Portfolio Management

LEADERS
TRAINING CENTRE

The Efficient Market Hypothesis

Behavioral Finance

- Thus, behavioral finance tends to reject CAPM and favor multi factor models.
- As per behavioral finance arbitrage may be unable to correct mispricing due to implementation costs, model risk and uncertain time horizon.
- Critics of behavioral finance argue that it lacks predictive power that can be rigorously tested.
- However, despite that behavioral finance can contribute to drawing attention to unrealistic assumptions of modern finance theory and leading to improvements in it.
- Considering more and more market moves are hard to reconcile with traditional finance theory, behavioral finance explanations become more relevant.

© 2022-2023 Leaders Training Center - All Rights Reserved

The Efficient Market Hypothesis

Financial Amnesia and bubbles

- Financial Amnesia: Market participants forget the lessons of financial market history
- In the past, at times equity prices, real estate prices have risen continuously only to crash subsequently.
- Lack of market discipline could be caused due to failure of corporate governance among financial firms along with over reliance on such firms to impose market discipline.
- Incentives to senior management may encourage unsustainable activity, such as taking excessive risks, which may be detrimental for the financial system.
- Alongside behavioral biases, regulatory failure also occur, possibly due to organizational or resource constraints.

© 2022-2023 Leaders Training Center - All Rights Reserved

The Efficient Market Hypothesis

Financial Amnesia and bubbles

- **Bubbles**: When financial valuations move away from fundamentals bubbles get formed.
- Though there is no precise definition of ‘bubbles’.
- Policymakers and regulators also feel that they cannot pass judgement as it has political consequences.
- It seems widely accepted that financial theory repeats itself and financial amnesia and bubbles are intertwined features of financial life.

© 2022-2023 Leaders Training Center - All Rights Reserved

The Efficient Market Hypothesis

Case Study: Heather

© 2022-2023 Leaders Training Center - All Rights Reserved

The Efficient Market Hypothesis

Case Study: Heather

© 2022-2023 Leaders Training Center - All Rights Reserved

The Efficient Market Hypothesis

Case Study: Heather

© 2022-2023 Leaders Training Center - All Rights Reserved

Pricing, Liquidity and Fair Value

© 2022-2023 Leaders Training Center - All Rights Reserved

Pricing, Liquidity and Fair Value

Learning outcomes……..

- **Explain** the relationship between pricing, liquidity and fair value for the asset classes of equity, fixed income, derivatives and alternative investments
- **Explain** the relationship between liquidity and the capacity of investment strategies

© 2022-2023 Leaders Training Center - All Rights Reserved

Pricing, Liquidity and Fair Value

Fair Value

- The problem of valuation arises for **illiquid assets**, such as property, equity traded in OTC market or derivatives such as CDS.
- For liquid assets, prices trade close to their fair value.
- **Fair value** is an accounting concept to refer to value of an asset or a liability for which market price cannot be easily determined.
- As per US GAAP standard FASB 157, fair value is the price at which an asset could be willingly exchanged in a current transaction, excluding an exchange during a liquidation sale.

© 2022-2023 Leaders Training Center - All Rights Reserved

Pricing, Liquidity and Fair Value

Fair Value: US GAAP Three levels of judgment

- The standard emphasizes on use of current market inputs in estimating the fair value of asset or a liability and refers to three levels of judgment in estimating fair value.

- Level 1 uses quoted input prices from active markets and is clearly preferable; it is based on direct observations of identical assets.
- Level 2 uses prices from similar but not identical assets.
- Level 3 uses 'unobservable' indirect inputs such as assumptions by market participants – this is sometimes known as 'mark to management'.

© 2022-2023 Leaders Training Center - All Rights Reserved

Pricing, Liquidity and Fair Value

Fair Value: US GAAP Three levels of judgment

- Advantage of the standard:
  - Greater transparency since it brings difficult to value assets on balance sheet.
- Disadvantage:
  - It may lead to large write downs if current price is lower than original price. It may result into under-reporting of true value.

© 2022-2023 Leaders Training Center - All Rights Reserved

Pricing, Liquidity and Fair Value

Liquidity and Capacity of Investment Strategies

- **Capacity of investment strategy**: The basic idea is that the cost of implementing strategy increases as asset under management (AUM) increases, hence the performance could be adversely affected. This is particularly true with illiquid assets as bid ask spread rises for larger volumes of transactions.

- Three levels of capacities are mentioned on next slide.

© 2022-2023 Leaders Training Center - All Rights Reserved

Pricing, Liquidity and Fair Value

Liquidity and Capacity of Investment Strategies

- **Threshold capacity** is the level of AUM that allows the strategy to achieve its stated investment return objective.
- **Wealth maximising capacity** is the level of AUM that maximises the amount of wealth created, which is defined as the product of alpha (net of transaction fees) and the AUM.
- **Terminal capacity** is the level of AUM that reduces the alpha, net of transaction costs, to zero.

© 2022-2023 Leaders Training Center - All Rights Reserved

Pricing, Liquidity and Fair Value

Liquidity and Capacity of Investment Strategies

- Investment capacity can be assessed
  - By looking at impact of trading
  - By looking at the impact of accumulating large positions. This calculates concentration ratio.
  - A breadth ratio is inverse of concentration ratio.
- Using historical data, manger can select the desired breadth / concentration ratio.
- Capacity keeps changing over time depending upon market conditions.

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Learning outcomes……..

- **Distinguish** between a ‘top-down’ and ‘bottom-up’ approach to fund management
- **Explain** how active and passive approaches can be blended in portfolio construction
- **Distinguish** between strategic and tactical asset allocation
- **Distinguish** between active and passive fund management, and explain costs and benefits to the investor
- **Explain** the major investment styles prevalent in the fund management industry

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Strategic and Tactical Asset Allocation

- **Strategic Asset Allocation:** Asset allocation from a long-term perspective, say 5 to 10 years to achieve return objectives subject to constraints.
- **Tactical Asset Allocation**: Deviating slightly from strategic asset allocation in the short term.
- Once the asset allocation is done, individual securities such as stocks and bonds need to be selected within the asset classes.

Top-Down Approach	Bottom-Up Approach
Wide asset classes are first determined with long-term strategic portfolio weights, allowing short-term tactical deviations.	An investor considers each security on its own merits and builds portfolio up from specific stocks. Becoming less popular.

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Strategic and Tactical Asset Allocation

EXAMPLE ASSET ALLOCATION

Asset	Strategic weight (%)	Tactical range (%)
Equities: UK	80	70 to 90
Equities: non-UK	20	10 to 30
Bonds: UK	0	0 to 10
Bonds: non-UK	0	0 to 5
Cash	0	0 to 10

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Strategic and Tactical Asset Allocation

- Strategic weights are determined by a number of factors such as
  - tracking a given market index
  - matching liability profile of a pension fund
  - Following what other funds are doing or using sophisticated tools to determine strategic weights
- Tactical asset allocation requires specification of ranges around the strategic weights.

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Passive Vs Active Fund Management

- Passive fund management involves tracking an index.
- Tracker funds attempt to mimic the performance of index.
- Cost of managing the fund and tracking error determine the success of the fund.
- Advantages: Low transaction costs and management charges compared to actively managed funds
- Disadvantage: In bear markets, this strategy is difficult to justify

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Passive Vs Active Fund Management

- Active fund management involves identifying misprices securities and adjusting the portfolio to take advantage of mispricing i.e buy undervalued and sell overvalued securities.
- It is a relatively high risk, high return strategy.
- Active fund manager may use number of techniques to identify mispriced securities.
- If more funds are invested in mispriced securities, there will be more specific risk.

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Combining Passive with Active Fund Management

- **Portfolio Tilting**: Involves combining both passive and active fund management.
  - A fund manager might hold all the constituents of index but may change weights relative to index. Thus, the portfolio will be tilted in the direction of some securities.
  - The main challenge here is to determine degree to which the fund should be actively or passively managed.

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Combining Passive with Active Fund Management

PORTFOLIO TILTING

(1) Asset	(2) MV (%)	(3) A (%)	(4) B (%)	Tilt (%)	(5) C (%)	Tilt (%)
S1	0.10	0.10	0.10		0.10	
S2	0.20	0.20	0.10	(–0.10)	0.00	(–0.20)
S3	0.30	0.30	0.40	(+0.10)	0.20	(–0.10)
S4	0.10	0.10	0.10		0.20	(+0.10)
S5	0.30	0.30	0.30		0.50	(+0.20)

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Management Style:

- **Value Style:** These managers aim to identify undervalued shares. It has following three sub-styles.

1. Investors who invest in stocks with low PE ratios focus on companies selling at low prices relative to current or future earnings, including those stocks in defensive and cyclical sectors, or sectors that are currently out of favour.
2. So-called contrarian investors look for companies with low share prices relative to book value. These firms may have little or no current earnings or dividend yield, but are expected to experience a cyclical rebound or benefit from a firm-specific turnaround.
3. The final sub-style involves high-yielding stocks offering maintained or increasing dividends.

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Management Style:

- **Growth Style:** These managers aim to identify high growth companies. Investors are ready to pay higher current year PE since earnings are expected to grow faster than the market.

- **Market Oriented**: May tilt towards growth or value at different times depending upon the market conditions.

- **Small cap fund style**: Here, investment is done in small cap stocks. There can be sub-styles such as small cap value, growth etc.

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Management Style:

- The implications of style for asset management involve the extent to which portfolios are diversified. The diversification benefits may be lost if style results into concentrated portfolios.
- Style portfolios do not correlate closely with market as a whole. Hence, they create unsystematic risk which should be compensated for.
- During many time periods in the past, investors have concentrated on growth stocks (FAANG for example) from sectors such as consumer, service healthcare, technology.
- However, high growth stocks can be high beta stocks and hence be more volatile.

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Portfolio Composition in Practice:

- There are infinite number of investment portfolios. Some combinations as per Investment Association (IA), UK are given below.

IA MIXED ASSET SECTOR DEFINITIONS

Fund	Definition
Mixed investment 0–35% shares	Equities must comprise 0–35% of the portfolio, fixed income or cash to form a minimum of 45%, and at least 80% of the portfolio to be in 'established' market currencies (i.e. $, £, €).
Mixed investment 20–60% shares	Equities must form a minimum of 20% of the portfolio up to a maximum of 60%, with at least 30% in fixed income or cash, and a minimum of 60% in 'established' currencies.

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Portfolio Composition in Practice:

- There are infinite number of investment portfolios. Some combinations as per Investment Association (IA), UK are given below.

Mixed investment 40–85% shares	This sets no minimum for the fixed income or cash part, but requires equities to form between 40% and 85% of the portfolio; this requires a minimum of 50% to be in 'established' currencies.
Flexible investment	This has no minimum in fixed income, equities or particular currencies.

© 2022-2023 Leaders Training Center - All Rights Reserved

Approaches to Fund Management

Portfolio Composition in Practice:

A practical example of a 'multi-asset defensive fund' provided by a global asset management firm would involve diversification across five asset classes (with their standard benchmark or strategic percentages in parentheses):

- cash (25%);
- bonds (50%);
- equities (15%);
- real estate (5%); and
- commodities (5%).

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

Learning outcomes……..

- **Explain** the following bond portfolio management techniques: cash matching/dedication, immunization, credit risk management and riding the yield curve
- **Calculate** the duration of a bond portfolio
- **Calculate** the theoretical gain from riding the yield curve
- **Explain** the benefits and risks of bond portfolio management strategies such as barbell

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

Learning outcomes……..

- **Explain** the characteristics and risks of a liability-driven investment (LDI) strategy
- **Explain** the process of an LDI strategy
- **Evaluate** some of the techniques and a basic measures of risk used in LDI

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

Bond Portfolio Management

- **Objectives**
  - Matching future liability (for pension fund or insurance company)
    - Cash flow matching or Dedication
    - Immunization
  - Achieving or surpassing a benchmark return (a bond index generally)

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

Bond Portfolio Management: Matching future liability: Cash flow matching or Dedication

- This involves purchase of bonds by investing institutions such as pension fund such that cash received from coupons and principal repayments exactly matches cash outflows expected.
- Such portfolios are called **dedicated portfolios**.
- There is no reinvestment risk or no interest rate risk (since no bonds need to be sold before maturity) and hence shifts in yield curves do not affect portfolio adversely.

© 2022-2023 Leaders Training Center - All Rights Reserved

Bond Portfolio Management: Matching future liability: Duration and Immunisation

- **Bond Portfolio Duration**: It is the weighted average duration of individual bonds that make the portfolio.
- Example: A portfolio consists of two bonds A and B with durations of 5 and 10, respectively. If 40% is invested in Bond A and remaining in Bond B, then the portfolio duration is
  - 40% * 5 + 60% * 10 = 8
- Just as duration of assets or investments are worked out, similarly duration of liabilities can also be worked out depending upon the future cash outflows.

© 2022-2023 Leaders Training Center - All Rights Reserved

Bond Portfolio Management: Matching future liability: Duration and Immunisation

- Suppose, a portfolio manager has to meet a single payment liability of $5000 at the end of 2 years, which of the following will meet duration of this liability with duration of asset (investment)?
  - Buying a one-year bond and then re-investing proceeds in another one-year bond.
  - Buying a two-year coupon paying bond
  - Buying a three-year bond and selling after two years
  - Buying a two-year zero-coupon bond

© 2022-2023 Leaders Training Center - All Rights Reserved