

Class: M.Sc. Sem 3

Subject : Actuarial Practice 1

Chapter: Unit 2 Chapter 11

Chapter Name: Investment Strategy

Table of contents

Institutional investment objectives

Factors affecting an institution's investment strategy

Risks for institutional investors

Factors affecting an individual's investment strategy

Table of contents

Institutional investment objectives

Factors affecting an institution's investment strategy

Risks for institutional investors

Factors affecting an individual's investment strategy

1 Institutional Investment Objectives

An **investment strategy** is based on a primary objective of the investor, and the **basis of any risk** would be the investment's failure to achieve that objective.

Investment strategies for institutional and individual investors are more or less the same, except in terms of **aim, investment expertise, availability of funds** etc where institutions have an advantage.

Investment objectives should be clearly stated and quantified whenever possible so as to keep a check on the success of his investments and to estimate if the strategy is best suited.

Since it is often necessary and appropriate to invest in risky assets, the objectives must be framed in such a way so as to encompass the permitted degree of **risk**, the required return and the cashflow timing.

Most investments result in a trade-off between **risk and return**, where high risks may be accepted only with the compensation of achieving higher returns.

1 Institutional Investment Objectives

The objectives can be defined in several ways :

- To meet **liabilities** as they fall due.
- To control the incidence of future **obligations** on a third party (an employer's contribution rate to a pension scheme).
- The objective of meeting **liabilities** becomes more complex, if liabilities continue to **accrue** for instance a life fund or a pension scheme open to future members. This happens because it then becomes difficult to quantify the level of liabilities in monetary terms.
- For a continuing entity, meeting liabilities as they fall due and proving the **availability of sufficient resources** are two separate objectives, both of which need to be met.
- There is also the need to demonstrate that there are **sufficient assets** available should the provision of future benefits be discontinued.

Table of contents

Institutional investment objectives

Factors affecting an institution's investment strategy

Risks for institutional investors

Factors affecting an individual's investment strategy

2 Risks for Institutional Investors

Risk can be defined as :

- The **probability** of the **investment failing** completely as a result of default on behalf of the issuing party
- To signify the **expected variability of return** from a particular investment, which is the standard deviation of returns from its expected mean, as portrayed by the mean-variance portfolio theory and the CAPM

From a **business point of view** none of the above definitions completely justify risk because:

- The **probability of a well diversified portfolio failing** completely is small, because diversification helps in compensating the failure of one part of the portfolio with the good performance of its other parts
- The **short-term variability of return** from a portfolio is of little relevance to many institutions, where the value of liabilities change in line with the value of assets.

2 Risks for Institutional Investors

- Risk as **Variability of Return**

When defining **investment risk**, a lot of factors need to be considered such as:

- The **time period** being considered. Investing at a time when the market is unstable, increases the risk factor of investments as opposed to when the market is stable
- Whether the returns are measured in **real or nominal terms**. If future liabilities are in real terms, and investments are made on nominal terms, then the risk of investments being insufficient in matching future liabilities is high.
- The **currency** in which we measure returns. Again the difference of currency in investments and liabilities, exposes them to exchange risks.



If risk is defined as the expected variability of return, outline how you would classify a 25-year zero coupon bond issued by the UK Government.

2 Risks for Institutional Investors

- Risk as a **Probability of Failure** to Achieve Investment Objectives

The **riskiness of an asset**, depends on the investor's objectives. An asset may be **risky** for one investor may be **risk free** for another, depending on how efficient it is in meeting the investor's objectives. For example, an index-linked bond may be a risk-free asset for an investor with real liabilities, whereas it may be risky for an investor with fixed liabilities.

Thus, the greater the **mismatch** between assets and liabilities, the greater is the **risk**.

However, investors are not always subject to a single risk. For many investors the risk of underperforming compared with their competitors known as relative performance risk also exists.

Relative performance risk forms an important component of risk for investment and unit trust, because the basis of attracting members is to :

- Provide the highest possible returns amongst competitors within the constraints set by their stated objectives
- Comparing performance between competitors is very straightforward as they have the same objectives.

2 Risks for Institutional Investors

- **Risk Appetite**

The risk appetite of an institution will depend on:

- The **nature** of the institution.
- The constraints of its **governing body and documentation**. A government owned financial institution will be subject to more constraints than a private company.
- Legal or statutory constraints.

The level of acceptable risk also depends on the risk appetite of various stakeholders. For example, a public company where:

- **Debt holders** will have a low-risk appetite to safeguard their funds.
- **Equity holders** will have a higher risk appetite so as to ensure higher profits and returns in the form of higher dividends and capital gains.

Table of contents

Institutional investment objectives

Factors affecting an institution's investment strategy

Risks for institutional investors

Factors affecting an individual's investment strategy

3 Factors affecting an Institution's Investment Strategy

The **principal aim** of an investing institution is to **meet its liabilities** as they fall due. The overriding need is to minimize risk.

The main factors influencing long term investment strategies are:

- Nature of the existing liabilities
- Currency of liabilities
- Term of liabilities
- Level of uncertainty of liabilities
- Tax and expenses
- Statutory, legal and voluntary restrictions
- Size of assets in relation to liabilities and in absolute terms
- Expected long term return from various assets

- Statutory valuation and solvency requirements
- Accounting rules
- Future accrual of liabilities
- The existing asset portfolio
- The strategy followed by other funds
- The institution's risk appetite
- The institution's objectives
- The need for diversification

3 Factors affecting an Institution's Investment Strategy

Liabilities

The most significant factor in influencing the **long-term investment strategy** of an investor is the **term, nature, currency and certainty of liability** that needs to be considered.

Institutions need an appropriate long-term investment strategy which will most closely **match their liabilities** by nature, currency and term. If they cannot adopt a such a strategy, then the appropriateness of an alternate strategy must be evaluated against this benchmark.

Uncertainty

The uncertainty of the liability outgo, both in **amount and timing**, needs to be considered. Institutions with uncertain liabilities need to have higher liquidity buffers to ensure sufficient liquidity to cover any liability arising out of the blue.

For example, a general insurance company, which is liable to make claim payments. The company needs to ensure the availability of sufficient funds to pay for claims which are uncertain in amount and timing.

3 Factors affecting an Institution's Investment Strategy

Matching liabilities may be complicated for some investors when they need to be matched for the following aspects:

- Matching liabilities that need to be met on an **ongoing basis**
- Proving **solvency** as a statutory requirement.
- Assets which solve the purpose for one aspect may not do so for the other.

Term

Investors who have low **present cashflow requirements** may prefer low income yielding investments to avoid the expenses and uncertainty of reinvesting income. Conversely investors who need current income may prefer high income yielding investments to avoid the expense and uncertainty of realizing assets.

3 Factors affecting an Institution's Investment Strategy

Currency

For an investor wanting to maximize returns in his **domestic currency**, it is also necessary to factor in any adverse or unfavorable expected changes in the currencies over the period of the investment, such as returns being lower than expected and **worsening of the exchange rate** leading to losses.

On the other hand, if the exchange rate performs better, the investor stands at gaining additional returns from an overseas investment.

The investor then needs to decide if the additional returns are sufficient for him to expose his investments to **foreign exchange risk**

An overseas market would be considered cheap if:

Expected returns in local currency + expected depreciation of home currency > expected return in home currency

An investor should consider investing overseas only if the margin of the left-hand side over the right-hand side is greater than the risk margin the investor requires for overseas investment

3 Factors affecting an Institution's Investment Strategy

Returns

In some circumstances, an investing strategy is more based on **maximizing returns** than covering liabilities such as:

- Future bonuses paid by an insurance company, under a with profits insurance policy
- The unit fund value under a unit-linked savings contract which grows on the basis of the underlying assets

Here the **value of liabilities** is governed by that of the **assets**, and hence the assets are free to maximize returns. However, liabilities are still a deciding factor, to meet the expectations of members and policyholders and to attract and hold new and current members.

3 Factors affecting an Institution's Investment Strategy

Constraints on investment strategy

Institutions may also need a strategy that will continue to satisfy the requirements of regulators. Any stated investment objective can be considered as a **restriction on investment activity**. For example, an equity fund will invest only in equities and not in bonds.

Investment funds need to act according to their **investors' expectations** which are influenced by:

- Any explicitly stated objective must be adhered to.
- Marketing literature: If a fund's selling point is its credibility, then its investment strategy should prioritize it
- The past investment policy of the fund

Size of the assets - absolute

A small fund may not be able to invest in certain available assets, because it may lose out on the diversification factor of investment.

3 Factors affecting an Institution's Investment Strategy

Size of the assets – Relative to liabilities

When assets are in excess of liabilities, fund managers have a greater degree of freedom of mismatching assets and liabilities as there is a sufficient cushion to absorb mismatching losses

Tax

Investors' preferences for income or capital growth from their investments is governed by two main factors : tax and cashflow requirements. If an institution is subject to different taxation basis on income and capital gains it will prefer to receive as much of its total return as possible in the lower taxed form

Demonstrating Solvency

For some long-term institutional investors, fluctuations in asset market value is not a cause of concern especially when the strategy is to hold assets to maturity. However, they may be important for institutions that are required to demonstrate solvency on a regular market value basis and have a low level of free assets. Fluctuating asset values are also disliked by retail customers who prefer stability.

3 Factors affecting an Institution's Investment Strategy

Diversification for institutions

A **diversified portfolio** is one where the assets have little to **no correlation**. If assets are highly correlated, it makes the portfolio **extremely volatile** to market changes, and increases the level of specific risk. The CAPM does not reward specific risk as it is diversifiable

Diversification in a portfolio should be **within the asset category** and **different individual company shares**. When selecting individual investments, the important factor for an institution is the effect that the investment will have on the performance of the total portfolio. Thus, it is not just the after-tax expected return and variability of return important, its covariance with the rest of the portfolio is also of significance

Investments with **low covariance** with the rest of the portfolio, represent diversification and will reduce overall risk.



Consider two major means of entertainment : travel and digital streaming. Investors hoping to hedge against the risk of future major pandemic impacts may invest in digital streaming platforms (positively impacted by more shutdowns). At the same time, they may consider simultaneously investing in airlines (positively impacted by fewer shutdowns). In theory, these two unrelated industries may minimise overall portfolio risk.

3 Factors affecting an Institution's Investment Strategy



Suggest ways that a portfolio may be diversified within each of the following investment types:

- Domestic equities
- Overseas equities
- Property
- Fixed income bonds

Table of contents

Institutional investment objectives

Factors affecting an institution's investment strategy

Risks for institutional investors

Factors affecting an individual's investment strategy

4 Factors affecting an Individual's Investment Strategy



The main factors to be considered by an individual while investing do not differ from those considered by an institution. However, the balance between the factors and the details do differ. For instance, institutions having more expertise, funds, extra assets so extra investment freedom.

Assets, liabilities and matching cashflows

- Assets

The main asset an individual has is his **current wealth and future income**. Sources of income could be his salary, inheritance, social security benefits etc. again the nature of income needs to be considered whether it is fixed, real, varying etc

- Liabilities

Liabilities consist of **future spending**, including any debt repayments. Both the term and nature of future spending will need to be considered as well as the expected level.

4 Factors affecting an Individual's Investment Strategy

For most of the people, their **current liabilities** tend to follow the course of their current income, for instance a person may consider going for an outing when he receives his salary. However as for future liabilities or expenditure, considerable **financial planning** is required for there to be sufficient funds for them to be borne.

Future expenditures that require considerate planning could be

- Saving for medical expenses in case of a critical illness
- Saving for children's education
- Retirement
- Family vacation

The sophistication of the planning process adopted by an individual will vary greatly, but most will take some account of the pattern of their **expected future income** and major **likely expenditure**, such as a house purchase, in making their plans

4 Factors affecting an Individual's Investment Strategy

- Matching Cashflows

Many individual investors, particularly the retired, rely on the **income** from their investments for their basic lifestyle needs such as their day-to-day expenses for groceries, medicines etc. in this situation it is necessary to find a strategy which will provide a **high enough current income** while allowing for sufficient **growth of capital** and income to maintain the level of income in real terms

Income can also be provided by **regular redemptions** or periodically selling part of a low-income yielding portfolio.

As for investors who are investing for a long term, and do not require any current income from investments as they may be in the working age group, will be concerned about the **reinvestment of income** and maturity proceeds, but in general freer to maximise their returns

- Nature

Most of the liabilities will be **real in nature**, although they may not specifically move in line with the inflation index. Occupational income is usually real in nature moving with inflation, but pensioners may be on a fixed income basis

4 Factors affecting an Individual's Investment Strategy

Liabilities are generally real in nature, and thus assets for long-term investments should also be real, although money market instruments may be chosen for their short term, for the purpose of diversification, because the investor is risk averse and may not preferring investing for longer periods.

- Term

For most of the individuals, income received during their working age will exceed their expenses. However, this may not always be the case during retirement, where expenses are the same and there is not substantial source of income. Therefore, an individual's investment strategy should aim at **providing during retirement**.

Therefore, investors are expected to have a long-term goal instead of a short term one

- Currency

Most investors will have **liabilities in domestic currency** and will want their assets to also be in the same currency. They can have exposure to other currencies and overseas markets through investment funds and overseas earnings from domestic companies.

There may be special reasons for holding investments denominated in other currencies such as **incentive** and **performance schemes for senior employees** of companies owned by overseas companies

4 Factors affecting an Individual's Investment Strategy

- Uncertainty

When there is lack of certainty with respect to future income and expenditures, for example the probability of a person being laid-off thus having no source of income or a sudden expenditure due to a critical illness, the need for liquid assets and insurance increases, to cover these uncertainties.

Risk

- Variability of Market Values

Unlike institutions, individuals are not regulated by authorities and are not required to prove their **solvency** for statutory reasons. As a result, they are not always extremely concerned about **small market fluctuations** in asset values.

Individuals investing for the **long term** may not be concerned about **short term variations** in the market value of their investments, except for when their liabilities are uncertain or are short-term in nature.

A suitable strategy is to switch to more **stable assets** as the time at which the investments need to be realised draws near.

4 Factors affecting an Individual's Investment Strategy

- Diversification

Risks can be reduced by **diversifying assets** both between and within asset classes.

Investing in property or buying a house blocks a major proportion of an investor's funds and leaves little scope for diversification. Collective investment schemes are important tools for diversification.

Returns from assets

In addition to the considerations of matching liabilities and allowing for uncertainty, individuals will wish to **maximise their expected returns**, which means selecting assets that are good value after allowing for:

- The expenses of dealing in that asset
- The individual's tax situation

4 Factors affecting an Individual's Investment Strategy

- Taxation

The way an individual is taxed differs on a variety of basis, for instance individuals earning an income above a certain level may be charged a higher tax rate than those earning below that level, also different investments are subject to different tax rates.

Returns on government bonds may be tax free, to incentivise people to buy them.

Differences in taxation means that an investment, which is good value to one person, can be unsuitable for another.

Some investments are particularly efficient for taxpayers. This is usually because the government specifically desires to encourage investments of a particular type.

- Feel Good Factors

The **definition of "returns"** varies from person to person. For some it may be the income or capital gains earned on an investments, for others it may be subjective in nature, such as owning mansions or rare artifacts and paintings.

4 Factors affecting an Individual's Investment Strategy

Constraints

- Investment Constraints

These **constraints** arise when people don't have investment freedom when funds are blocked for the purpose of liability matching and risk

- Excess Assets

Individuals may be constrained in their **choice of investments** by the size of their liabilities relative to their assets. They will often not be in a position to accept very much risk.

- Uncertainty of Future Income and Outgo

Individuals may lose much of their income for a variety of reasons, such as redundancy or ill health. Similarly **unexpected expenditure** requirements can easily occur. Therefore, it will be desirable to keep some assets in a **reasonable liquid form**. Insurance can also be used to mitigate the effect of some types of uncertainty, how purchasing insurance can help do away with uncertainty to some extent.

4 Factors affecting an Individual's Investment Strategy

Insurance can help reduce uncertainty in the manner that:

- Individuals can afford to **practice strategic investment activities** and can take on higher risks, for gaining higher returns when risks are insured.
- They can plan their expenses, as the need for holding cash in large amounts for contingent events is reduced by insurance
- **Risk Appetite**

Attitude towards risk is partly a personal matter as well as being dependent on an investor's financial position. Risk appetite is usually a function of :

- **Age** – at young ages people are risk taking, and as they age, they become risk averse as they have less time to make up for any losses
- **Wealth** – a wealthy individual can afford to take risks, as he has the necessary resources to make up for his losses unlike a poor individual
- **Dependents** – people who are already supported by a third party, will be extra cautious when taking risks

4 Factors affecting an Individual's Investment Strategy

- Practical Constraints

Individuals face **practical constraints** not suffered by institutions.

- Scarcity of assets for direct investment in some asset classes such as property
- High relative expenses when investing small amounts, making investments costly
- Lack of information and expertise

Topics covered

Institutional investment objectives

Factors affecting an institution's investment strategy

Risks for institutional investors

Factors affecting an individual's investment strategy