It is assumed most investors are Risk-Averse, at least regarding their overall portfolios. They will seek out investments whose maximum utilities are greater than the risk-free rate. Absent speculations that offer utilities greater than the risk-free rate, they will invest only in risk-free investments
    - RISK-NEUTRAL – have a risk-aversion factor EQUAL to ZERO. Their utility functions consist only of an investment's expected return $U_I = R_I - ½(A=0)σ^2_I = R_I$

        - Such investors tend to IGNORE risk when making an investment decision. They seek out the highest expected returns and ignore risk.
    - RISK-LOVING – have NEGATIVE Risk-Aversion Factors. Thus, the greater the risk, the more they love the investment. Consequently, they will invest in both FAIR-GAME & GAMBLE investments. They see investment compensation coming from both the Expected Return and the Thrill of the Game
    - Portfolio Theory ASSUMES that MOST Rational Investors take a RISK-AVERSE position regarding their portfolios. Thus, most Risk-aversion factors are positive. Hence, managing an individual portfolio entails finding the client's acceptable level of risk and determining what level of return can reasonable be expected to be earned from a combination of investments that do not exceed that risk limit
    - Studies show Individuals are quite risk-averse (with women being more conservative than men), but most individual investors do NOT have well-diversified portfolios. Of Individuals who own stocks, 50% only own one, and 70% only own 2. Less than 10% hold 8 or more. As diversification reduces risk, one contribution a portfolio manager can make is to urge clients to diversify their portfolios more fully.
- **Difference between Individual & Institutional Investors**
    - Most Individuals define Risk as the Probability of LOSING MONEY, investing in the unfamiliar, investing where there have been losses in the past, or investing against prevailing wisdom: Institutions define risk as the σ of Returns
    - Risk Tolerance of Individuals is based on their own PSYCHOGRAPHICS; Institutional Risks are determined by LEGAL CONSTRAINTS, FIDUCIARY DUTIES, and the needs/circumstances of their clients
    - Individual Risk Tolerance depends on WEALTH, AGE, EDUCATION & Investment Goals; Institutions have more PRECISE funding requirements
    - Individuals are subject to TAXATION: most institutional investors either are NOT subject to taxation (pension funds & endowments) or pass the tax on to others (mutual funds)

- **Characterization of Individual Investors**
  - ***Investment Life Cycle***
    - **Accumulation Phase (young person starting a career)**: usually Young Adulthood up until Early Middle Age. Assets are accumulated to satisfy immediate needs (home, car, furniture, etc.). Maybe, some other long-term goals like retirement or child's education. Usually, individual's net worth is small. Debt Management (paying mortgage, car, credit card, college loans) is the primary consideration. But, one should start systematic investing through mutual funds or 401(k) plans.
      - The Priority is to build up some liquid savings, obtain life insurance, and buy a home. Investing is a lower relative priority. But, when investment program is commenced when the person is young with a long time horizon (& expected rising income) large risks can theoretically be taken). But the young person's inexperience should limit the level of risk. Analyzing the 7 Factors.

      1. RISK TOLERANCE is HIGH: the investor can risk the loss of principal
      2. There is NO NEED for STABLE RETURNS (Investment Income), as basic spending comes from job income. Real returns are required, and inflation protection is desirable.
      3. LIQUIDITY is desirable as other liquid reserves may be low and other assets are probably concentrated in an illiquid home
      4. TIME HORIZON is very LONG, increasing the ability to accept risk
      5. TAXES play a smaller role, as young people are in lower tax brackets; yet capital gains are generally preferred over current income
      6. NO LEGAL CONSTRAINTS on an individual running his own investment portfolio
      7. Usually, NO UNIQUE PREFERENCES. But, when starting out, it is wise to get some experience in a wide range of investments.

      BEST POLICY: A Diversified Portfolio of Quality Growth Stocks or Growth-oriented Mutual Funds

- **Consolidation Phase (middle years)**: Usually, begins between the ages of 45 & 54. Debt Management gives way to Asset Accumulation and income tends to be high with net worth growing rapidly. The Investment Horizon can still be long (up to 20 years) allowing a moderate amount of risk
    - At this stage, the individual is in position to start a serious investment program. His income is as high as it will ever be, and the primary goal should be saving for retirement
        1. The Ability to TOLERATE some LOSS of PRINCIPAL is still high, though not as high when younger. MODERATE ability to tolerate RISK
        2. Little Need for CURRENT INCOME (RETURN), as job income should be sufficient. A Total Return approach is desirable, emphasizing growth in Real terms; inflation protection is desirable
        3. LIQUIDITY is NOT too important, if the time horizon is relatively long
        4. TIME HORIZON is relatively long
        5. TAX CONSIDERATIONS may be IMPORTANT. Capital gains should be emphasized over taxable current income
        6. LEGAL Constraints are non-existent for individuals
        7. Portfolio Management should improve with experience and INVESTMENT preferences may be formed

        BEST POLICY: A high-risk, high-return orientation emphasizing capital gains. But, as the client approaches the spending phase (the achievement of financial independence), the risk level should be reduced

- **Spending Phase (retirement)**: Begins at Retirement. Income declines and it is necessary to live off past investments. Investor becomes less tolerant of risk and must protect the real purchasing power of income
- **Gifting Phase (retirement)**: If there is sufficient wealth and the individual is old enough, maybe the individual wants to provide financial assistance to others. Estate planning may be important to minimize estate taxes as well.
  - For Both Spending & Gifting; the need for stable income and reduced risk dominates

  1. The Ability to Tolerate Some Loss of Principal is still high, but not as high as when the investor was at an earlier experimentation stage of life
  2. The CURRENT INCOME generated from the Portfolio should be enough to meet expense requirements that cannot be met by non-portfolio sources (pension & social security). It is important that this minimum current income requirement be secure. Inflation protection may be desirable if the projected spread between expenses & non-portfolio income will widen over time
  3. The Need for MARKETABILITY (Liquidity) is higher than in the past (as the time horizon shortens)
  4. Time Horizons shorten
  5. The need to Shelter income from TAXES may be reduced from what it had been in earlier years, but this depends on the income level of the individual
  6. LEGAL CONSTRAINTS are non-existent for individuals
  7. Some Unique Preferences may have been found. There may be a desire to hold low-cost stock for estate-planning purposes

  BEST POLICY: A BALANCED Portfolio with stability in income provided by fixed-income assets. Volatility can be minimized by utilizing spaced maturities for bonds. Equity holdings should be more blue-chip oriented, in issues that are less subject to substantial declines. Stocks with some reasonable yields may also be warranted

- ***Psychographics***
  - Another way to characterize individual investors is by their Psychographics (personality characteristics). Research suggests that investor risk profiles can be inferred from occupation (as certain personality types gravitate toward certain occupations)
  - PASSIVE INVESTORS
    - Tend to have a LOW Tolerance for Risk. They tend to be people who have become wealthy passively, via inheritance or by risking the capital of others. Tend to be Corporate Executives, Attorneys at large firms, CPAs with large firms, medical & dental non-surgeons, politicians, bankers & journalists. Also, many middle & Lower Socioeconomic classes are passive investors
  - ACTIVE INVESTORS
    - Have a high tolerance for risk and want to take control of their financial destiny. Usually, they earned their own wealth. Mostly Small Business Owners, Medical/Dental Surgeons, Independent Lawyers, entrepreneurs, self-employed advisers, and non-college graduates in upper middle & upper socioeconomic class (75% of new, self-made millionaires are not college graduates).
  - Passive Investors tend to be the best clients for money managers. They are risk averse & prefer well-diversified portfolios. They follow trends. Active Investors are less likely to delegate money management decisions to others. Likely, they will follow a focused, rather than diversified, investment strategy.

- ***Personality Type***
  - ADVENTURERS: typically entrepreneurial & strong willed. Prefer concentrating their investments to diversification. High Tolerance for Risk and enjoy making own investment decisions. Difficult for money managers to work with these types unless they convince them that the core portfolio is too important to be run in a cavalier manner
  - CELEBRITIES: fashion followers who like to be where the action is. EASY prey for high turn-over brokers. The money manager should try to steer them away from such impetuous behavior
  - INDIVIDUALISTS: strong-willed & confident personalities, but not rash. Prefer doing their own research and are often contrarian investors. They make good

prospects for money managers when they are too busy with job-related duties to spend the needed time to manage their financial assets. Upon retirement, they like to get involved in the management of their portfolio.

- GUARDIANS: conservative personality types that lack confidence in money management. They are careful in choosing a manager, but so long as their portfolio returns are adequate and no radical investments are undertaken, they remain loyal clients. People who have inherited wealth tend to be guardians.
- One can use test to classify people into these personality groups and then the test score can be used to determine the tolerance for risk.

- ***Portfolio Goals***
  - Another way to measure tolerance for risk is to assess the portfolio goals.
  - NEAR-TERM HIGH-PRIORITY GOALS: such as the purchase of a house or the payment of college education. Funds needed to achieve these goals should be invested in the safest securities
  - LONG-TERM HIGH-PRIORITY GOALS: such as the attainment of a comfortable retirement in 20 or 30 years can be achieved over a long time horizon. Funds invested to achieve such goals can be managed more aggressively, but quality equities should be employed
  - LOWER-PRIORITY GOALS: do not involve a great deal of disutility if not achieved, such as taking a luxury cruise, can be achieved with funds invested quite aggressively, using speculative securities
  - ENTREPRENEURIAL GOALS: achieved by a focused investment approach. Many entrepreneurial types invest most of their assets in the company where they are employed or that the manage/control

II. Investment Policies for Personal Trusts

- Trust are Established when a TRUSTOR (GRANTOR) gives Legal Title of Property to a TRUSTEE who agrees to manage that property for the BENEFICIARIES. There are TWO Basic types of Trusts: Testamentary Trusts which are created by a WILL and LIVING TRUSTS (Inter Vivos) that are established by a Trustor when he is alive. Living Trust can be either Revocable or Irrevocable
- The investment policies that are appropriate for the management of a trust are varied, but they can be analyzed using the same general approaches used to determine the appropriate policies of individual portfolios (the 7 KEYS). There is ONE Difference, though. TRUSTS create FIDUCIARY DUTIES that are defined by State Trust Laws based upon the PRUDENT MAN or PRUDENT INVESTOR Statutes. These Laws place LEGAL Constraints on the management of personal trust that reduce the ability to include very high-risk assets in trust portfolios. The needs of trusts are highly individualistic, but there are some general guidelines that can be used to determine the objectives & constraints of a typical personal trust
    1. RISK TOLERANCE tends to be LOW for a personal trust because of the legal requirements of the PRUDENT MAN RULE. Under state laws, the PRUDENT MAN RULE requires that trustees manage the trust prudently, with the primary goal of preserving the principal of the trust and a secondary goal of earning an adequate return commensurate with the low risk tolerance associated with the primary goal. Under the Prudent Man Rule, risk is to be analyzed on an INVESTMENT-by-INVESTMENT basis, with each investment standing on its own regarding risk.
    2. RETURN REQUIREMENTS are unique for personal trusts because there are 2 types of beneficiaries: INCOME BENEFICIARIES who receive annual payouts from the trust (generated, usually, by the income on the trust assets) and REMAINDERMEN who receive the assets that are left in the trust when it terminates. Provisions in the Trust itself, as well as in the state law, determine how these interests are to be treated. CONFLICTS of INTEREST can exist in the management of the personal trust as the short-term income needs of the income beneficiaries are different from the longer-term capital appreciation needs of the remaindermen. Trustees have the FIDUCIARY DUTY to be impartial with respect to these conflicting interests: they must treat beneficiaries equally. Under the Prudent Man Rule, the trustee should invest the assets in ways that will preserve the real value of the assets for the remaindermen while earning a reasonable return for the income beneficiaries, within the constraints imposed by prudence and the need to fight inflation.

3. LIQUIDITY needs depend upon individual circumstances. But any liquid reserve should be invested in money market funds, T-bills, or CDs and not held as Idle Cash. The size of the Liquid portion of the portfolio should increase if a large percentage of the assets held by the beneficiaries are illiquid (real estate or privately owned business)
4. TIME HORIZON varies by individual circumstances. In General, the younger the beneficiaries, the longer the time horizon. But, with older beneficiaries (income-oriented) and younger, capital-gains oriented remaindermen, there can be problems. The trustee should produce an adequate income for the beneficiaries while preserving the capital for the remaindermen. This PRECLUEDES investing in non-income producing assets, wasting assets, or volatile assets. Trustees must make a BONA FIDE effort to be fair to all beneficiaries.
5. LEGAL CONSTRAINTS imposed on a trustee of a personal trust are based on state trust law in the US. Laws are based on either the PRUDENT MAN or PRUDENT INVESTOR rule. Under trust law, the TRUSTEE has the FIDUCIARY DUTY to manage the assets of the trust. He must manage the trust for the benefit of the beneficiaries. When a trust is Irrevocable, the trustee must make whatever investment decisions are believed to be in the best interest of the beneficiaries, without regard to the wishes of a living Trustor that are not stated in the trust document. If the trustor of a Revocable trust is ALIVE & COMPETENT, the trustor desires stated in writing must be obeyed by the trustee because the TRUSTOR (legally) is the only person with an interest in a revocable trust; and the TRUSTOR can Revoke the trust if his wishes are not honored. Courts Hold the TRUSTEE to a high standard. The prime directive is to PRESERVE the value of the trust's PRINCIPAL (BV under Prudent Man and Real Value under Prudent Investor). Generating a REASONABLE Return commensurate with safety is the 2nd Directive. Thus, conservative investment policies are required in trust management. When losses are incurred, the courts tend to give the benefit o the doubt to trustees who followed usual and customary investment practices (the Conventional wisdom); Maverick investment practices are viewed with disfavor. Trustees, then, use Conservative & Conventional approaches when managing personal truss, emphasizing the preservation of principal.
6. TAX Considerations may present problems when several beneficiaries of the trust are in different tax brackets. Tax Law requires each beneficiary of a trust to pay taxes on his pro rata share of taxable trust income OR that the trust be taxed at a special rate. Here, tax experts need to be consulted to

compromise between current income and capital gains for the most equal benefit to the different beneficiaries.

TAX CONSIDERATIONS

- The purpose of tax strategy is to AVOID Taxes, DEFER Taxes, or lower the effective tax rate applied to income or capital gains. Tax laws are complex and require consultations with tax experts. But, money managers need to be familiar enough with the basics of taxation to render advice with fund transfers

CAPITAL GAINS TAXES

- The law distinguishes between capital gains & ordinary income and taxes them at different rates. Usually, the rate applied to capital gains is lower than that applied to ordinary income
- Capital Gains & Losses are RECOGNIZED in the Year in which the sale of the asset takes place. The Trade date determines the date of sale for securities traded on markets. Thus, investors control when a capital gain/loss is taken. The ability to defer a capital gain gives an advantage to stocks over bonds, since most of the gain from stocks is deferrable appreciation, while most of the gains from bonds are taxable (ordinary) coupon interest
- Under US Tax law, a MAXIMUM of $3,000 NET Capital Losses can be deducted against Ordinary Income in Any One Year. Unused Capital Losses can be Carried Forward without limitation, until fully exhausted.
- Assets sold at a gain always gives rise to taxable capital gain. But, if the asset is sold at a loss, the loss is negated for tax purposes if the Security is REPURCHASED within 31 Days (WASH SALE)

PASSIVE INCOME

- US Tax Law defines 3 types of Income (1) Ordinary Income – wages, interest, dividends; (2) Capital Gains and Losses arising from the Sale of an Asset; and (3) Passive Income/Loss arising from Rental Real Estate or from Partnerships in which the Taxpayer has limited risk. Usually, Passive Losses can ONLY be used to offset Passive income; they cannot be used to deduct against ordinary income or capital gains

TAX-EXEMPT SECURITIES

- Certain Municipal Bond interest is FREE from Federal Taxation (federal bond interest is free from state tax). Plus, bond interest is free from state tax in most states if the bond is issued by the state or city within the state of one's residence. But, if the interest is from a bond issued in another state, it will usually be subject to state (though not federal) taxation

DIVIDEND TAXES

- Dividend Income is subject to ORDINARY tax rates. But, 70% of dividend income received by a Corp. is tax-free.

FEDERAL ESTATE & GIFT TAXES

- Estate & Gift Transfers are combined under a single, steeply progressive tax structure. The basic rules are:
  - The 1st $10,000 of gifts made to a person are tax-free
  - Unlimited amounts of gifts may be made between spouses tax-free
  - Payments made for School Tuition or Medical Expenses are NOT treated as gifts for tax purposes
  - There is NO Federal estate tax on estates left to spouses
  - Estates left to non-spouses are taxed as follows. First, the size of the taxable estate is determined (value of gross assets transferred to heirs plus all previous assets transferred as gifts during one's lifetime made after 12/31/76 above the annual $10,000 exclusion & spousal exclusions). The tax is determined from the tax tables (max. rate is currently 55%). A unified tax credit of $192,800 (eliminates tax on taxable estates of less than $600,000) is then applied. The tax is then reduced by state death tax credits, gift tax credits on pre-1976 gifts, credit for foreign death taxes, and credit for previous gift tax payments.
  - The Cost Basis, for tax purposes, of assets in an estate is STEPPED-UP to their values; either at the time of death or 6 months post-mortem, at the option of the executor. But, assets given by 1 spouse to another within 1 year of death retain their original cost basis. The alternative valuation date can be used ONLY to reduce estate taxes and NOT used solely to raise the cost basis for inherited securities. Thus, it is often advisable for older people to hold low-cost assets because when they are passed in their estates, the tax-basis cost will be steeped up to current value enabling the avoidance of tax on the capital gain.
  - Certain US T-Bonds called FLOWER BONDS carry the right to be redeemed at par value for the settlement of estate taxes. As these are low-coupon bonds, they sell at a discount;
  - A GENERATION-SKIPPING transfer tax imposes a tax on the transfers that attempt to avoid estate and gift taxes in the generation below the transferor. Each transferor is entitled to a $1,000,000 exemption against generation-skipping transfers
  - For Estates of $600,000 or less (increasing to $1,000,000 over the next few years) NO federal estate taxes will exist, so there is little need for planning strategies

- For Estates of between $600,000 & $1,200,000, a BYPASS TRUST can be used to reduce the estate tax burden. $600,000 can be left to a spouse tax free. The remaining estate can be placed in a trust naming the spouse as beneficiary and other heirs are named remaindermen. When the spouse dies, the funds automatically pass to the remaindermen & are NOT part of the estate. Thus, estate taxes are avoided at the time of the spouse's death. When both spouses do this, up to $1,200,000 of estate are not subject to estate taxes.
- Gift & Estate taxes also affect decisions involving asset transfers (gifts) to children & charities. One strategy is to give low-cost stock to children, with them selling it at a lower tax rate. But, when there are few tax brackets (now) it is not so advantageous. If the child keeps the asset, the maximum wealth could be transferred from one generation to the next by gifting fast-growing assets.
- Charitable Trusts can be established whereby assets are placed in a trust with the Trustor being the beneficiary with the right to use or obtain the income from the assets, but upon beneficiary's (grantor's) death, the assets are turned over to a charity remainderman. But, there can be problems with the Alternative Minimum Tax and other tax rules limiting the amount of the charitable deduction for tax purposes. These require a great deal of planning & should involve a tax expert.
- Estate taxes need to be paid within 9 months of death. The money manger should have sufficient liquidity to satisfy this payment.

TAX-RISK

- Tax laws constantly change. There is always the risk that deferring tax could result in taxes coming due when tax rates are higher than at present. The tax planner needs to weight the tax risk against the time value of money to make an effective strategy

"Tax Considerations in Investing" by Robert H. Jeffrey

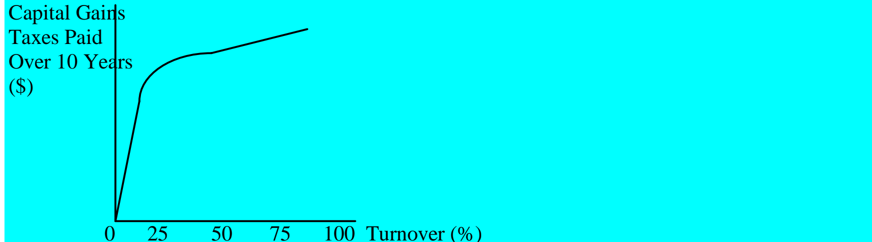
- New Article: 75% chance on Exam. In sum: a SMALL Amount of Turnover in a Taxable Portfolio creates enough Tax Expense to DESTROY Value. One should keep one's money in a 401(k) or not roll over the assets in order to avoid this wealth destroying effect
- Taxes are expenses that should be EVALUATED & Managed. Capital Gains taxes are controllable to a great extent as the investor decides when they are to be paid. It is irresponsible to make purchase/sale decisions on investment merits alone without thought to the tax consequences. Due Diligence involves thinking about whether selling a stock when one foresees a 10-20% decline in market value makes sense if that sale results in a large tax bite, and how long it will take the investment to recover not only that 10-20% of value, but also additional value to make up for the tax expense.
- Money Managers Often Ignore Taxes because –
    - Most Professional Money Managers work for, or service, entities that do NOT pay taxes on investment income (pensions, endowments, mutual funds)
    - Brokers & Researchers are interested in Generating Trades. They do not want to Emphasize a factor that would impede trading
    - Academics often ignore taxes in their studies as it introduces a complication to their theories
    - Portfolio managers do not want to consider the tax consequences of their actions as it plays havoc with performance statistics, which are often measured on a pre-tax basis

Capital Gains v Ordinary Income

- Even though Ordinary Income is taxed at a Higher rate than Capital Gains, Capital Gains taxes most often adversely affects investor results in the long run due to:
    - Investors cannot control taxes paid on dividend and interest income but for buying low-yield stocks or tax-free bonds.
    - Dividend & Interest income are usually small relative to capital gains as a percentage of the portfolio. When a portfolio has 100% turnover and generates 10% returns per year, the capital gains tax will be 2% the value of the assets in the portfolio If the same portfolio had a dividend yield of 2%, the income tax would only be .792% of the assets. The Fact that the tax rate on ordinary income may be nearly twice the rate applied to capital gains is mute.

Turnover is the Culprit

- When portfolio turnover is 100%, capital gains will destroy value. But when turnover is 0%, capital gains taxes will never destroy value. However, low turnover rates penalize investors almost as much as high turnover rates In fact, the capital gains tax bite is virtually as large when the turnover rate is 25% as when it is 100%.



- Most managers do not realize this because:
  - The Size of the Capital Gains Tax is a function of the Holding Period, rather than the Turnover Rate. Yet the Holding Period/Turnover Relationship is highly NON-LINEAR because turnover is the Reciprocal of the Holding Period
  - The Higher the Turnover Rate, the more likely it is that the portfolio will consist of newly purchased, relatively expensive stock. And the more capital gains taxes will already have been paid. Thus, as T/O increases, there will be smaller unrealized gains in the portfolio, and there will be a lower tax consequence to selling

For Example: Consider a $1,000 Portfolio invested in stocks with a long term growth rate of 10% per year continuously compounded. When there is NO turnover in the portfolio, no capital gains taxes will be paid.

Value of Portfolio in 25 years

$V_n = PVe^{(r)(n)}$

$V_{25} = 1{,}000e^{(.10)(25)} = \$12{,}182$

But, if the turnover rate is 100% so that a capital gains tax of 20% is levied each year, the effective growth rate is only 8%, continuously compounded. The value of the portfolio in 25 years will be:

$V_{25} = 1000e^{(.08)(25)} = \$7{,}389$

The 20% capital gains tax results in the portfolio being worth 40% less than otherwise would be the case without any turnover.

- Most of the destruction of wealth in a portfolio occurs once turnover gets to be about **25%** per year (and consider the average stock is held for 4 years). To really save on taxes, turnover should be held to 10% or Less (holding periods of 10 years or longer)
- Even though capital gains taxes must eventually be paid, it makes sense to avoid them in order to gain before & after-tax growth for the portfolio. And, when the portfolio is bequeathed to an heir, the heir receives a Stepped-up Cost Basis. Plus, wealthy individuals can borrow against their portfolios, and hence, the larger the portfolio, the greater the amount of borrowing that can occur.

A Tax Justification for an Indexing Strategy

- Trading costs are high (due to commissions, research expenses, etc.). Plus, trading generates a capital gains tax that can be high. The author estimates that a taxable portfolio with even modest turnover can incur extra tax & other expenses equal to 3% of the value of the portfolio each year. It is unlikely that the incremental gains from trading (portfolio α) will be high enough to overcome this portfolio drag. Thus, there can be benefit to a low-cost, low-turnover, indexing strategy.
- Mutual fund performance rankings differ considerably when the effects of taxes are considered (according to study by Dickson & Shoven). Turnover plays a role (but not so dramatic among the different funds as the real portfolio drag occurs when 25-100% turnover occurs, which is the case with most funds). To manage a mutual fund in a tax-efficient manner, planning or low turn-over (<10%) is required.

Tax-Planning Strategies

- REDUCE TURNOVER – But keeping turn-over under ten percent requires a holding period of 10 years for the average stock. Thus, the only valid reason to sell a stock is when the underlying company seems to be reaching the peak of its life cycle. To figure when this happens, monitor the growth rate of the co.'s dividends. When earnings growth slows, and cash flows & dividends growth rates increase, that indicates the firm is hitting maturity. A Rapid deceleration in cash flow and dividends signals late maturity or early decline and is a clear sell signal.
- GENERATE TAX-LOSSES – Take tax losses when possible to offset other capital gains. This requires careful planning; with avoidance of common mistakes such as:
    - Waiting until December to look for capital losses (when everybody else does it leading to under-valuation of tax-loss candidates)
    - Tax-swapping is viable for stocks, though more often used with bonds. When there is a loss on a stock in an industry with a healthy future outlook, one sells the firm with a loss and buys another firm with similar industry characteristics. Nothing really changes in the portfolio, except that a tax-loss is realized in order to offset another taxable gain. However, beware of the WASH SALE RULE whereby the tax code prohibits a tax loss on the sale of an asset if the asset is REPLACED by the purchase of a SUBSTANTIALLY IDENTICAL Asset within 30 days. Even selling the stock and purchasing an option on the same stock will run afoul of the wash sale rules. Bonds work better

  - because if sell a bond and buy another bond with a different coupon, wash sale does not apply.
  - Short term Capital Gains are taxed at HIGHER Rates than Long Term Capital Gains. A good strategy is to make sure that securities sold at a profit qualify as long-term capital gains.

Derivatives to Manage Capital Gains

- If a taxable investor owns a diversified equity portfolio with a low cost basis and fears that the market will undergo a significant cyclical decline, the tendency is to sell the stocks. But this leads to a large capital gain tax liability. Alternatively, the investor can keep the portfolio in tact and sell S&P Futures contracts or Buy Put Options on the S&P 500 Index. This is called an OVERLAY STRATEGY. Although this hedging will work, it won't be perfect, for in addition to other factors, a tax will have to be paid on the gains from the Futures or Options profit (while no credit is given for the unrealized loss on the portfolio). But, if the market rose during the overlay period, a loss would be generated on the futures/options generating a tax credit, yet the unrealized appreciation on the portfolio would not generate a current capital gains tax liability. And these tax loss credits can be used to offset other gains.
- However, if OVERLAY Strategies are employed too often, they generate substantial trading costs, may incur a tax liability, and require extra portfolio turnover (if an anticipated market decline fails to occur, one may have to meet a margin call by selling from the portfolio to fund the minimum margin).
- Often during market crises, relationships between derivatives prices and other asset prices become abnormal; creating problems for some strategies.

Use of Tax-Deferred Investments & Tax Shelters

- Tax Shelters Should be Avoided due to:
  - Underlying Investments are ILLIQUID
  - Asset is controlled by a General Partner, and not the Investor (limited partner)
  - Tax treatment of tax shelters is difficult, raising the cost of tax filings
  - Promoter fees are excessive (often) reducing the long-term return on the investment
- Tax-Deferred Retirement Plans are usually good ways to invest in a way that reduces tax expense – 401(k) plans, etc.
  - But, investor should not withdraw from the fund early else there is a substantial tax penalty for doing so

Tax Advantages to Good Record Keeping

- When Stocks are Sold, Tax Law permits the Capital Gain to be calculated in one of several ways
  - SPECIFIC LOT METHOD: permits the investor to identify the specific shares that are sold by the certificate number. When the investor buys shares at different time periods at different prices, he can specifically identify the shares that were sold and the cost of those specific shares can be used as the cost basis to determine the capital gain.
  - FIRST-IN, FIRST-OUT METHOD: when specific shares cannot be identified, the FIFO method is REQUIRED to be used under tax law to determine capital gains/losses. During a rising market, this will result in the HIGHEST capital gain, and the highest tax. Thus, good record keeping can save taxes.
  - AVERAGE COST METHOD: can be used to determine the taxable gain when MUTUAL FUNDS are sold, but NOT for other investments. This is due to the special record-keeping problems posed by re-invested dividends and capital gains.
- Note, when donate a stock to charity, it is best to donate the stock certificate with the LOWEST COST BASIS to reduce the unrealized gains in the portfolio in order to reduce future tax liabilities. (watch for AMT problems which treats the realized capital gain avoided as a tax-preference item). Tax advisors should be consulted before making significant donations of assets

After-Tax Performance Measurement

- When an Investment Advisor's Performance is to be Measured on an After-Tax Basis, special problems occur when assets are sold out of portfolios because the client wanted to withdraw funds early in order to spend them rather than because the investment manager believed these securities should be sold. AIMR performance presentation standards require measurement be done on a PRE-TAX basis

III. Investment Policies for IRA, 401(k) and Other Income Tax-Deferred Plans

- IRA, 401(k), Keogh plans, and similar funds are Tax-deferred retirement accounts under US tax law. Rules for contributing & withdrawing funds from such plans are complex. Essentially, the returns earned on funds invested are not taxed until the funds are withdrawn; but withdrawals are allowed under limited circumstances → i.e., one cannot withdraw, without penalty, until one reaches the age of 59 ½. Plus, contributions are limited by law, and contributions may or may not be tax deductible.
  1. RISK Tolerance should Fit the individual. 2 considerations are important. First, NO taxes are paid until the funds are withdrawn. This tends to reduce risk tolerance, as capital losses incurred under a tax-deferred plan are not tax deductible. Second, the long-term nature of the fund during the accumulation stage increases the tolerance for risk, but this risk tolerance declines as the investor ages.
  2. While investment funds are accumulating inside a tax-deferred plan, there is NO NEED FOR CURRENT INCOME, since all funds must remain within the plan. But, during the plan's distribution phase, some current income could be favorable. Real returns should be emphasized to obtain inflation protection.
  3. MARKETABILITY requirements depend upon the time horizon. During the accumulation phase, there is a low need for marketability because the possibility of the portfolio being liquidated is low (with the high penalties for early withdrawals)
  4. TIME HORIZON depends on the AGE of the individual
  5. No need for TAX shelter as all income & capital gains taxes are DEFERRED
  6. Collectibles (art, stamps, antiques, gold bullion) usually cannot be held in a tax-deferred account or qualified pension plan under US tax law
  7. Unique needs are entirely up to the beneficiary of the plan

BEST POLICY: As income generated in these plans is tax deferred, investments generating current income may be appropriate. But, such income MUST be re-invested. With no tax on income, interest compounds more rapidly than in personal accounts. Capital gains taxes are also deferred, but capital losses are NOT tax deductible if generated within a tax-deferred fund. Thus, HIGH RISK investments, though they could generate large returns, should be AVOIDED due to the inability to use their likely Capital Losses. Instead, focus on HIGH-INCOME generators with low principal value risk. ZERO coupons are advisable when the size of the fund is small to avoid the re-investment rate risk problem associated with periodic coupon returns. Convertible bonds are appropriate when bought near or below par as they allow both capital appreciating & current income to be deferred. Unleveraged REAL ESTATE can be used for inflation protection. Plus, wealthy individuals could consider OVER-weighting Tax-deferred plans with high-income securities having minimal-downside risk to utilize the tax-free reinvestment and then over-weighting the non-tax-deferred portion of their portfolio with more risky capital gains vehicles, to use the potential capital losses

IV. Investment Policies for Pension & Profit-Sharing Plans

- Pension & profit-sharing plans are important portfolio-types due to their size and the importance to the well-being of those who posses an interest in them
- Often, pension plans are organized as TRUSTS. But in the US, it is NATIONAL POLICY to protect Retirement Assets. Thus, the Employee Retirement Income Security Act (ERISA), is the governing statute defining the fiduciary responsibilities of those who manage most qualified retirement funds. LIKELY to be ON EXAM
- As retirement portfolios are vital to the welfare of the pension beneficiaries, it is important that the plan objectives & policies be written in a PENSION PLAN CHARTER serving as a legal investment policy statement.

1. RISK TOLERANCE allowed in a retirement portfolio depends on several factors. The TYPE of retirement plan is vital. There are 2 basic types
    - DEFINED BENEFIT PLAN (pension) in which the beneficiaries are entitled to receive a specified benefit upon retirement. The sponsoring firm is often responsible for the payments of the defined benefits under such a plan. The performance of the pension fund simply defrays the cost of these benefits. Thus poor performance results in a higher cost for the sponsor (not a detriment to the beneficiaries). Even if the performance of the fund is terrible, the PENSION BENEFIT GUARANTY CORPORATION may protect the beneficiaries from loss of benefits. Excellent performance merely reduces the sponsor cost, it does not help or harm the beneficiaries. The amount of RISK Tolerance allowed under a defined benefit plan depends upon the plan's FUNDED STATUS (the amount by which the plan assets exceed the projected benefit obligation) and the ACTUARIAL RATE of RETURN ASSUMPTION. When the funded status is high, more risk may be tolerable; but when the plan is UNDERFUNDED, less risk may be assumed, and the sponsor may have to increase its contributions to the plan.
    - DEFINED CONTRIBUTION PLANS (profit-sharing) in which the sponsor is required to fund the pension trust with a specific contribution each year. The beneficiary, upon retirement, is then entitled to receive the value of his/her allotted portion of the fund. 401(k) and ESOPs are usually defined contribution plans. The investment performance of the portfolio DIRECTLY IMPACTS the ultimate beneficiaries. Poor investment results result in lower benefits while good results yield enhanced retirement benefits. The participants in a defined contribution plan are the principals and the sponsor is merely an agent. Thus, the needs, circumstances, and objectives of the individual participant must be considered while investing each participant's portion of the assets. Usually, the younger the participant, the more risk that can be tolerated. But, most profit-sharing plans are invested conservatively due to the FIDUCIARY Duties imposed under ERISA. While not as strict as

PRUDENT MAN Rules, the ERISA duties make the manager cautious
  - SPONSORING firm characteristics impact Risk Tolerance. When the sponsor has stable sales patterns, low operating & financial leverage, and a strong financial base, more risk may be tolerated
  - Some plans used for SOLE-OPERATOR firms may allow more risk tolerance than other traditional plans

2. RETURN REQUIREMENTS of pensions funds are complicated by the fact that various entities have an interest in the management of pension fund assets and each has a different return requirement
   - PENSION SPONSOR – wants to keep reported pension costs down to boost earnings
   - PENSION PARTICIPANTS & BENEFICIARIES – want to ensure that promised (or maximum) benefits will be paid when they retire
   - INVESTMENT MANAGER – want to maximize the expected return of assets under management while adhering to reasonable risk constraints. Thus, desire to achieve at least the actuarial assumed rate of return is vital
   - The need for CURRENT INCOME is a function of the ratio between contributions & payouts. When contributions exceed payouts, there is little need for current income. But when payouts are rising faster than contributions, current income is vital. REAL returns are emphasized and inflation protection is needed because benefits depend upon future wages
3. LIQUIDITY is not a very important part of a typical pension portfolio, especially when contributions exceed payouts. Under ERISA, the sponsor's contribution MUST cover nominal costs, an amount sufficient to amortize past service costs and expected losses. Else, the sponsor is subject to a tax penalty. When payouts exceed contributions, more liquidity is needed. Usually, enough liquidity to cover the expected shortfall for 3-5 years. Contributory plans, or plans where vesting is fast & withdrawal is permitted upon exiting the firm require more liquidity
4. TIME HORIZONS are long for on-going concern plans, though the age distribution of the work force and its turnover rate should be factored into the analysis. For TERMINATED plans, the time horizon is more limited.
5. PENSION FUNDS are NOT TAXABLE in the US, so there is no need for tax-sheltered income. But, there is a 10% Excise Tax levied on the WITHDRAWAL of Surplus Assets (assets that exceed 150% of expected obligations)
6. LEGAL CONSTRAINTS are defined by ERISA and administered by the Department of Labor. Law converted pensions from a fringe benefit to a legal claim by beneficiaries
7. Investment Manger should get the input of plan sponsors, especially in setting risk constraints & overall asset mix guidelines

BEST POLICY: for the Defined-benefit pension fund, it is best to have a portfolio that matches the financial characteristics of the pension obligations, in terms of duration, inflation sensitivity,

discount rate, etc. There is NO need to earn a real return that is greater than that which is guaranteed by the plan (usually the growth rate of wages). Often, the plan sponsor would like the fund manager to earn a larger real return since the extra return will lower the funding cost for the sponsor. But, the manager's fiduciary duty is to the Beneficiaries, and not the Sponsor. A Well-diversified portfolio of stocks & bonds providing balanced growth makes the most sense. The degree of aggressiveness depends upon the plan and sponsor characteristics. Except for MATURE plans, stocks should be 60-90% of the assets. However, beware of extrapolating the future from the past.

DIFFERENCES & Similarities between Pension & Profit Sharing Plans

- Profit Sharing (defined contribution) = pension (defined benefit) →
  - Both are Retirement Plans
  - Both are Subject to ERISA rules
  - Returns are NOT TAXED
- Profit Sharing (defined contribution) ≠ pension (defined benefit) →
  - Participants in defined contribution plans are less savvy (usually) than investment managers, thus the managers must explain to them the trade-offs between
    - Contributed amount to the plan, and the ultimate monthly retirement income
    - Rate of return that can reasonably be expected to be earned on various asset classes, along with the risk of each class of investment
    - Relating risk to the participant's investment horizon and to asset diversification
  - As investment risk is borne primarily by the beneficiaries, rather than the sponsor, there might be less ability to tolerate risk in a profit sharing plan than in a pension plan
  - As profit sharing plans accrue to the benefit of the individual participant, they have a definitive life. This reduces time horizon and limits risk tolerance
  - Profit sharing plans require more liquidity as the beneficiary reaches retirement age as the benefits are often taken in the form of LUMP SUM Distributions upon retirement (or upon termination of employment)
  - As employee circumstances & risk tolerance vary widely, there is a need to balance conflicting objectives when dealing with profit sharing plans, which is not a problem when dealing with pension plans.

"Pension Investing & Corporate Risk Management" by Robert A. Haugen

- The RISK taken in a pension fund portfolio can affect the overall Risk of Managing a Company. If the pension fund invests in a cyclical set of stocks, and during a recession, the portfolio falls in value, the sponsor firm may have to make extra large pension fund contributions during times when its business is down, too.
- Corporations are managed for the benefit of Several Constituent Groups: CUSTOMERS, SUPPLIERS, EMPLOYEES, MANAGEMENT, SHAREHOLDERS. Shareholders are mainly interested in having the firm managed so as to increase the market value of share; they are not so concerned in having the firm reduce its risk. Shareholders can adjust the risk in their portfolios by adjusting the percentage of funds invested in bonds or low beta stocks.
- But, other groups cannot adjust so rapidly. Employees and management essentially have most of their assets tied to the firm and have little ability to diversify risk. Thus, while shareholders have little interest in how the firm manages risk, the employees and management consider risk management vital. Thus, how the pension fund is operated should be of pressing concern to them
- To manage a pension fund so as to minimize risk to the firm, the management must MATCH corporate assets against corporate liabilities. The first step is to construct an ECONOMIC BALANCE SHEET. The assets & liabilities should be measured at market and then the pension fund assets should be restructured so as to make the entire economic asset structure highly correlated with movements in the firm's entire liability structure
- When the market is fairly priced, such a restructuring of assets can be achieved by swapping some securities for others with different volatility characteristics without affecting the net value of the firm.
- Most pension funds are managed solely by looking at the return/risk characteristic of the pension fund portfolio itself (in isolation). But, it is better to develop an economic balance sheet of the firm and manage the pension portfolio so as to produce a desirable return/risk characteristic for the net worth of the economic balance sheet. This can be done by investing pension fund in assets that correlate positively to the economic liabilities of the firm. (usually changes in interest rates and inflation expectations)
- Optimal choices for pension funds require the balancing of expected return and a correlation of pension assets & liabilities. This can be done by investing in stocks that are interest rate sensitive (banks, brokerages). Such a portfolio can reduce the volatility of a firm's economic net worth without lowering expected return
- This is NOT breach of ERISA as the beneficiaries are the employees; when the firm has a downturn, it is they who lose jobs → investing in assets that appreciate during a downturn in the firm's business is in their interest

V. Portfolio Policies for Endowment Funds

- Endowments are PERMANENT FUNDS used to help operate an institution, such as a university, hospital, museum, etc. The purpose of the fund is to MAINTAIN a Level amount of financial support, measured in real terms, over time. The existence of an endowment can make the institution independent of the fluctuations that can occur in normal operating revenues, and enable the institution to obtain a level of excellence over its peers
- Although management of an endowment is similar to that of a pension fund, they really share only 2 characteristics: (1) long time horizons & (2) not subject to taxation. LIKELY to be on EXAM
- Endowment fund objectives vary. The Key issue is the tension between the desire to generate high current income to fund current costs and the desire to have high real growth to enable the real wealth to grow and provide future institutional wealth
- Institutions prefer a steady stream of operating funds from their endowments while, concurrently, preserving the real value of the endowment assets. These conflicting goals are impossible to achieve without a managed portfolio that generates a long-term return consisting of income plus capital gains equal to the inflation rate, in addition to a reasonable spending rate for the institution (a SPENDING RATE is the percentage of the fund which the institution wishes to spend annually). Thus, the spending rate decision, which is not up to the investment manager, is a KEY to the attainment of the fund's objectives
  1. Ability to TOLERATE VOLATILITY in the value of the portfolio tends to be LARGER than the ability to Tolerate Volatility in the INCOME produced by the portfolio. Generally, the ability to tolerate RISK tends to be based on the Collective amount of risk aversion by the Board of Trustees. The most risk-tolerant trustees enjoy higher spending rates
  2. The need for CURRENT INCOME is high. This is especially true when non-investment income sources are small. Fixing long-term income via use of long-term bonds is attractive, even at the cost of price volatility. But, due to the tension between current income needs and high growth, a Total Return Approach is usually employed, in which funds are invested for capital appreciation and an amount is withdrawn each year to meet spending needs. As purchasing power protection is needed, there must be sufficient exposure to equities in addition to bonds
  3. LIQUIDITY is often of little importance due to the long time horizon. But, when the fund needs to pay for a specific expense due at a specific time, liquidity needs to be sufficient to meet the obligation at the time it must be paid
  4. TIME HORIZONS vary. To finance a near-term capital project, the time horizon will be short. But, most endowments have long time horizons
  5. Endowment funds meeting certain qualifications Are NOT SUBJECT TO TAX. Private foundations must pay out AT LEAST 5% of their assets annually, or face a Tax Penalty. Assets used to operate the fund are not counted in making this computation, nor is a 1.5% float factor,

when held as operating cash balances. Long-term capital gains are EXCLUDED, but short-term capital gains are Included in determining the size of the asset base for purposes of computing this 5% requirement. Reasonable operating and fund management fees are tax-deductible. Thus, taxes are usually NOT a major consideration for endowment funds. But, as short term capital gains are subject to taxation, while long-term capital gains are not, there is an incentive to hold assets long enough to recognize them as long term capital gains

6. Some state LAWS regulate endowment funds, but the LEGAL constraints are minimal. Restrictions placed on the fund by donors, though, may have the force of law
7. Some institutions have SOCIAL VALUES to maintain that limit the types of investments that may be made by the fund.

BEST POLICY: The most important thing in managing an Endowment Fund is to have STABLE REAL RETURNS. This requires a BALANCED PORTFOLIO that can provide both a reasonable current return of about 5%, plus inflation protection over the long run. DIVERSIFICATION is vital in order to have an optimal return/volatility ratio. To get this, endowments may invest in a variety of asset classes. The primary decision is ASSET ALLOCATION with market timing and specific asset selection secondary considerations. A PASSIVE Approach is recommended. Active management tends to denigrate into market timing schemes that produce inferior results. For the bond portion of the portfolio, prefer to lock in long-term bond yields with fixed income, rather than emphasizing short-term maturities where income is unstable. Call protection is also needed. The use of DISCOUNT BONDS, where reinvestment rate risk is low, makes sense, as does the use of spaced maturities to stabilize income. For Equity, diversification is required to reduce risk. Specific Asset selection should be emphasized only in inefficient asset classes (real estate, venture capital, emerging markets).

Endowment Funds should have WRITTEN Investment Policies that:

Define the Investment Objectives of the Fund including the Income Requirement
Define the Desired Long-run Asset Mix
Define the Quality of Investment Issues that are ACCEPTABLE Investments
Define the circumstances where the asset norms may be adjusted to take advantage of specific opportunities or avoid short-term risks

VI. Portfolio Policies for Life Insurance Companies

- Life insurance firms have a large portfolio of assets that is used to fund their whole life liabilities. These liabilities are the benefits that they ultimately must pay based on mortality rates. They are easy to predict for large pools of people. But, life insurance companies have other problems that make asset/liability management crucial to their success
- Policies might be SURRENDERED when interest rates rise, causing assets to shrink
- Policy Loans tend to rise when rates rise. (causing assets to shrink)
- Life firms sell other financial services, causing competition with banks and mutual funds. With 2-income households, there is less need for traditional insurance. But insurance is used for tax & estate planning.
- The Capital Surplus of the insurance company must be invested for GROWTH because it is the basis upon which the financial stability of the firm depends.
  1. Life insurance companies have a LOW TOLERANCE for RISK of LOSS of PRINCIPAL or interruption of investment income. They are required to Maintain a MANDATORY SECURITIES VALUATION RESERVE (MSVR), the size of which is a function of the risk characteristics of the investments. For reserve purposes, bonds, preferred stocks, and real estate are carried at Amortized cost; stocks at market value. In 1993, new regulations required US insurance companies to maintain a level of capital and surplus based upon the risk characteristics of their portfolios. There are marked-to-market requirements on bonds and equities; leaving the insurance company susceptible to interest rate volatility
  2. The primary objective of the Insurance Company is to Earn a POSITIVE SPREAD between the return on its investments and the Actuarial return assumptions used in pricing its products. When such a positive spread is earned, the company's surplus will grow and it can write additional premiums. If it shrinks, the firm cannot write additional premiums. The Current INCOME requirement of the firm is determined by the LIQUIDITY REQUIREMENTS based upon sums that must be paid on policies, policy loans, working capital needs, etc. Usually, cash flows from customer premiums are sufficient to cover these requirements, so there is not much need to generate large Current Income. Usually, **3 ½ %** current return should be sufficient. Over the long-term, the total return on the investment portfolio must be sufficient to cover liabilities. For WHOLE LIFE POLICIES, the portfolio must earn a return equal to the Actuarial Interest Rate used to price the product (usually 3 – 5 ½%). Annuities and Guaranteed Investment Contracts (GICs) guarantee a certain return will be paid on a customer's investment for a fixed period of time. Thus, the portfolio backing these products must be invested to earn returns that at least match these guarantees. Bond portfolio techniques, such as IMMUNIZATION, can cover such risk. UNIVERSAL Life Products must be invested to earn returns that are

high enough to cover the actuarial assumptions used to price the products and produce investment returns for the customer that are in line with those available in a balanced portfolio of stocks & bonds.

- Most life insurance companies use an actuarial rate that is set below the level of interest rates that can be earned in the market when pricing their products, so as to be able to earn a spread that covers operating costs and produces a profit. 2 Methods are used to do this
  - INVESTMENT YEAR METHOD – all products sold in a given year are priced according to market interest rates earned that year. This enables a company to price its products more competitively during a time of RISING interest rates
  - PORTFOLIO METHOD – all products sold in a given year are priced according to the yield earned on the entire portfolio, regardless or when the investments were made. This is good for the firm in times of FALLING interest rates
- It is essential that NO SIGNIFICANT MISMATCH occur between the return characteristics of the assets in the life insurance co.'s portfolio and the actuarial discount rate assumptions on its liabilities. This ASSET/LIABILITY management requirement is the BASIS upon which the portfolio management policies of a life insurance company must be determined.

3. Life insurance co.'s traditionally have required only enough LIQUIDITY to fund working capital needs. This is because cash flow from premiums usually covers other liquidity needs. Thus, very LONG-TERM nonmarketable investments may be purchased, such as private placements and real estates. But, when policy loans rise in times of rising interest rates, additional liquidity will be required.
4. TIME HORIZONS have traditionally been long; about 40 years. Such long-term liabilities can be matched with illiquid assets. But, newer annuity, universal life & GICs require shorter time horizons & more liquidity.
5. Since the mid-80s, changes in tax laws have SUBSTANTIALLY INCREASED the TAX BURDEN on life insurance companies. For tax purposes, investment income is divided into 2 parts:
   - Policy Holder's share, which is the actuarially assumed return required to fund the policies. This is Tax Free
   - Income in Excess of Policy Holder's share, which is fully taxable at the corporate profits tax rate
6. Insurance Industry is HEAVILY REGULATED. These regulations restrict the investment activities and operating flexibility of insurance companies. Most state insurance laws are LIABILITY driven and are not shaped by the realities of the capital market. State Insurance laws determine:
   - The CLASSES of ASSETS eligible for investment and the QUALITY STANDARDS required for each asset class. Most states specify that bonds in life insurance

portfolios have certain minimum interest coverage ratios. Stocks must meet certain minimum earnings to dividend ratios

- The PERCENTAGE of a company's ASSETS that can be invested in One company or asset class is limited. Usually 10% of Admitted Assets is the MAXIMUM permitted in common stocks and no more than 5% of admitted assets may be invested in foreign investments.
- PRUDENT MAN RULE concepts

7. By Law, a COMMITTEE of the Board of Directors is required to SET INVESTMENT policy, oversee its implementation, and approve all transactions.
    - In addition to State regulations, life insurance companies must be concerned with the opinion of Private insurance ratings companies. Thus, some firms try to limit exposure to derivatives & other exotic investments due to the Junk Bond Collapse of the 80s & derivatives scare of the early 90s

BEST POLICY: The focus of the investment management policy for most life insurance companies is on SPREAD MANAGEMENT. This means the portfolio needs to earn a TOTAL RETURN that exceeds the GUARANTEED Return that has explicitly or implicitly been given to customers. For WHOLE LIFE insurance policies, the implied guaranteed return is the actuarial assumption that is used to price the cost of the policies, for GICs, it is the rate explicitly guaranteed by the contract. However, basing a policy on earning a high total return may increase the riskiness of the portfolio. But, insurance portfolios should be invested to earn reasonable spreads over actuarial assumptions without taking unwarranted risks. One way to do this is through good ASSET/LIABILITY MANAGEMENT. The duration of the assets in the portfolio are matched with those of the liabilities. Most insurance companies segment their assets to corresponds with various liabilities (GICs WHOLE LIFE, etc).

Typical Life Insurance Company Portfolio Asset Allocation:

Money Market	3%
Quality Fixed Income	65%
Junk Bonds	3%
Equities et. al.	26%
Real Estate	3%

Life Insurance companies should have a written investment policy stating for each of its SEGMENTED Portfolios:

The Minimum Return Requirement
The Degree of Risk that can be Tolerated
Liquidity Needs
Investment Constraints
Regulatory Requirements

VII. Portfolio Policies for Casualty Insurance Companies

- Casualty Insurance Companies are operated as TWO organizations:
  - An INSURANCE company that is in business to earn an underwriting profit
  - An INVESTMENT company earning Investment Income
- The latter provides financial stability to the whole organization because investment income can offset extraordinarily large underwriting losses that periodically occur (earthquakes, tornadoes, etc.) It also provides a surplus that gives the company an ability to expand its underwriting business. Insurance firms try to maintain a premium:capital ratio of 3:1, as investment adds more capital, more business can be done in the underwriting area
  1. Cash Flows of a Casualty Insurer can be ERRATIC. Large losses occur due to storms, etc. When catastrophes occur, a big chunk of the investment portfolio may need to be liquidated. That portion of the portfolio relating to POLICY HOLDER RESERVES has a LOW Tolerance for Risk of Principal Loss. Purely Capital Surplus funds may tolerate greater volatility
  2. CURRENT INCOME is needed by the casualty insurer that has an underwriting loss. When there are consistent underwriting profits, there is less need for current income. Inflation Protection is a MUST for casualty insurers, especially when policies require them to Replace damaged property at its current market value. But, when policy coverage periods are short, the need for inflation protection is lower.
  3. LIQUIDITY is an IMPORTANT need of casualty insurers due to the unpredictability of cash flows and the necessity of shifting the portfolio mix from high taxability to low taxability based on underwriting performance. As the time horizon of a casualty company is shorter term, its liquidity needs are higher than those of a life insurance company.
  4. TIME HORIZONS tend to be long for many casualty firms because large claims are only paid after a long period of litigation. Some casualty companies have LONG TAIL RISKS which means that a long time may elapse between the time a premium is paid and the time the damages must be paid by the company
  5. TAX Treatment is relatively simple. The Full Tax Rate Applies to All incomes. When the casualty insurance co. has underwriting profits, its investment income is subject to the full statutory tax rates. It will need tax shelters such as tax-free bond income, dividend income (which is sheltered as it is a corporation) and capital gains. But, due to the ALTERNATIVE MINIMUM TAX, the use of the tax-free bond is limited. When the underwriting performance is unprofitable, the investment income will be sheltered by the offsetting taxable income with underwriting losses. The EFFECTIVE tax rate applicable to the typical casualty insurance co. is close to the statutory corporate profits tax rate. With tax loss carry forwards, the effective rate can drop below the statutory corporate rate

6. REGULATION of a casualty insurance co. is relatively permissive. Classes of eligible assets and quality standards for securities are established in some states. About 50% of unearned premium and loss reserves must be invested in eligible assets. By the mid-90s, RISK-BASED CAPITAL & ASSET VALUATION RESERVE REQUIREMENTS were being applied for the first time to the industry. PS & CS are valued at market, other assets are valued at amortized cost. FASB115 requires certain bonds be marked-to-market for financial reporting purposes (this may cause the capital surplus to fluctuate during periods of volatile interest rates)

BEST POLICY: Casualty co. tend to have a LIQUID RESERVE of short-term bonds to STABILIZE Income. Also, a large long-term bond portfolio is utilized. Thus, the OVERALL Portfolio tends to be a DUMBBELL with mostly short- and long-term assets with few intermediate term securities. Capital Surplus tends to be invested in stocks with an emphasis on long-term growth (about 20% of the investment portfolio is in equities). When the co. has underwriting profits tax-free bonds, PS and CS are utilized for tax-shelter. With underwriting losses, there is more emphasis on Taxable Bonds. 6% Money Market; 60% Quality Fixed Income, 34% Equities & Other.

VIII. Investment Policies for Commercial Banks

- The main business of a commercial bank is making loans. The investment portfolio is used just to manage a LIQUIDITY RESERVE. Thus, it is HIGHLY LIQUID and income is purely a residual
- Banks Calculate a SENSITIVITY RATIO which is the ratio of interest-sensitive assets to interest-sensitive liabilities. When rates are expected to rise, the ratio is raised above parity (1.0). Longer-term funds are borrowed to freeze the cost of liabilities while loans are made shorter-term, so that with rollovers, the spread will widen. When Rates are expected to fall, the sensitivity ratio is lowered, fixed loans are made and borrowings are shortened in maturity. If rates are uncertain, attempts are made to lock in a constant spread by matching the maturity structures of rates made on loans made and borrowings

1. RISK TOLERANCE is VERY LOW for a bank because bank capital is small relative to deposit liabilities. Thus, HIGH QUALITY instruments are employed
2. CURRENT INCOME requirements are LOW for a bank's investment portfolio as the income is just a form of residual earnings relative to the loan portfolio. Liabilities are stated in nominal dollars so that INFLATION PROTECTION is NOT NEEDED. The bank just wants to earn a positive spread
3. LIQUIDITY is VERY IMPORTANT as the banks need funds to satisfy loan demand growth and meet deposit withdrawals. But, banks have ample access to external liquidity by borrowing in the federal funds market, or at the discount window of the central bank
4. TIME HORIZONS tend to be SHORT as the investment portfolio is subservient to loan demand and since funds invested in the portfolio are

the result of the bank incurring short-term liabilities. Thus, good asset/liability management requires funds be invested for the short-term

5. TAX CONSIDERATIONS are important because the investment income of a bank is taxed at regular corporate rates
6. LEGAL CONSTRAINTS require safe investments. Banks are HEAVILY regulated by both the states and feds.
7. Unique Preferences will depend upon the size, location, & asset mix of the bank

BEST POLICY: Short-term investments tend to be made in T-Bills. Spaced maturities of Tax-free securities are also utilized, though the tax law is complex and limits the degree of tax freedom from interest on tax-exempt securities. Cannot borrow funds and pay tax-deductible interest to buy tax-free bonds.

IX. Investment Policies for Investment Companies

- Investment companies, like mutual funds, act as conduits for private investors. The main service these firms offer is professional investment management and diversification
  1. The investment objectives of these funds are as VARIED as those for individuals. Almost any risk/return profile is possible. MOST mutual funds state their objectives to be either: GROWTH, VALUE, GLOBAL, INTERNATIONAL, FIXED INCOME, TAX-FREE or SPECIALIZED. But, fund managers need to adhere to the investment objectives stated in the prospectus
  2. RETURN Requirements depend upon the STATED OBJECTIVES of the fund.
  3. LIQUIDITY needs depend upon both MARKET CONDITIONS & FUND PERFORMANCE. In strong markets, cash flows tend to be positive when new investors enter the fund. In weak markets, withdrawals may increase necessitating the need for additional liquidity
  4. TIME HORIZONS tend to be long term
  5. TAX Considerations are minimal, since the impact of taxes are borne by the investors to the fund. But, some funds advertise tax-efficiency and thus, they need to keep turnover low to avoid passing large realized capital gains on to investors. Plus, there are special short-selling & turnover rules in the tax code that must be known and adhered to to avoid special tax penalties
  6. Investment Co. are regulated by the SEC and State Laws. Most of these regs. impact the advertising & solicitation of funds, performance measurement, and other factors re: info given to investors & prospective investors. Any investment policy is possible so longs as the funds are invested as advertised.
  7. Some funds have set forth UNIQUE preferences in their prospectuses. Depends on each fund and investment policy.

ON EXAM: PAY ATTENTION TO PENSION-PROFIT SHARING-ENDOWMENTS

"Does Venture Make Sense for the Institutional Investor?" by David F. Swenson

- The PRIVATE EQUITY Investments (VC) have characteristics that, taken as a whole, are different enough from other investments (publicly traded stocks, real estate, & international equities) to be considered as a Separate Class. There are 3 DISTINGUISHING CHARACTERISTICS that set private equity apart from other forms of equity
    - *ILLIQUIDITY*: VC investments are extremely illiquid. The VC investments themselves are difficult to sell without a price concession, and as most of these are made through VC p'ships, these, too, are tough to sell
    - *HIGH RISK & RETURN*: According to Ibbotson, the rate of return on VC investments was **30%** per year between 1959 & 1985, with a $\sigma = 86\%$. Another study shows inflation-adjusted returns of 23% per year with a σ of 56%
    - *INEFFICIENT MARKET*; In such a market, it is important to take an active management approach, attempting to select the best investment opportunities; Plus, a long time horizon is critical due to the time needed for an investment to pay off in addition to the illiquidity of that investment
- Adding VC to a portfolio should increase the risk/return ratio. VC investments are not highly correlated with returns on other assets. Thus, by mixing VC with other conventional asset classes, the risk-reduction benefits are achieved. Even though VC investments are risky on own, when part of a portfolio, the low correlation dampens the overall portfolio risk and the high return contribute to overall portfolio returns
- Using the MARKOWITZ MEAN-VARIANCE EFFICIENT FRONTIER, one can see the diversification benefits of the VC investment. Adding a small amount (5-10%) of VC investments is beneficial to result in a 1% increase in E(R) for a given level or risk. However, too many VC investments may increase the overall risk to unacceptable levels. Plus, due to the Illiquidity of these investments, they should not be used in a portfolio with significant liquidity constraints.

3. "Developing an Investment Policy Statement" by Trone, Albright, & Taylor

- The Most important duty of a fiduciary or trustee is the construction & maintenance of an investment policy statement. Creating an investment policy statement is good discipline and virtually indispensable to a well-managed portfolio for the following reasons:
  1. Successful investor generally have the discipline to Consistently Follow a clear and unambiguous investment strategy. The investment policy statement provides the fiduciary with the guidance required to manage the portfolio in such a disciplined manner
  2. For RETIREMENT Plans, ERISA Case Law, and DOL guidelines require that PRUDENT MANAGEMENT practices be followed. Also, foundations & endowments must be run prudently under IRS regs. and state laws. A written investment policy is part of the SUPPORTING EVIDENCE that auditors may require when determining if prudent investment management practices are being followed. The statement may also be used as evidence in a defense against accusations of imprudent management.
  3. An investment policy can be an important Means of INVESTMENT COMMUNICATION between the investment managers and the client
  4. A policy statement reduces the after-the-fact second guessing or Monday morning quarterbacking when action taken turns out to be wrong in retrospect.
  5. Policy statements may REASSURE contributors to a pension fund, trust, or endowment fund that the investment stewardship is prudent
  6. During periods of market decline, the well-thought-out investment policy may avoid panic: it can anchor investment management practices to long-term principles rather than responding to each short-term fluctuation in the market
  7. Performance may only be appropriately measured within the context of the overall investment policy. It should provide the benchmarks against which performance can be monitored.
  8. For older investors, the statement should be incorporated into estate documents to provide guidance for managing the funds until the estate is settled
- To be Effective, the investment policy statement should contain all of the essential elements required to manage the portfolio well. It SHOULD CONTAIN THE FOLLOWING SECTIONS
  - ***a. Purpose & Background***
  - ***b. Statement of Objectives***
  - ***c. Investment Policy & Asset Class Guidelines***
  - ***d. Securities Guidelines***
  - ***e. Selection of Money Managers***
  - ***f. Duties of Persons involved in the Investment management process & control procedures***
  - ***g. Signatures***

a. *Purpose & Background*

- Purpose of the Investment Policy Statement
- Legal Regulations under which the portfolio must be managed
- Size of the Portfolio & its probable cash inflows/withdrawals over time
- Tax Status of the portfolio
- Demographic or Psychographic profile of the beneficiary(s) and the contributor(s) to the fund. This could include the financial conditions of the beneficiary(s) and contributor(s)

b. *Statement of Objectives*

- The financial requirements or the ultimate goal for which the portfolio was constructed
- Normal asset mix defined in the strategy section
- Amount of Risk that will be tolerated
- The Investment Time Horizon
    - MOST PORTFOLIOS general objectives are:
        - MAXIMIZE the portfolio's return without exceeding prudent risk
        - Limit risk via diversification
        - Base policies on TOTAL RETURN rather than current income (increases flexibility for the investment manager)
        - Control the Expenses of managing the funds
    - DEFINED-BENEFIT RETIREMENT FUND PLANS objectives
        - To be FULLY FUNDED re: accumulated benefit obligation
        - To move toward Fully Funded Status re: PBO
        - To be able to pay all benefits when due (necessitate cash reserve)
        - To maintain flexibility re: future contributions to the plan. An aggressive investment approach may reduce contributions over the long term, but there may be more volatility in contributions over the shorter term.
        - To exceed Actuarial assumptions re: discount rate. OK for well funded plans, but poorly funded plans may want to avoid the added risk associated with trying to increase returns.
    - DEFINED-CONTRIBUTION RETIREMENT PLANS objectives
        - To meet requirements of ERISA §404C regs.
        - To meet all benefit obligations when due
        - To maintain flexibility in contribution levels
    - ENDOWMENT FUNDS objectives
        - To Follow a spending policy based on total return of fund
        - To maintain the Real Value of the fund assets
        - To maintain a constant ratio of spending as a percentage of the value of assets in the fund
    - INDIVIDUAL PORTFOLIO objectives
        - To maintain a minimum level of cash reserves (6 mos. of living expenses)
        - To minimize income taxes (Analyze AMT – avoid tax shelters to try to beat the AMT)

c. Investment Policy & Asset Class Guidelines

- This should specify and address the STRATEGIC Policy guidelines by which the Portfolio will be Managed.
- Remember RATE
    - Risk-Tolerance that is acceptable
    - Asset Classes that should be included in the portfolio
    - Time Horizon of the Portfolio
    - Expected Rate of Return that is reasonable in the long-run
- The guidelines should be based on LONG-TERM considerations: short-term market fluctuations and cycles should not be considered or made part of a policy statement. They should be clear enough to give direction to managers, yet flexible enough to avoid minutia.
- The most important guideline is to SPECIFY the LONG-TERM desired ALLOCATION of Assets within the portfolio. Authors believe should avoid giving RANGES to managers as this gives the investment managers too much discretion. Instead, want discipline so there should be RIGID asset mix guidelines
- Another guideline should be describing when the asset mix should be rebalanced (as ≠ returns among asset classes will change the weightings in the portfolio). Over time, this may be appropriate. Authors believe that the mix should be REBALNCED whenever one or more asset classes rise above or below their long-term strategic level by more than 5%.

d. Securities Guidelines

- This should be specific enough to prevent investment managers from investing assets of the portfolio in unacceptable securities, yet flexible enough to enable them to meet the return objectives of the fund. One way to do this is to establish a list of securities in which the managers are PROHIBITED from investing. Also, this section should describe the types of securities, their characteristics and quality ratings.

e. Selection of Money Managers

- The policy statement should establish search criteria for selecting money managers. General search criteria include
    - A money manger should be a REGISTERED INVESTMENT ADVISOR. Information that should be requested of prospective managers include an ADV Part II, a prospectus, etc.
    - Prospective managers should provide at least 5 years of quarterly performance information prepared in accordance with AIMR Performance Presentation Standards that is suitable for appraising their performance records
    - Prospective managers should provide evidence that their key investment professionals have long-term experience with the firm and turnover is low
    - Investment strategies and philosophy of the prospective manager should be assessed. Beware of firms that cannot articulate such a philosophy
    - Examine the ethical performance of prospective money managers. Make sure they are NOT subject of litigation or regulatory investigations
    - Investment managers should be willing to acknowledge their fiduciary status in writing

f. Duties of Persons involved in the Investment management process & control procedures

- This section needs to specify the duties & requirements of every party who plays a role in the portfolio management process. The parties include:
  a. INVESTMENT MANAGERS who MUST
     i. Use CARE to invest the funds in accordance with the objectives and guidelines set forth in the investment policy statement
     ii. Exercise Investment DISCRETION within the objectives & guidelines set forth in the policy statement
     iii. Promptly inform the Board of ANY CHANGES that can significantly affect the investing of the portfolio's assets
     iv. Promptly vote all proxies in accordance with the BEST interests of the beneficiaries of the portfolio, and maintain records and appropriate documentation regarding such votes
     v. Utilize CARE, SKILL, PRUDENCE and DUE DILIGENCE in undertaking their duties in accordance with the general duties of a fiduciary under state and federal statutes, including ERISA
     vi. Utilize brokerage services appropriately to obtain the best price and execution and to pay ONLY for services performed. Brokerage records should be kept and soft dollar rules followed
     vii. Acknowledge their fiduciary duty in writing to fully comply with the entire investment policy statement
  b. Actuaries who must use the usual & customary procedures to determine the appropriate actuarial assumptions & calculations pertaining to portfolios
  c. Brokers & Soft-dollar arrangements
  d. Performance Measurement Consultants
- Also, a Review of how these duties & responsibilities have been performed should be conducted periodically
  a. The Custodian of the Fund should submit a MONTHLY report showing the portfolio's assets, market values and transactions which have occurred
  b. An Investment Consultant should submit a QUARTERLY performance measurement Report. This should be reviewed by the Beneficiaries to
     i. Make sure the assets are allocated in accordance with policy guidelines
     ii. See how the fund is performing relative to its benchmark
     iii. Compare the manager's performance to his peer group's
  c. YEARLY, actuarial reports, overall portfolio policy & brokerage expenses should be analyzed
  d. When any important change occurs, the investment committee (beneficiary) should be notified. Important events include:
     i. Important changes in Professional Staff
     ii. Significant Account Losses
     iii. Significant New Growth
     iv. Change in Ownership

- There should also be criteria for REVIEWING & CHANGING Investment managers.
  a. Manager should be Placed under REVIEW (close scrutiny) if:
     i. The manager is in the worst QUARTILE of its peer group for a quarterly or annual period
     ii. The manager is in the worst Quartile of its peer group in terms of risk/return ratio
     iii. The manager has a 5-year risk-adjusted return that is below the median of its peer group
  b. Manger should be REPLACED if:
     i. The manager is in the lower half of his peer group over a 36-month period
     ii. The manager is below the top-40 percentile of his peer group over a 5-year period
     iii. The manager has a Negative α for a 3-5 year period

g. Signatures

- Parties who should sign as Approving the Investment policy include:
  a. Members of the Investment Committee
  b. Named Fiduciaries and/or Trustees
  c. Hired Investment Managers
  d. Investment Consultants & Attorneys

4. *"Cases in Portfolio Management" by Peavy & Sherred*

- This is a series of cases taken from previous CFA Exams which deal with forming an appropriate portfolio policy and determining an appropriate asset mix for specific situations. The main theme is that investment policy statements must address 7 basic issues

1. **Return Requirements**: Current Income v. Long-term Growth; Preserve principal in Real or Nominal Terms
2. **Risk Tolerance**: Degree of risk client should be or is willing to accept
3. **Liquidity**:
4. **Time Horizon**
5. **Taxes**
6. **Laws & Regulations**
7. **Unique Preferences**

- Strategies & recommended asset allocations are always tailor-made to meet the circumstances of the case, but they are usually based upon following normal long-term relationships
  - Stocks have higher expected rate of return than bonds, but are more risky. Stocks also offer more inflation protection than fixed-income investments
  - Bonds have a higher expected rate of return than money-market instruments, but carry more risk
  - Money Market Instruments have the lowest expected rate of return, but have the lowest risk and are the most liquid of all asset classes

- Foreign investments are good ways to reduce risk via diversification as their returns are not highly correlated with domestic securities. Plus, foreign assets may be desirable if its is necessary to earn funds denominated in a foreign currency
- Real Estate offers returns that are comparable to other equity investments with about the same level of risk, it is also a good inflation hedge. But, it is illiquid and must be purchased in large blocks. As the returns are not highly correlated with other asset classes, it is a means to reduce risk through diversification.
- Venture Capital offers high returns, but with considerable risk. It is a hedge against inflation (like other equity investments). But, it is highly illiquid. For those who can handle the illiquidity and riskiness, VC is a good diversification vehicle due to the low correlation of returns to other asset classes
- Collectibles & commodity type assets (like gold, etc.) are usually outside the purview of the typical investment portfolio. They are often good inflation hedges, but they are illiquid. Plus, they usually have significant storage & insurance costs. Also, there is a large spread between bid/ask quotes
- Tax-free or tax-deferred investments should be considered for investors in high tax brackets. Always attempt to maximize the investor's after-tax return
- So long as a long-term time horizon is assumed, these relationships may be used as the basis for determining the appropriate asset mix for any investor. The specific outlook for various asset classes enter into the asset mix decision ONLY when a short-term time frame is assumed. This is usually not an assumption employed on CFA exams

CASE 1A

Facts: Mrs. Allen is 65-years old, suffering from a fatal disease (within a FEW YEARS). She lives off a TRUST established by her late husband, in which she is the income beneficiary and her son, George, is the remainderman. The Trust is worth $15,500,000. George is a ne'er-do-well who does not work though he is married with children in university. Mrs. Allen helps support him since he often cannot make ends meet on his $108,000 income generated from the $1,800,000 trust left him by his father. How should Mrs. Allen's portfolio policy and strategy be constructed?

Answer:

- ***Return Requirements*** – As Mrs. Allen has such a large trust, there is LITTLE need to worry about Current Yield. The portfolio should be invested in a way to preserve the purchasing power of capital and provide growth in the long run.
- ***Risk Tolerance*** – There is an ability to take ABOVE-AVERGE volatility in the portfolio returns so as to achieve longer-term growth
- ***Liquidity*** – No need for much liquidity
- ***Time Horizon*** – Even though Mrs. Allen is old & ill, the portfolio is so large that there is little probability the principal will need to be touched. Thus, the trust can be invested with the longer-term needs of the remainderman in mind.
- ***Legal Constraints*** – Trust funds need to be invested with adherence to the Prudent Man Rule
- ***Taxes*** – The tax bracket is high. Thus, should seek tax-advantaged instruments
- ***Unique Preferences*** – She may need funds for medical expenses. Ensure this happens.

- ***Best Strategy*** – Proper mix is 50-60% Stocks, 10-20% Real Estate, & rest in tax-exempt bonds. Income generated from such a large fund should be sufficient as even with a 3% overall return, that is $450,000 per annum, hence, there is little need for liquidity or cash balances. Thus, even more diversification into foreign securities or venture capital could be undertaken to generate the growth needed in the long run for the remainderman, George.

CASE 1B

Facts: What about George Allen's Portfolio needs?

Answer:

- ***Return Requirements*** – The Portfolio should generate about $100,000 of income to meet his Living Requirements. Also, try to preserve the purchasing power of the principal.
- ***Risk Tolerance*** – There is LITTLE room for volatility of income since he needs the trust income to meet his living expenses
- ***Liquidity*** – There is need for Liquidity as the living expenses often require an invasion of principal. This can be reduced if Mrs. Allen will give George funds from time to time
- ***Time Horizon*** –George is middle aged, therefore the time horizon is 30-40 years. But, as he needs current income and may inherit his mother's estate in a few years, the time horizon could be shortened. Use 3-year cycle planning
- ***Legal Constraints*** – Ordinary Prudence is required by an investment advisor
- ***Taxes*** – Since George is in a high tax bracket, tax-free bonds make sense. Should try to shelter income from taxes.
- ***Unique Preferences*** – Be prepared to change the portfolio strategy significantly when Mrs. Allen dies

Best Strategy– Invest the portfolio 70% in tax-free bonds to meet the income goal. The rest could be invested as follows: 17% in Real Estate (for inflation protection) 8% in Growth Stocks (inflation protection & liquidity) and 5% in Venture Capital (inflation protection). This should provide the required income but there can be some illiquidity. This is needed to offset inflation. But, the growth stocks provide both growth and liquidity. Advise George to be careful about spending too much because inflation protection will be difficult. The risk will be offset by the fact he stands to inherit a large fortune within a few years.

CASE 1C

Facts: Mrs. Allen & George have a falling out and Mrs. Allen plans to disinherit George. How must George's portfolio be changed?

Answer: George needs more inflation protection.

Best Strategy – Less oriented toward fixed income and more oriented toward growth. Thus, in order to get more growth, some additional risk must be accepted. Liquidity needs to be improved as well. The time horizon should match his lifespan, since the capital will be invaded periodically. Mix should be 40% tax-exempt bonds (income & stability); 40% growth stocks (inflation protection), 17% real estate (income & inflation protection); 3% cash equivalents (liquidity). If this fails to meet expenses, suggest a job to help cover living expenses.

CASE 2A

Facts: The Ramez Family are US immigrants with a $10,000,000 portfolio. Mr. Ramez has sold his business and he & the wife are planning to travel for 2 years. Thereafter, he wishes to start a new business in the US. There are 3 grown children living in various countries across the world whom they wish to assist financially from time to time. Mr. Ramez has suffered financial setbacks in his life as a result of inflation and depression in his native land and does not want to suffer again. How should his portfolio be constructed?

Answer:

- ***Return Requirements*** – With a $10,000,000 portfolio, a 3% return produces $300,000 of income per year. This should be enough for travel and to help children. With a 3% yield, there should be an opportunity for an 8-14% total return (yield + growth) to compensate for inflation
- ***Risk Tolerance*** – With concern over inflation & deflation, a well diversified portfolio should be used to mitigate against both forms of risk
- ***Liquidity*** – More than normal liquidity is required due to the need to raise a large amount of cash in order to start a business
- ***Time Horizon*** – 2 should be considered: short term of 2-3 years for travel and using funds for a business; then a longer-term horizon for retirement and providing an estate for kids and grand-kids
- ***Legal Constraints*** – There are no legal constraints
- ***Taxes*** – The tax rate is high
- ***Unique Preferences*** – The kids are scattered all over the world. Mr. Ramez is an internationalist. Thus, there may be some international diversification required.

Best Strategy – 40% domestic stocks (growth & inflation hedges), 20% international stocks (risk diversification & growth) 25% bonds (deflation protection) 5% cash (liquidity) 5% real estate (income, inflation protection & diversification) and 5% precious metals (inflation & country risk protection). Such a portfolio should yield more than 3% and provide sufficient liquidity yet offer growth & protection against both inflation & deflation.

CASE 2B

Facts: After 3 years of travel, Ramez joins an international minerals expedition group. He invests $5,000,000 into the group. They discover minerals that produce an annual royalty of $1,500,000 for Ramez. What changes in investment policy are appropriate with the changed circumstances?

Answer:

- ***Return Requirements*** – The royalty income will meet income needs. Thus, the portfolio need not generate current yield
- ***Risk Tolerance*** – The royalty income is from minerals. This may be risky as mineral prices fluctuate. Thus, the portfolio should be diversified and avoid investing in mineral-related companies
- ***Liquidity*** – No real need for cash. But, some liquidity may be desirable as half the assets are tied up in an illiquid venture
- ***Time Horizon*** – 2 aspects: 1 length of time mineral mine will produce royalties; and lifetime of Ramez should be considered
- ***Legal Constraints*** – Same as above
- ***Taxes*** – Same as above

- ***Unique Preferences*** – Same as before

Best Strategy –The new strategy should completely de-emphasize income in favor of growth. The royalty income is like an annuity generated from an asset that is an inflation hedge (minerals). Thus, the revised portfolio should be 60-70% in domestic growth stocks and the rest in international equities. There is no need for bonds as the royalty serves as an annuity. There is no need for precious metals due to the investment in the mineral mines.

CASE 3

Facts: Ednam Products has terminated its defined benefit plan and has started a defined contribution plan in which each employee is responsible for determining how the funds are to be invested. They may choose from a:

Money Market Fund	High Grade Bond Fund
Domestic Stock Fund	Small Capitalization Stock Fund
International Stock Fund	Real Estate Fund

Recommend a Policy & Strategy for Four Employees with the following info.:

A.) Age 30, single, buying a $90,000 condo (heavily mortgaged). Salary of $30,000. Accumulated plan amount is $20,000.

B.) Age 42, single, 2 kids (age 10 & 14). Buying a $120,000 house with a $100,000 mortgage. Savings of $25,000. Salary of $60,000. Plan amount of $100,000

C.) Age 58, will retire at age 62. Wife employed, no kids. Owns a $150,000 house with no mortgage. Savings of $200,000 invested 50% in growth stocks, 25% in bank CDs and 25% in small stock fund (inside an IRA). Value of plan is $180,000.

D.) Age 64, will retire in 6 months. Married, no kids. Owns a $175,000 home with no mortgage. Has $325,000 in savings invested $100,000 in CDs, $125,000 in blue chip stocks, and $100,000 in an IRA money market fund.

Answer:

	A	**B**	**C**	**D**
Return Req.	Max. Growth for Inflation Protection	Max. Growth for Inflation Protection	Will Shift from Growth to Income in a few years	Needs Income plus Inflation Protection
Risk Tolerance	Above Avg. Ability to assume risk	Moderate, especially if borrow for college	Low-Moderate due to upcoming retirement	Below average: cannot have volatile income
Liquidity	No Restraint	No Restraint	Will increase near retirement	Important in case of emergency
Time Horizon	Long (30+ years)	20-30 years	4 years → shift, then 20	10-20 years
Legal Constraint	None	None	None	None
Taxes	Profit sharing plan is tax-free	Profit sharing plan is tax-free	Profit sharing plan is tax-free	Income taxable as withdrawn
Special Needs	Condo ownership is RE investment	Large Mortgage & small savings	Will shift in 4 years: Should consider present investments	Consider existing investments

CASE 4

Facts: Mid South Trucking Co.'s defined benefit pension plan is 100% invested in bonds with a max. maturity of 10 years. The co. is a large trucking co. whose revenue growth is 8% per year. It is a cyclical growth co. whose work force has an average age of 43. The portfolio has generated enough income and has covered benefit payments in the past so the co.'s contribution have gone into investment. Wages and salaries grow at 5% per year. The actuaries assume a 7% return on plan assets. There is a large unfounded past service liability that is being funded over 35 years. The economic forecast calls for prosperity for three years followed by either higher inflation or depression (it is uncertain as to which). What should an appropriate policy and strategy be for Mid South's pension plan?

Answer:

- ***Return Requirements*** – Earn an inflation-protected return of at leash the actuarial assumption rate. This is a 12% return (7% + 5%)
- ***Risk Tolerance*** – An average to above average degree of risk can be assumed because:
  - Mid South's wage growth & actuarial assumptions are normal
  - The age of employees is relatively low
  - The company is not highly cyclical and is growing
  - Only the existence of the large past service liability moderates the ability to accept risk
- ***Liquidity*** – There is an ability to accept LOW liquidity because contributions exceed benefits. The principal is not being invaded
- ***Time Horizon*** – Long
- ***Legal Constraints*** – ERISA
- ***Taxes*** – ERISA income is not taxed
- ***Unique Preferences*** – Pension plans are to be operated for the sole benefit of employees. ERISA requires diversification

Best Strategy –The 100% investment in bonds is inappropriate. Diversify the assets as follows:

Cash 0-5% Stocks 50-75% Bonds 20-50%

CASE 5

Facts: Universal Products has a defined benefit and a defined contribution pension plan. Management suffers from intense foreign competition, and because of this, it and the union have agreed not to invest any of the employee's pensions in foreign companies. The pension plan documents specifically state that no foreign investment may be permitted. It expects a good economy for 2 years followed by a recession & 4 years of stagflation. During the recession, its work force will shrink. The plans are invested as follows:

	PENSION PLAN	PROFIT SHARING PLAN
Money Market	.5%	.5%
Domestic Bonds	14.5%	14.5%
Domestic Stocks	85%	85%

Critique the current investment mix and suggest a different one for the plans.

Answer:

Critique of Current Portfolios

- There is NO international or Real Estate exposure, which would reduce risk
- There is TOO Much allocation in equities given the mature status of the pension fund
- Pension funds & Prof. Sharing have different risk profiles requiring different plans

- ***Return Requirements*** – Preservation of the Current Capital Base in Real Terms
- ***Risk Tolerance*** – Due to the Anticipated downturn in the economy that may last a long time and due to the maturity of the work force, a Below Average Risk Tolerance is recommended. The profit sharing plan can tolerate even less risk because of the shorter time horizon and the fact that employees (some of whom will soon be terminated) bear the risk of its performance
- ***Liquidity*** – If a recession results in terminations, Liquidity will be needed, especially in the profit sharing plans
- ***Time Horizon*** –The prospect of terminations reduces the time horizon, particularly for the profit sharing plan
- ***Legal Constraints*** – ERISA
- ***Taxes*** – none
- ***Unique Preferences*** – Profit Sharing plan should be managed with great care to insure against loss due to the possibility of near-term terminations

Best Strategy –

	PENSION	PROFIT Sharing
Money Market	10%	20%
Domestic Bonds	45%	45%
Domestic Stocks	45%	35%

Longer-term, the company should consider real estate for about 10% of the pension fund. This will diversify against risk and help give some inflation protection. Real Estate should NOT be put into the profit sharing plan due to its need for liquidity. However, profit sharing plan might be able to use the return enhancement and risk-reduction characteristics offered by international stocks and bonds. There were not recommended because the plan documents now specify against them and ERISA makes it illegal to go against the provisions of the plan. But a consideration should be given to changing the plan documents to permit foreign investments

CASE 6A

Facts: WEC is an international organization that monitors environmental standards worldwide. It has a young work force located in many countries. Since it started in Canada, its older workers are Canadian and the Canadian work force is the largest part of the organization. The WEC pension plan is a Defined Benefit Plan that pays pensions based on an employee's average salary during the course of employment. Write a policy for the pension fund.

Answer:

- ***Return Requirements*** – Total Return favoring Capital Appreciation over income due to the youth of the work force. The benefits will be paid to workers residing in many nations, thus the returns need to be measured relative to some appropriately weighted currency index. Some modest inflation protection is needed because the "career average" benefit formula is used rather than a "final pay" formula
- ***Risk Tolerance*** – Above Average risk may be tolerated due to the long time horizon
- ***Liquidity*** – Little liquidity is needed because principal will not be invaded given the young work force. But, more liquidity may be needed in Canadian dollars due to the older Canadian work force.
- ***Time Horizon*** – With the exception of the Canadian work force, the time horizon is long
- ***Legal Constraints*** – ERISA
- ***Taxes*** – no taxes

- ***Unique Preferences*** – Benefits will be paid in several nations. The Canadian requirements differ from the rest of the fund

Best Strategy –
International Stocks 35%; Domestic Stocks 25%, International Bonds 15% Domestic Bonds 10% Real Estate 10%, Canadian Cash Equivalents 10%. Currency hedging is not necessary due to the multinational nature of the work force. But international securities should be diversified among countries in proportion to that of the work force. Some provision should exist so that Canadian bond holding match the life expectancy of the Canadian employees.

CASE 6B

Facts: Suppose WEC decided to change the benefit formula to a "final pay" formula. What changes would need to be made in policy & strategy?
Answer: The change would produce 2 effects:

1. Increase the need for Inflation Protection
2. The PBO & ABO would increase. This would make the fund less well-funded than in the past. Thus, there is less tolerance for risk.

To reduce the risk profile, ADD some more bonds to the mix and to give more inflation protection (with less risk), and more real estate. The additional bonds and real estate could be funded by the sale of stocks. International Stocks 25%, Domestic Stocks 20%, International Bonds 20%, Domestic Bonds 15%, Real Estate 15%, Canadian Cash Equivalents 5%

CASE 7A

Facts: Mrs. Atkins is the widow of a former newspaper baron who left her $2,000,000 of stock in Merit Newspapers, plus a substantial annuity and adequate medical insurance. The Merit Stock produces an income of $183,000 per year. Upon her death, Mrs. Atkins' stock will go to an endowment fund for Good Samaritan Hospital, a hospital which has large operating deficits. Currently, the hospital has a $7,500,000 endowment which it uses to generate $450,000 of income per year to cover its losses. Mrs. Atkins has been diagnosed with terminal cancer and is not expected to live more than a year. Recommend a portfolio for her funds.
Answer:

- ***Return Requirements*** – Target a 6% Income return. This should be sufficient for Mrs. Atkins' needs and will eventually be enough to meet the current hospital endowment payout needs. Also need some growth, as the funds will go to the hospital and need inflation protection
- ***Risk Tolerance*** – Moderate risk may be assumed since Mrs. Atkins' income requirements are being met by her annuity
- ***Liquidity*** – Moderate, given that Mrs. Atkins has good health insurance plus a large income. But, her care may become more expensive so some liquidity is required to meet contingency expenses should they occur
- ***Time Horizon*** – Since the estate will go to the endowment fund, its time horizon is long-term
- ***Legal Constraints*** – Prudent Man Rule
- ***Taxes*** – The Endowment is tax free, while Mrs. Atkins is in a high tax bracket. The sort term should not generate taxable income if possible. Capital gains should NOT be taken before her death. Any short-term cash should be invested in tax-free bonds
- ***Unique Preferences*** – none really

Best Strategy – given in above answer

CASE 7B

Facts: Mrs. Atkins dies and the hospital owns her assets. How should her assets be invested by the endowment fund?

Answer:

- ***Return Requirements*** – Capital appreciation over time for inflation protection
- ***Risk Tolerance*** – Above Average risk may be assumed since the hospital is now covering its deficit with other endowment income
- ***Liquidity*** – No need for liquidity
- ***Time Horizon*** – Long term
- ***Legal Constraints*** – Prudent Man Rule
- ***Taxes*** – Insignificant
- ***Unique Preferences*** – A conservative posture is required since the hospital runs a deficit and inflation may cause the deficit to grow to the point where invasion of the principal would be required.

Best Strategy –

- Eliminate all tax-free holdings in the Atkins estate and buy taxable securities, primarily bonds
- Sell the Merit stock to diversify the portfolio
- Eliminate short-term cash reserves
- Asset Mix: Stocks 60-80%, Bonds 20-40%

CASE 7C

Facts: Investment Associates, an investment management firm, is retained to manage the Atkins Endowment on behalf of Good Samaritan Hospital. This firm's economic & capital market forecasts were different from those of Good Samaritan's Board of Directors. In particular, Investment Associates expected higher inflation & lower equity returns than the Good Samaritan board expects. How would this new outlook affect the portfolio mix?

Answer: Since inflation is expected to be higher than previously believed, the bond portion of the portfolio should be reduced to the low end of the range (20%). Also, stocks should also be reduced to the low range (60%). With the outlook for stocks & bonds both unfavorable, about 20% of the portfolio should be in short term treasury bills or other money market instruments. Merit Enterprises should be sold and the proceeds put into real estate or international stocks to provide diversification & inflation protection.

CASE 1B

Facts: The Help for Students Foundation (HFS) exists to provide full scholarships to US universities for gifted high school graduates who otherwise would be denied access to higher education. The per-student full scholarship cost, which have been rising for years, are $30,000 this year and should grow 5% annually (at least) for the indefinite future. The market value of HFS's investments is $300,000,000 allocated 35% in long-maturity US Treasuries, 10% in a diversified portfolio of Corporate bonds, 10% CDs, 45% large-cap, income-oriented US stocks. HFS's entire annual administrative costs are paid for by donations received from supporters. An amount equal to 5% of year end market-value of HFS's investment portfolio must be spent annually in order to preserve the foundation's existing tax-exempt status.

The Investment Policy Statement governing trustee actions is unchanged since its 1960 adoption and reads, "*The foundation's purpose is to provide university educations for as many deserving students for as long as possible. Thus, investment emphasis should be on the production of income and the minimization of market risk. As all expenses are in US dollars, only DOMESTIC securities should be owned. It is the Trustee's duty to preserve and protect HFS's assets while maximizing its grant-making ability and maintaining its tax-exempt status.*"

After a long period in which Board membership was unchanged, new and younger trustees are replacing older ones. Consequently, many aspects of HFS's operations are under review.

A.) IDENTIFY 4 shortcomings of the existing HFS Investment Policy Statement and EXPLAIN WHY these policy aspects should be reviewed.

B.) CREATE a new Investment Policy Statement for HFS.

C.) Using the policy created in part (B), REVISE HFS's existing asset allocation & Justify the resulting asset mix. You must choose from the following asset classes in construction your response. (the E(R)'s are given): Cash 4%, Medium & Long-term Government Bonds 7%, Real Estate 8%, Large & Small Cap US Stocks 10%, International Equities 12%

Answer:

(a) The shortcomings of the Existing HFS Investment Policy is given below

- The Statement's emphasis on the production of income and the minimization of risk is inappropriate. The return objective should focus on TOTAL (expected) return, rather than its components. Plus, the return focus should be on enhancing either real total return or nominal total return to include protection of purchasing power. Either maximization of return for a given level or risk or minimization of risk for a given level of return is a more appropriate objective
- The Existing Policy Statement does NOT specify important constraints normally included, such as TIME HORIZON, LIQUIDITY, TAX Considerations, LEGAL & Regulatory considerations, and Unique Needs
- It is unclear whether or not the old statement of the 60s has been subject to Periodic Review. The new Statement should be reviewed at regular intervals and should be specified in the statement
- It is unclear whether the 4 classes in which the foundation is currently invested represents the only classes considered. In any event, the asset mix policy should permit the inclusion of more asset classes, including non-traditional assets

- The Limits within which HFS's manager may tactically allocate assets should be specified in the policy statement
- The limitations on holding ONLY domestic securities as all expenses are denominated in US dollar is inappropriate. At a minimum, non-US investment, with some form of foreign exchange risk hedge should be considered when the return-risk tradeoff for these securities exceeds that of domestic securities

(b) A New Investment Policy Statement should include the following Elements:

- ***Return Requirements*** – In order to maintain an ability to provide inflation-adjusted scholarship and tax exempt status, HFS requires a real rate of return of 5%. The appropriate definition of inflation in this context is the 5% rate at which full-scholarship costs per student are expected to rise
- ***Risk Tolerance*** – Given its Very Long Time Horizon, HFS has the ability to take moderate risk, with associated volatility in returns, in order to maintain purchasing power as long as undue volatility is NOT introduced into the flow of resources to cover near-term scholarship payments. As SWENSEN indicates in Endowment Management, a balance between preserving purchasing power and providing a stable flow of funds to operating needs can be achieved by determining a sensible long-term target rate of spending and applying this rate to a moving average of endowment fund market values
- ***Liquidity*** – Given the size of HFS's assets and the predictable nature of annual cash outflows, liquidity needs can be easily ascertained and provided for. A systematic plan for future needs can be constructed and appropriate portfolio investment can be built to meet these planned needs
- ***Time Horizon*** –The foundation has a potentially infinite time horizon. A 3-5 year cycle of investment policy planning & review should be put in place
- ***Legal Constraints*** – Foundation trustees and other involved in the investment decision making are expected to understand & obey applicable state law and adhere to the Prudent Person Standard
- ***Taxes*** – Ongoing attention needs to be paid to the maintenance of HFS's tax-exempt status, including the 5% minimum spending requirement.
- ***Unique Preferences*** – These are covered in the other objectives & constraints

(c)Best Strategy – To design a revised asset allocation, long-term historical risk & correlation measures for each of the 5 asset classes should be assumed. But, some adjustments may be necessary such as for positive risk & correlation bias of real estate resulting from the use of appraisal value in calculating real estate returns. Given (A) & (B), and the expected returns given, increased equity investment, including large- & small-cap. domestic equities, international equities, and real estate (for inflation hedge & diversification) is warranted. CDs should be eliminated, with no pressing liquidity needs, cash equivalents may be minimized.

	Future Range	Current Target
Cash Equivalent	0-5%	2%
Medium & long-term Govt bonds	20-35%	30%
Real Estate	0-10%	8%
Large & small-cap US stocks	30-50%	40%
International stocks	5-20%	20%

CASE 9

Facts: Ambrose Greet, 63, is a retired engineer and client of Clayton Asset Management Associates. His accumulated savings are invested in Diversified Global Fund and in-house

investment vehicle with multiple portfolio managers through which Associates manages nearly all client assets on a pooled basis. Dividend and Capital Gain Distributions have produced an average annual return to Green of about 8% on his $900,000 original investment in the Fund, made 6 years ago. The $1,000,000 current value of the Fund interest represents virtually all of Green's net worth. Green is a Widower whose daughter is a single parent living with her young son. While not an extravagant person, Green's spending has exceeded his after-tax income by a considerable margin since his retirement. As a result, his non-Fund financial resources have eroded to about a current $10,000. Green does not have retirement income from a private pension plan, but does receive a TAXABLE government benefit of about $1,000 per month. His marginal tax rate is 40%. He lives comfortably in a rented apartment, travels extensively and makes frequent cash gifts to his daughter and grandson, to whom he wants to leave an estate of at least $1,000,000. Green realizes he needs more income to maintain his lifestyle. He also believes his assets should provide an after-tax cash flow sufficient to meet his present $80,000 annual spending needs, which he is unwilling to reduce. He wants your advice.
FIRST, review Green's Investment Policy
OBJECTIVES:

- "I need a maximum return that includes an income element large enough to meet my spending needs, so about a 10% total return is required."
- "I want low risk, to minimize the possibility of large losses and preserve the value of my assets for eventual use by my daughter and grandson."

CONSTRAINTS

- "With my spending needs averaging about $80,000 per year, and only $10,000 cash remaining, I will probably have to sell something soon."
- I am in good health and my non-cancelable health insurance will cover my future medical expenses."

(A) Identify and Briefly Discuss 4 KEY constraints present in Green's situation not adequately treated in his investment policy statement
(B) Based on your assessment of his situation and the information provided in the facts, Create & Justify appropriate Return and Risk Objectives for Green
Answer:
(B)

- ***Return Requirements*** – Return emphasis should reflect his need to maximize CURRENT INCOME while trying to match his desire to leave a $1,000,000 estate. Due to his inability to reduce current spending and his tax situation, this will require a TOTAL RETURN Approach. To meet the spending needs, Green may have to supplement an insufficient yield in some years with some capital gains. There must be inflation protection & a tax strategy to devise an asset allocation.
- ***Risk Tolerance*** – There seems to be a low tolerance for risk given the concern for capital preservation and avoidance of large losses. But, there should be a moderate degree of equity exposure to protect the estate against inflation and to provide growth in income over time.

(A) – Key constraints are needed to develop a satisfactory investment plan. Must pay attention to Investment time horizon, liquidity, taxes and Unique Circumstances. Green's Investment Policy Statement fails to pay enough attention to these.

- ***Liquidity*** – As spending has drained current income and savings below $10,000; Green will encounter a liquidity crisis. He must reorganize his financial situation and may need to sell some assets for current cash while re-organizing his portfolio
- ***Time Horizon*** – At 63 and in good health, Green still has an intermediate to long investment horizon. Plus, as he wishes to pass the wealth down to his kin, the horizon extends further. Thus, despite the short-term focus on current income, there needs to be a long-term approach
- ***Legal Constraints*** – None
- ***Taxes*** – The omission of this factor in the current plan has caused the cash squeeze and requires prompt reorganization of finances. Maybe use more munis or tax shelters
- ***Unique Preferences*** – Desire to leave $1,000,000 estate to kin is a challenge. Need an overall plan involving investment strategy, and Tax & Estate strategy.

CASE 10

Facts: Green has asked you to review the existing asset allocation of Diversified Global Fund. He wonders if a 60/30/10 allocation to stocks, bonds, and cash would be better than the present 40/40/20 allocation. Green also wonders if the Fund is appropriate as his primary investment asset. To address these concerns, you decide to do a SCENARIO forecasting exercise using the facts provided.

Under a "Degearing" Scenario, the US-Europe-Far East trading nations experience an extended period of slow economic growth while they reduce prior debt excesses. This scenario is assigned a probability of .5 while the other 2 scenarios "Disinflation" and "Inflation" receive a probability of .25.

(A) Calculate the Expected Total Returns associated with the Existing 40/40/20 asset allocation and the return with the 60/30/10 mix, given the 3 Scenarios shown. Show your work

(B) Justify the 40/40/20 asset allocation v. the alternative 60/30/10 and Explain your conclusion.

(C) Evaluate the Appropriateness of the Fund as the primary investment asset for Green Citing & Explaining 4 Characteristics that relate directly to his needs and goals

ASSOCIATES DIVERSIFIED GLOBAL FUND – Current Asset Allocation (% of Total assets)

CLASS	US	Europe	Far East	Other	Total
Stocks	15	10	12	3	40
Bonds	20	12	8	0	40
Cash	10	5	5	0	20
Totals	45	27	25	3	100

PROJECTED Returns by Economic Scenario

	Degearing	Disinflation	Inflation
Real Econ. Growth	2.5%	1.0%	3.0%
Inflation Rate	3.0%	1.0%	6.0%
Nominal Total Returns			
Stocks	8.25%	-8.00%	4.00%
Bonds	6.25%	7.50%	2.00%
Cash	4.50%	2.50%	6.50%
Real Total Returns			
Stocks	5.25%	-9.00%	-2.00%
Bonds	3.25%	6.50%	-4.00%
Cash	1.50%	1.50%	0.50%

Answer:

(A) Real Total Returns

Degearing	Disinflation	Inflation	E(R)

T-Bills	(.5)(.015) +	(.25)(.015) +	(.25)(.005) =	1.250%
Bonds	(.5)(.0325) +	(.25)(.065) +	(.25)(-.04) =	2.250%
Stocks	(.5)(.0525) +	(.25)(-.09) +	(.25)(-.02) =	-.125%

Real Portfolio Returns

	40/40/20 Mix	60/30/10 Mix
T-Bills	(.0125)(.2) = .25%	(.0125)(.1) = .125%
Bonds	(.0225)(.4) = .90%	(.0225)(.3) = .675%
Stocks	(-.00125)(.4) = -.005%	(-.00125)(.6) = -.075
Total	1.10%	0.725%

(B) Justification: Given the three economic scenarios, the expected portfolio real returns are 1.10% for the existing mix v. 0.725% for the proposed ix. Thus, the 40/40/20 mix is superior. Explanation: Stocks generate losses under both the inflation & disinflation scenario

(C) The key needs of Green include a long-time horizon portfolio, tax awareness, control over the timing of a gain realization, an emphasis on the production of current income, a smooth & dependable flow of investment income, and a below-average risk level. Green owns no real estate, receives no private pension, and has only a small taxable government benefit.
Pro Fund as Primary Asset: DIVERSITY – if the fund were part of a portfolio, rather than the only investment, it would serve as an excellent diversifying agent; ADEQUATE RETURN – An average, but satisfactory 8% return has been the norm; CONSERVATIVE ORIENTATION – the management of the fund has a conservative bent which meets Green's preference.
Con Fund: RISKY Strategy to Achieve Goals – All Eggs in one basket, single-asset nature of Green's investment is a high-risk strategy which is inappropriate given his goals. The 55% non-US exposure in the fund is excessive given Green's circumstances; NON-OPTIMAL Asset Mix of Fund for Green – This likely won't meet Green's Specific needs. The asset mix, which may be optimal for the fund, may not be for Green; EXCESSIVE VOLATILITY – must of the distribution flow from the fund depends on Capital Gains; LACK of FOCUS on AFTER-TAX RETURNS & CONTROL – Fund's management focuses on producing Total Returns, but Green's need is for max. after-tax returns and some control over the timing of gain realizations. LACK of FOCUS on INCOME NEEDS – Fund cannot give the attention to income type, amount, regularity and tax nature that Green needs, INFLATION – Global nature means inflation in US (affecting Green Directly) probably does not receive the attention in the Fund that Green requires

CASE 11

Facts: Susan Fairfax is president of Reston Industries, a US-based firm whose sales are totally domestic and whose shares are listed on NYSE. Farifax is single, aged 58 with no immediate family, debts and rents her apartment. She is in good health and covered by Reston-paid health insurance which will continue post-retirement (expected age 65). Her base salary of $500,000, inflation protected, is sufficient to support her present lifestyle, but can no longer generate any excess for savings. She has $2,000,000 savings from prior years, held in short-term instruments. Reston rewards key employees through a stock-bonus incentive plan but provides no pension plan and its stock pays no dividend. She now owns Reston stock (market value $10,000,000) which she received tax free, but upon cashing out, will be taxed at a 35% rate. Her present level of spending and current annual inflation rate of 4% are expected to continue post-retirement. She is taxed at 35% on salary, investment income, and realized capital gains. Assume the composite tax rate will continue at this level indefinitely. Her orientation is Patient, Careful, and Conservative in all things. She has stated that an annual after-tax Real Total return of 3% would be completely acceptable to her if it was achieved in a context where an investment portfolio created from her accumulated savings were NOT subject to a decline of more than 10% in Nominal Terms in any 12-month period. She has approached 2 advisors, HH Counselors and Coastal Advisors for recommendations on allocation of the investment portfolio to be created from her existing savings assets as well as for general investing advice.

(A) Create & Justify an Investment Policy Statement for Fairfax Based ONLY on the info provided in the facts. Be specific & complete about objectives & constraints (asset allocation is NOT required in answering this question).

Note: Coastal has proposed the Asset allocation shown in the following table for the investment of Fairfax's $2,000,000 of savings.

Asset Class	Allocation	Current Yld.	Projected Total Return
Cash Equivalents	15.0%	4.5%	4.5%
Corp. Bonds	10.0%	7.5%	7.5%
Muni. Bonds	10.0%	5.5%	5.5%
Large Cap US Stock	0.00%	3.5%	11.0%
Small Cap US Stock	0.00%	2.5%	13.0%
Int'l Stocks	35.0%	2.0%	13.5%
REITs	25.0%	9.0%	12.0%
VC	5.00%	4.9%	10.7%

Projected Inflation – 4.0%

(B) Critique the Coastal Proposal. Include 3 Weaknesses in the proposal from the standpoint of the Investment Policy Statement you created in Part A.

Answer:

(A)

- ***Return Requirements*** – Fairfax's need for portfolio income commences 7 years from now when she retires and loses her salary. The investment focus for her Savings Portfolio should be on growing the portfolio's value in the interim that protects against loss of purchasing power. Her 3% Real, after-tax return preference implies a gross total return of at least 10.8% assuming investments are fully taxable and a 4% inflation rate. To maintain her current lifestyle, she needs to generate $(500,000)(1.04)^7$ or $658,000 in annual income, inflation adjusted when she retires.

- ***Risk Tolerance*** – Fairfax is quite risk averse, as she does not wish to experience a decline of more than 10% in portfolio value in any year. This means the portfolio needs below-average risk exposure to minimize its downside volatility.
- ***Liquidity*** – Her liquidity needs are minimal. Currently, $500,000 cash salary is available, health care is not an issue, and there is no planned need for cash
- ***Time Horizon*** – 2 are appropriate. The first is between now & retirement. The second is between retirement and expected death.
- ***Legal Constraints*** – Watch for INSIDER-Trading laws due to her status at Reston. Though there is no trust instrument in place, if Fairfax's future investing is handled by an investment advisor, the responsibilities associated with the Prudent Person Rule will come into play.
- ***Taxes*** – Coordination of tax planning & investment planning is required. Investment strategy should include income from sheltered sources. Sale of the Reston stock will have huge tax consequences due to their cost free basis.
- ***Unique Preferences*** – The Reston stock dominates Fairfax's portfolio. A well-defined exit strategy needs to be developed for the stock as soon as practical & possible. If the stock loses value, it will make her retirement less comfortable (or require an aggressive strategy with her remaining assets to satisfy her investment goals)

Best Strategy – Will try to realize a 3% Real after-tax return from a mix of high quality assets aggregating less than average risk. Must pay attention to tax & legal needs; as well as the value of the Reston stock. Should try to plan against a worst-case scenario.

(B) Critique: The Coastal Proposal produces a real, after-tax expected return of about 5.17% which is above the 3% level sought by Fairfax. There is not enough portfolio data given to determine the portfolio volatility. Primary weaknesses include

- ALLOCATION of EQUITY ASSETS – Exposure to equity is necessary to achieve the return requirements of Fairfax. The dearth of US equity exposures is troubling, and the heavy weightings in Real Estate, VC & International Equities presents volatility problems and liquidity problems.
- CASH ALLOCATION – given the fixed income allocation, there is too much cash exposure given the limited income requirements in the intermediate horizon.
- Corporate/Muni. Allocation – The corporate bond allocation is inappropriate given her tax situation and the superior after-tax yield of munis v. corporates (5.5% v. 4.8%)
- VC ALLOCATION – This is questionable given the risk averseness of Fairfax. Though it provides diversification, these returns are volatile.
- Lack of Risk/Volatility Info. – The proposal concentrates on return expectations and ignores risk/volatility expectations.

CASE 12

Facts: John Mesa, CFA, is portfolio manager in the Trust department of BigBanc. He has been asked to review the investment portfolios of Robert & Mary Smith, a retired couple and potential clients. Previously, the Smiths had worked with another financial advisor, WealthMax Financial Consultants. To assist Mesa, the Smiths have provided some information.
The Smiths live alone. Their only daughter and granddaughter are financial secure and independent. They are both 65 years old and in good health, plus they have health insurance. Their house needs some major renovations. The work will be completed in 6 months at an expected cost of $200,000. Their annual after-tax living costs are expected to be $150,000 and growing in line with 3% expected annual inflation. In addition to income from the GIFT FUND and FAMILY PORTFOLIO, they receive a fixed, annual pension payment of $65,000 (after taxes) which continues throughout both of their lifetimes. Their main objectives is to maintain financial security and bequeath $1,000,000 to the grandchild, and $1,000,000 to the college. They just completed a $1,000,000 gift to the college by creating a Gift Fund. Preserving the remaining assets for the granddaughter is important. Their investment income is taxed at 30%. Capital gains are taxed at 15%. Mainly they want to invest in Blue Chips and will not be willing to sell a security for a loss. Given the need for income, invest only in dividend-paying stocks.
They benefit from 2 investment accounts: The Gift Fund ($1,000,000) where they will receive fixed annual payments of $40,000 (tax-free). Except for the annual payments, the Gift Fund is managed solely for the benefit of the college and they may not make any withdrawals of principal or income. Upon death, all assets will be transferred to the university's endowment.
The Family Portfolio ($1,200,000) is the rest of their savings. The portfolio is invested entirely in very safe securities consistent with WFC's investment statement

Investment Statement
The Smith Family Portfolio's primary focus is on the production of current income, with long-term capital appreciation as a secondary consideration. The need for a dependable income stream precludes investment vehicles with even a modest likelihood of losses. Liquidity needs reinforce the need to emphasize minimum-risk investments. Extensive use of short-term investment-grade investments is justified by the expectation that a low-inflation environment will continue indefinitely into the future. Thus, investments will emphasize US T-Bills & notes, intermediate-term investment grade debt, and select 'blue chip' stocks, whose dividend distributions are assured and whose price fluctuations are minimal

BigBanc Model Portfolios

Asset Class	Total Return	Yield	A	B	C	D
US Large stock	13.0%	3.0%	0	35	45	0
US Small stock	15.0%	1.0%	0	5	15	0
Non-US Stock	14.0%	1.5%	0	10	15	10
US Corp. Bond (AA)	6.5%	6.5%	80	20	0	30
US Treas. Note	6.0%	6.0%	0	10	5	20
Non-Us Gov. bond	6.5%	6.5%	0	5	5	0
Munis	4.0%	4.0%	0	10	0	10
VC	20%	0.0%	0	0	10	25
US T-Bills	4.0%	4.0%	20	5	5	5
After-tax E(R)			4.2%	7.5%	13.0%	6.4%
Sharpe Ratio			0.35	0.50	0.45	0.45
After-tax Yield			4.2%	2.9%	1.9%	3.3%

E(Inflation) – 3.0%

Answer:

(A) To Prepare an INVESTMENT POLICY STATEMENT, address the return objectives, risk tolerance and other constraints

- ***Return Requirements*** – To achieve its objectives, the FAMILY Portfolio Must provide for after-tax distributions equal to the difference between the Smith's expenses and their fixed income payments. To maintain its real value, the portfolio must also grow at a rate of at least equal to the inflation rate. The primary objective is to provide the ongoing

financial security of the Smiths. To maintain their lifestyle in real terms, distributions from the portfolio must grow at a rate that offsets the impact of inflation on their total expenses, including those covered by the fixed pension and Gift Fund payments. Plus, they want to give $1,000,000 to their daughter. After using $200,000 for their home renovation, the value of the portfolio will be $1,000,000. They need no further capital growth to reach their nominal goal. But, to maintain the real value, the portfolio needs growth equal to inflation

- ***Risk Tolerance*** – The Smiths are relatively late in their investor life cycle and their comments suggest a conservative bias. But, they need some volatility to reach their long-term goals and meet their current income needs. The consequences of an adverse investment outcome in the short term are limited. They could use principal to cover occasional short-falls in performance. In the long-term, adverse investment outcomes will be more serious. Depending on the length of their lifetimes and the growth rate of expenses, they could seriously deplete the corpus of the Portfolio and jeopardize their financial security. Their lifetime of savings and emphasis on maintaining secure investments suggest they are Guardians, a group with lower risk tolerance.
- ***Liquidity*** – The Smith's current annual living expenses ($150,000 after-tax) are currently being met, allowing them to address longer-term growth objectives. They need to modify their home, so they should have at least $200,000 in highly liquid funds. To be prepared for large or unexpected expenses, they should maintain a reserve of relatively liquid holdings
- ***Time Horizon*** – The Family Portfolio has an intermediate-long term investment horizon. The joint life expectancy of the Smiths could still be about 20 years. Given their objective for financial security is met in the short term, they may focus on the more long-term aspects of their objectives. Given they wish to bequeath $1,000,000, a longer-term investment horizon should be warranted.
- ***Legal Constraints*** – No special legal or regulatory problems are apparent.
- ***Taxes*** – The Smiths have a higher income tax than capital gains tax. Ceteris paribus, portfolio returns in the form of capital gains are favored over income
- ***Unique Preferences*** – Establishment of the Gift fund has increased the Smith's dependence on fixed payments. Given that inflation will eat away at their fixed payments, long-term financial security is reduced.

(B) Deficiencies in the WFC Policy Statement –
Rather than a true policy statement, the WFC statement is a compendium of opinions and assertions that may or may not be supportable by evidence and may or may not be appropriate to the Smiths' specific situation. WFC's statement fails to

- identify specific return objectives
- consider inflation
- consider the Smiths' willingness & economic ability to accept risk
- consider the Smiths' investment time horizon
- specify the Smiths' liquidity needs
- address the possibility of legal or regulatory constraints
- consider taxes, and
- consider possible unique circumstances

A comprehensive investment policy statement should address these issues

(C) PORTFOLIO Selection

- Three Portfolio Characteristics other than Expected Return and Yield that change from Portfolio A to Portfolio D are Diversification, Efficiency (Sharpe Ratio) and Risk
    a. Diversification: across asset classes contributes to portfolio efficiency and is a desirable portfolio characteristic. Portfolio B appears to be the most broadly diversified
    b. Efficiency: as measured by per unit of risk (Sharpe Ratio) is a desirable portfolio characteristic. Portfolio B dominates the other portfolios on this criterion
    c. Risk: is an attribute that must be constrained to fit the Smiths' fiscal and psychological tolerance levels. The 85% allocation to equities & VC in Portfolio C entails high risk. Portfolio B, which is more balanced between fixed-income and equity is better suited to the Smith's moderate risk profile
- Meeting the Smiths Returns Objectives in the first year will require an after-tax total return of 7.5% on the $1,000,000 remaining in the Portfolio after the renovation. The Portfolio must accommodate a disbursement of $45,000 and grow at a rate that offsets the impact of inflation

Expenses		($150,000)
SOURCES of FUNDS		
Pension	65,000	
Gift Fund	40,000	
Family Portfolio Disbursement	45,000	
Total	150,000	

REQUIRED RETURN	
Disbursement (45,000)	4.50%
Inflation	3.00%
Total	7.50%

Subsequent Distributions from the Family Portfolio will increase at a rate higher than inflation (to offset the fixed-payment stream from the Pension & Gift Fund)

	Year 1	Year 2	Change
Expenses	150,000	154,500	3%
Portfolio Distribution	45,000	49,500	10%

Portfolios B & C have expected returns that meet the Smith's projected disbursements in Year 1. Portfolio C's expected return is closer to the necessary objective over the long term. But, its risk profile is inconsistent with the Smith's Risk Tolerance. Portfolio B can be selected, based on its appropriate risk level and conformity with the Smiths' constraints. Consequently, Portfolio B probably will not meet the long-term spending needs of the Smiths and principal invasions may be necessary and the secondary objective of bequeathing $1,000,000 to the granddaughter (even in nominal terms) may be forfeited.

(D) CRITERIA for APPROPRIATE INVESTMENT POLICY

- Relevance of Policy Questions
    - Ellis contends that the purpose of a policy statement is to establish guidelines for investment managers that appropriate to the realities of both the client and the market. Some Criteria for investment policy evaluation include:

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    - POLICY LANGUAGE – is the policy written so clear that a competent stranger could manage the portfolio & conform to the client's intentions? WFC's ambiguous language could lead the Smith's investment manager to misinterpret their policy statement and adopt inappropriate strategies. Further, the Smiths will have difficulty evaluating their manager given such ambiguous criteria
    - CLIENT COMMITMENT – Would the client have been able to sustain commitment to the policies stated during periods experienced in the past 50-60 years, particularly in the past 10, when conventional wisdom was opposed to the policies? If the Smiths cannot adhere to the policy in the future, conclusions reached today regarding their financial security could be false
    - MANAGER FIDELITY – Would the investment manager have been able to maintain fidelity to the policy over the past 50 years despite intense daily pressure?
- Appropriateness of WFC Investment Policy in light of
    - POLICY LANGUAGE – the WFC policy has no clear-cut language re: objectives & constraints. Plus it is contradictory (no erosion of principal v. stock recommendations) and incomplete (no discussion of time horizons, etc.)
    - CLIENT COMMITMENT – The Smiths may question the policy and their commitment to it when the portfolio's return is inadequate to meet their long-term needs
    - MANAGER FIDELITY – policy places any manager in an untenable position by requiring short-term income-oriented approach, positing contradictory position between income and permissible risk, and specifying asset classes that cannot allow the attainment of the stated goals
- Responsibility for Investment Policy
    - Ellis states that the client should have TOTAL responsibility for investment policy determination and modification; the investment manager's responsibility is portfolio operation, not portfolio policy

5. *"The Loser's Game" and "Beating the Market" by Ellis*

- It is widely believed that professional investment managers should be able to beat the market. Ellis believes this is false. Trying to beat the market is a LOSER'S GAME.
- In a Winner's game, the outcome is determined by correct actions taken by the winner. In a loser's game, the outcome is determined by mistakes made by the loser (pro v. amateur tennis). In a loser's game, the more a player attempts to WIN points by aggressive actions, the more likely the player will lose by making a mistake.
- Investment management used to be a winner's game and aggressive players could win points by using superior skills against amateur opponents. But, now, it's a loser's game and patient, long-term, passive players will win by making fewer mistakes
- The changes that turned investment management from a winner's game into a loser's game are:

    - Professional Investors ARE the Market. Collectively, they account for most of the funds invested in the market & 80% of the transactions. To beat the market, they must beat themselves
    - Returns produced by market averages are computed without trading costs. In order to beat the market, net of trading & research costs, they must beat the market by a huge gross margin. For typical large portfolios, costs average about 2.85% of assets under management. When the long-run return on stocks is 10%, in order to match the market, the manager must produce results of about 13%. Thus, just to stay even, the manager must beat the market by 28.5%. To do this, the manager must be especially skilled and catch other professionals making mistakes and exploit those mistakes. To do this would require more than the average cost (2.85%) and thus, there would need to be an even greater spread.
- In fact, most money managers fail to beat the market. Those that beat it in one period fail in the next. Still, many try to beat the market. Historically:
  - ***Market Timers*** –the allure of market timing is understandable; investing only when markets are going up and selling when they go down would produce astonishing results. To break even with a buy & hold strategy, must be correct 75% of the time. Why? Most of the gains earned from the market occur in short periods of time with rapid market advances. From 1926-1996, almost all of the total returns generated by stocks were achieved in only 60 months (out of 840). Plus, a study of market timing showed that not one improved its return by doing so, and nearly 90% lost money doing it. It is an awful strategy
  - ***Stock Picking*** – Great investors like Buffet & Lynch were not market timers, they were stock pickers. But, studies show stock research is not profitable to anyone but the security analysts. This is because the market is SO efficient that mis-pricings are so rare that the analysts can't really find enough to justify their costs.
  - ***Portfolio Strategy (Style Investing)***- Pick a style that is superior or rotate from one industry group to another to pick the group that is in favor. These approaches have not worked consistently over time. It is just as hard to time styles as the market
  - ***Investment Philosophy (Develop better mousetrap)***- Try to focus on a methodology. But, it tends to create only theoretical results, and in practice, they fail to work. And, if one theoretical approach is discovered, it is soon incorporated into the market and becomes useless via arbitrage.
  - Most approaches fail in the long-run. They all require the ability to exploit a short-term anomaly in an inefficiency.
  - Author dissuades one from attempting to beat the market via any of these strategies. Managers should concentrate on the long-term strategic decision that will be more important in determining whether or not their client's long-term investment goals will be met. Focus on the asset allocation, and then index.