LEADERS
TRAINING CENTRE
Portfolio Management

Investment Management Principals: Fixed Income

Bond Portfolio Management: Matching future liability: Duration and Immunisation

- **Immunization**: This involves matching duration of assets with the liabilities.
  - This reduces the uncertainty surrounding future cash flows from bond investment due to changes in interest rates.
  - Thus, the portfolio is 'immunized' from interest rate fluctuations.
  - It involves the gain (loss) from reinvested income offsetting the fall (rise) in the price of bond as interest rates rise (fall).
  - The two offsetting risks are 'reinvestment risk' and 'price risk'.

© 2022-2023 Leaders Training Center - All Rights Reserved

Immunisation: Assumptions and Challenges

- **Assumptions:**
  - All cash payments are realized, no default or early redemption through call option.
  - Yield curve is flat and yield curve changes are parallel.
- **Challenges:**
  - As time passes, durations of portfolio and liabilities change at different rates. Hence it creates duration mismatch.
  - The fund manager must rebalance the portfolio to match durations of portfolio and liabilities again, but it involves transaction costs. Hence, this decision needs to be taken carefully.

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

- **Bullet or Focused Portfolio**: Portfolio of bonds with individual bond durations similar to desired duration.

- **Barbell Portfolio**: Portfolio involving bonds with much smaller and much larger durations than the target duration.

- **Contingent Immunization**: Initially, the portfolio manager forms a portfolio as desired by him in respect of duration and yield. This continues as long as the portfolio performs well in relation to the associated liability. However, in case of poor performance, the manager resorts to immunization strategy.

- If the manager desires to **follow or surpass bond index return**, rather than creating a matching portfolio, then he is likely to match key characteristics of index such as duration, sector, quality etc. This may lead to tracking error, but transaction costs will be lower compared to full replication.

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

Credit Risk Management

In anticipation of a change in bond quality rating, a manager may trade some bond issues. For example, they may sell bonds expected to deteriorate in credit rating or buy bonds in sectors that are expected to outperform at certain stages of the economic cycle. In doing either of these actions, the manager is managing these anticipated changes in credit risk in order to outperform indices and enhance bond portfolio returns.

© 2022-2023 Leaders Training Center - All Rights Reserved

Riding the yield curve

- In this strategy, returns can be enhanced by identifying and overweighting bonds in a segment of yield curve that are undervalued.
- Suppose, two-year bonds are yielding higher and hence are undervalued compared to one-year bond, a manager should
  - Buy two-year bond and
  - Sell it after one-year at one-year bond's price which is higher due to lower yield of one-year bonds
- This strategy assumes relative mispricing continues till one-year period.

© 2022-2023 Leaders Training Center - All Rights Reserved

Riding the yield curve

Example

Question:

A one-year AA rated zero-coupon bond is currently priced at £94.79. A similar two-year bond is priced at £89.42. What additional return can an investor achieve over a one-year period by buying the two-year bond and selling it after one year, rather than buying the one-year bond and holding to maturity? Assume the shape of the yield curve does not change over the one-year period.

© 2022-2023 Leaders Training Center - All Rights Reserved

Riding the yield curve

Answer:

By buying the one-year bond, which matures at £100 after one year, the investor can gain: £100 – £94.79 = £5.21.

As a percentage of initial cost, this is equivalent to £5.21 ÷ £94.79 × 100% = 5.5%. By buying the two-year bond and selling it after one year, the investor can gain: £94.79 – £89.42 = £5.37.

This is because, with no change in the shape of the yield curve, the two-year bond will be priced at £94.79 in one year's time when it only has one year to maturity. This is the same price as the one-year bond now.

As a percentage of initial cost, this return is equivalent to £5.37 ÷ £89.42 × 100% = 6%. So, the additional return is 6% – 5.5% = 0.5%.

© 2022-2023 Leaders Training Center - All Rights Reserved

Barbell and Bullet Portfolios

- Suppose duration of a liability is 8 years and the fund manager would like to create a duration matched portfolio. Following possibilities exist.
- **Barbell Example**: Invest equally in a 4-year and 12-year duration bonds.
- **Bullet Example**: Invest equally in a 7-year and 9-year duration bonds.
- Advantage of Barbell portfolio: Manager can select from a much larger range of bonds.
- Disadvantage of Barbell portfolio: In case of non-parallel shift in yield curve, the durations of individual bonds in immunizing portfolio differ greatly compared to that of liabilities.

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

Liability Driven Investment (LDI)

- Key aim is to **reduce funding level risk**, by matching wholly or partly liabilities of financial institution (pension fund or insurance companies) or individual with its assets.

- LDI may involve use of derivatives to hedge interest rate and inflation risks.

- On one hand LDI is liability matching but it is also largely seen as a long-term investment discipline, looking at risk in new ways, and placing plan liabilities at center of investment process.

- LDI often involves fixed income and swaps but to increase return, it also involves high yielding components such as alternatives and equity.

- Due to financial market volatility, pension funds have focused on de-risking and hence equity protection strategies involving options are used.

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

Liability Driven Investment (LDI): Process of strategy

1. Using cash flow forecasts of the funding needs into the future (e.g. pension funding requirements) to identify a portfolio that can match these needs. The assets may have similar sensitivities to key variables such as inflation and interest rates, as can the cash flow projection. Hence this analysis can at least approximately match the liability cash flows to the asset cash flows. Swaps could be important here.

2. Determining the degree of acceptable risk must be specified by the trustees, as this establishes the overall risk constraints. This is similar to conventional approaches, except the liability matching in the previous bullet point plays a key role.

3. Assessing the possibility of active management outperformance given our asset allocation.

4. Implementing the LDI strategy and possibly using new types of investment vehicle (e.g. hedge funds).

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

Liability Driven Investment (LDI)

- Swaps play an important role in LDI strategies and offer some protection from interest rate and inflation risk.

- For example, interest rate swaps can be entered into by a pension fund with investment bank in such a way that if changes in interest rates cause liabilities to rise, then the bank will make payments to the fund, else the opposite.

- Similarly, inflation swaps can be entered into to protect the fund from inflation.

- Insurers also engage in LDIs in similar way as pension fund managers.

© 2022-2023 Leaders Training Center - All Rights Reserved

Swap spread

- Swap spread is the **difference** between swap rate and government bond yield.
- Since most LDI investors hold both the government bonds and swaps, **change in swap spread** is a source of **risk** for these investors.
- Changes in swap spread can lead to funding volatility as values of assets and liabilities change differently due to different discount rates being used.
- Causes of difference in swap spreads:
  - Deteriorating fiscal position
  - Financing risk (due to risk of rising finance cost)
  - Monetary and fiscal policies

© 2022-2023 Leaders Training Center - All Rights Reserved

Investment Management Principals: Fixed Income

Swap spread

- Causes of difference in swap spreads:
  - Bank regulatory changes
  - Central clearing of swaps leading to increased cost

Risk Measures for LDI

- Volatility of surplus i.e. surplus of plan assets over plan liabilities
- Risk can be defined as surplus tracking error (shortfall between actual and target surplus).

© 2022-2023 Leaders Training Center - All Rights Reserved

Socially Responsible Investing (SRI) and ESG Investing

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

Learning outcomes……..

- **Explain** what is meant by ESG characteristics and socially responsible investing (SRI) and how they differ
- **Identify** history and evolving regulatory requirement of ESG investing and **Explain** the factors that have led to their development
- **Explain** why investors might or might not include ESG issues in their investment decisions
- **Describe** evidence on whether ESG investing leads to superior portfolio returns

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

Learning outcomes……..

- **Explain** the main methods of incorporating ESG characteristics in investment decisions
- **Describe** the main challenges of incorporating ESG characteristics into investment decisions
- **Explain** what is meant by impact investing and contrast impact investing with traditional investment and ESG strategies

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

SRI and ESG Investing

- SRI generally involves **ethical or value-based** investing.
- Two distinct SRI activities:
  - **Screening**: Including or excluding companies based on ethical criteria, for example, not including companies that produce weapons or tobacco. In some cases, a decision is required if a company is engaged in production of both ethical as well as unethical products.
  - **Shareholder advocacy and engagement**: Intuitional investor may, through proxy voting, seek constructive change in companies by encouraging wider corporate responsibility.

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

SRI and ESG Investing

- ESG factors consider:

  - environmental issues which may include climate change, hazardous waste, nuclear energy and sustainability in general;
  - social concerns which may include diversity, human rights, consumer protection, company culture, human capital and animal welfare; and
  - governance issues which may include management structure and quality, shareholder rights, director independence and remuneration, board skills and executive compensation, all of which are proxies for understanding management and decision-making quality.

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

Stewardship

- Financial Reporting Council (FRC) publishes stewardship code which offers a set of principles for investment decisions, and which were considered to enhance shareholder value.

This most recent code (2020) establishes: *"a clear benchmark for stewardship as the responsible allocation, management and oversight of capital to create long-term value for clients and beneficiaries leading to sustainable benefits for the economy, the environment and society"* (FRC, 2020).

- The code comprises of a set of 'apply and explain' principles for asset managers and asset owners and to service providers.

- All principles are given reporting expectations of companies which indicate information to be included in stewardship report.

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

Stewardship

Self Read

- Principles for Asset Owners and Managers (Page: 432).

Asset owners and asset managers cannot delegate their responsibility and are accountable for effective stewardship. Stewardship activities include investment decision-making, monitoring assets and service providers, engaging with issuers and holding them to account on material issues, collaborating with others, and exercising rights and responsibilities.

- Principles for service providers (Investment consultants, proxy advisors, data and research providers): (Page 433).

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

History of ESG

Global ESG initiatives are organised by, among others, the United Nations (UN), Group of Twenty (G20), Financial Stability Board and the European Union (EU). However, it was the US trade unions of the 1950s and 1960s that became more aware of their potential for affecting the wider social environment using their accumulated capital. One of the most high-profile examples of disinvesting along ethical lines were the Sullivan Principles. These were drawn up in 1977 by Reverend Leon Sullivan to protest against apartheid by applying economic pressure on South Africa.

At that time, the distinguished US economist Milton Friedman argued that considering social responsibility adversely affects a firm's performance and that regulation will damage the macro-economy.

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

History of ESG

Thus, a firm's valuation should not involve consideration of social issues. This view was widely held in investment circles until the 1990s when the idea of social capital entered the thinking on measuring value.

Environmental groups became more active and encouraged companies and capital markets to include ESG factors in their decision-making. This movement came alongside a growing awareness among investors of ESG issues. By the early twenty-first century, a range of products suitable for ESG-compatible investments were being developed. The phrase 'Triple Bottom Line', referring to the financial, environmental and social factors influencing corporate valuation was introduced around this time. There was growing interest in the correlation between environmental and social standards and financial performance, with most attention around environmental and social issues often related to climate change.

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

History of ESG

The publication of *The 100 Best Companies to Work For* (1998) in the USA focused attention on corporate social responsibility and its link to financial performance. This was concerned with how companies are managed, shareholder relationships and treatment of workers. It suggested that improved corporate governance did not damage financial performance, but instead improved productivity and corporate efficiency, and the hiring of superior management. Research in the USA published in 2011 showed that *The 100 Best Companies to Work For* outperformed their peers by 2–3% per annum in terms of stock returns between 1986–2009, and systematically exceeded analysts' expectations.

In 2005, the UN Environment Programme Finance Initiative (UNEP FI) commissioned a report on interpretation of the law with respect to investors and ESG issues. It suggested that not only was it permissible for investment companies to integrate ESG issues into investment analysis, but it was also probably part of their fiduciary duty to do so. This led to the creation of the Principles for Responsible Investing (PRI) in April 2006, which was launched at the New York Stock Exchange (NYSE).

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

Principles for Responsible Investment (PRI)

- PRI is an independent organization supported by around 2370 investment firms which aims to encourage responsible investment to enhance returns and better manage risks.

- It is supported by UN.

The mission of the PRI is as follows:

> *'We believe that an economically efficient, sustainable global financial system is a necessity for long-term value creation. Such a system will reward long-term, responsible investment and benefit the environment and society as a whole.'*

- **Self Read**: 6 PRIs: (Page 435).

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

Supply and Demand for ESG Investing

- On the demand side, there is a growing public awareness of
  - Environmental issues: Climate change, global warming, rising sea levels, nuclear power issues
  - Social concerns: Diversity of employment, human rights, animal welfare, consumer protection
  - Investors much better educated due to access to data and information
  - Empirical studies indicating that responsible investing does not lead to poor performance
  - Availability of responsible investing vehicles
  - Better returns from ESG investing and risk mitigation

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

Supply and Demand for ESG Investing

- On the supply side,
  - Increased ESG disclosure requirements have improved transparency
  - Widely accepted international standards for ESG factors allow more portfolio construction in more objective ways
  - Reputational risk for firms if associated with poor ESG standards
  - Financial risk and impact on share price if there is a blow up on ESG issues
  - Six PRIs advocating advantages of ESG investing

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

Advantages of ESG Investing

- Many empirical studies have indicated that
  - Well governed companies tend to outperform poorly governed companies
  - Companies with favorable ESG characteristics outperform companies with negative characteristics but it is mainly driven by governance issues. Impact of environmental and social factors was negligible.
  - Some studies have shown a positive correlation between ESG score improvements and performance.

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

ESG factors in investment decisions

- Investors can treat ESG factors as any other financial factors. For example, in company analysis one can adjust forecasted financials or company valuation models for the expected impact of ESG factors.

- In addition to financial data, investors should also include analysis of intangible factors such as how company relates to environment, labor force, supply chain (i.e. social factors) and how closely the management team is aligned with shareholders (i.e. governance issues).

- ESG factor data from third-party vendors is available to understand how a company scores on various ESG factors. This will help in valuation and investment recommendation.

- However, fully integrating ESG analysis takes time and involves trail and error.

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

ESG factors in investment decisions: Some challenges of including ESG into investment analysis

1. ESG factor information remains more resource intensive to acquire and assess than conventional audited financial information. It is still difficult to obtain consistent comparable, audited ESG information.
2. Disclosure by companies of their ESG progress often trails reality, suggesting that resources needed to obtain an accurate picture of company performance may be lacking.
   a. Context is very important as different regulatory regimes around the world have different disclosure requirements. Hence, using raw data in valuation without that context could prove very misleading.
   b. Traditional valuation tools can create a tension between their relatively short timeframes and the longer timeframes needed for many ESG issues to impact companies.

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

ESG and impact investing

The Organisation for Economic Co-operation and Development (OECD) defines social impact investment as:

> *'the provision of finance to organisations addressing social needs with the explicit expectation of a measurable social, as well as financial, return'.*

- The above concept is **impact investing** and has become increasingly relevant since social challenges are rising.

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

ESG and impact investing

While ESG refers to considering environmental, social and governance factors in investing decisions, along with more traditional influences on valuation, impact investing describes the intentional investment in a company specifically to have a positive impact on environmental and/or social issues.

According to the Rockefeller Foundation's Global Impact Investing Network, there are a number of key characteristics of impact investing:

- **Intentionality**: by the investor to generate social and/or environmental impact through investments.
- **Return expectations**: the generation of a financial return on capital and, at worst, a return of capital.
- **Impact measurement**: the investor is committed to measure and report the social and environmental performance and progress of underlying investments. This helps ensure transparency and accountability, and helps build awareness of impact investment performance.

© 2022-2023 Leaders Training Center - All Rights Reserved

SRI and ESG Investing

ESG and impact investing

Impact investors have a wide range of financial return expectations with some intentionally investing for sub-market returns, but which are in line with their strategic objectives, while others pursue superior returns, perhaps as required by their fiduciary responsibilities. In a 2016 survey, most impact investors sought competitive, market-rate returns, though their individual approaches vary based on their objectives and capacities, and the choice of what to measure usually reflects investor objectives.

In general, best practice for measuring impact investing will include stating clearly the social and environmental objectives to the interested stakeholders:

- setting measurable performance targets relative to these objectives; and
- monitoring, reporting and managing the performance of investments against these targets to relevant stakeholders.

© 2022-2023 Leaders Training Center - All Rights Reserved