

Class: M.Sc Sem 3

Subject : Actuarial Practice 1

Chapter: Unit 2 Chapter 7

Chapter Name: Alternate Investment Classes

Today's Agenda

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2. CIS vs direct investment
3. Examples of Collective Investment Schemes
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1 Collective Investment Scheme



Collective Investment Schemes provide structures for the management of investments on a grouped basis. They provide the opportunity for investors to achieve a wide spread of investments and therefore to lower portfolio risk. Managers of such schemes are likely to have management expertise, particularly in specialist areas such as overseas investment, which is otherwise available only to large institutional investors.

- CIS acts a vehicle for indirect investment, with money being invested in a scheme and not in an asset.
- CIS usually have an investment objective, such as investing in a particular field for example artificial intelligence companies
- Investing in CIS has the advantage of gaining expertise from professional investment managers, who may offer better returns and more adequate risk management as well as diversification.

1 Collective Investment Scheme

- Regulations governing the operation of collective investment schemes vary from country to country and different types of scheme will be subject to different rules. Regulations cover aspects such as:
 - The categories of assets that can be held
 - Whether unquoted assets can be held
 - The maximum level of gearing
 - Any tax relief available
- Some schemes may be available for only certain classes of institutional investors, such as pension funds.
- CIS are of two types:
 - Close ended schemes
 - Open ended schemes

1 Collective Investment Scheme

Close-ended Schemes

Under a close-ended scheme, such as an investment trust, once the initial tranche of money has been invested, the fund is closed for any further new money. After the scheme has been launched, the only way for an investor to be a part of the scheme, is if a pre-existing member is willing to sell his units.

Thus the number of shares or units in a close ended scheme are pre-decided and cannot be increased or decreased once the scheme has been launched.

Open-ended Schemes

Under a open-ended scheme, such as a unit trust, managers can create or eliminate units, based on new investment or disinvestment from the scheme

1 Collective Investment Scheme

Difference between close-ended and open-ended schemes

- The marketability of shares or units of a close-ended funds is often less than that of the underlying asset. For instance a fund whose underlying asset are money market instruments such as treasury bills. However the fund units may be more marketable if the underlying asset of the fund has poor marketability such as property.
The marketability of units in an open-ended fund is guaranteed by the fund manager.
- Gearing of closed-ended funds can make the shares more volatile than the underlying equity. Close-ended funds subject to certain regulations, have the ability to use leverage as a part of their investment strategy and thereby raising additional capital which can be used to purchase more assets for its portfolio. The use of leverage results in higher expected returns to shareholders as it increases the likelihood of share price volatility and market risk
Most open-ended funds cannot be geared, and those that can may only be geared upto a limited extent.

1 Collective Investment Scheme

- It may be possible to buy assets at less than the net asset value in a close-ended fund.
A close-ended fund trading at a share price higher than its NAV is said to be trading at a premium to the NAV, while a close-ended fund trading at a share price lower than its NAV is said to be trading at a discount.
Most of the time the times the trading happens at a discount. It largely depends on investor sentiment and market perceptions, whether investment trusts are in or out of favour.
When the funds are out of favour, the discount may range between 20% to 30% and at other times may be narrower.
When the shares of an investment trust trade at a discount to the NAV, the investor has the advantage of gaining extra returns if he:
 - ❑ Buys when the discounts are larger to the NAV and sells when they have reduced
 - ❑ When an investor buys at a discount to the NAV, he has the opportunity of buying the underlying assets at a price lesser than what he would have paid had the assets been purchased directly.In case of open-ended funds, the concept of discount to the NAV is not applicable to unit trusts, as units are priced with direct reference to the underlying asset

1 Collective Investment Scheme

- Since closed-ended funds are more volatile than open-ended funds, they are assumed to provide a higher expected return
- Shares in closed-ended funds are also more volatile than the underlying equity because the size of the discount can change. The volatility of units in an open-ended fund is similar to that of the underlying assets.
- At any point of time there may be uncertainty with respect to the true level of net asset value per share of a close ended funds especially if the investments unquoted as there would be no specific means or measure to quantify their value.
- Closed-ended funds may be able to invest in a wider range of assets than unit trusts and thus providing a greater level of diversification.
- They may be subject to different tax rates.

2 CIs vs Direct Investment

Advantages of CSI

- Small investors stand at an advantage more than large institutional investors, when investing in collective investment vehicles. The advantages are:
- The investor has the benefit of gaining specialist expertise from highly experienced fund managers.
- The pooling of funds, enables a large sum to be collected and invested in a wider range of assets thereby providing a greater level of diversification, than what would have been achieved by a single investor
- Some costs of direct investment can be avoided, as well as the management charges can be distributed amongst the investors
- Holdings are divisible and a part of them can be sold
- There may be tax advantages, where only the gains above a certain limit are taxed
- There may be marketability advantages where the underlying assets are less marketable
- They can be used to track the returns on a specific index

2 CISs vs Direct Investment

Disadvantages of CIS

- Loss of control – the investor has no say or control over the investment choices. The investments are chosen by the managers on the basis of their expertise and knowledge
- Investors have to incur management charges which may be quite high, thus reducing the overall returns by that amount, which would otherwise would not have been incurred in the case of direct investment
- There may be tax disadvantages such as withholding tax which cannot be reclaimed



Withholding tax refers to the money that the employer deducts from an employee's gross wages and pays directly to the government. Here the withholding tax would be the amount retained by the fund manager.

3 Examples of Collective Investment Schemes

1. Investment Trusts

An investment trust is a type of investment fund which is constituted as a public limited company and are close ended since fund managers cannot redeem or create shares. Like any other company it can have both equity as well as debt capital, and unlike unit trusts, its borrowing is not restrictive.

Shares of investment trusts are usually quoted on the stock exchange.

As these are close-ended, an investor can purchase their shares only if a pre-existing investor is willing to purchase them. Their prices are regulated by the market forces of supply and demand. However their price can be estimated on the basis of their net asset value per share, which is the total value of the company's underlying assets divided by the number of shares.

The main stakeholders of an investment trust are:

- Board of directors – responsible for the smooth working of the company
- Investment managers – responsible for the administration of the trust
- Shareholders – who trade in the trusts shares

3 Examples of Collective Investment Schemes

2. Unit Trusts

A unit trust is where investors can buy units in an underlying pool of assets from the trust manager. Unlike investment trusts, they are open-ended, wherein the fund manager, can create as well as redeem units. They are trusts in legal sense which is why they have limited borrowing powers.

The unit price is the price paid to purchase a single unit and is calculated as :

$$\text{unit price} = \frac{\text{Market value of underlying assets}}{\text{Number of units}}$$

Pricing of the units is not as simple as it seems. In practice there are several issues that need to be considered such as:

- Whether to use the bid or offer prices for the underlying assets
- How the unit price needs to be adjusted for the expenses incurred in the purchase and sale of the assets
- Any charges applied on the investor and how they need to be accounted for

3 Examples of Collective Investment Schemes

The main parties involved are:

- Management Companies – they are instrumental in the planning of the fund, its launch and its day to day functioning. Their duties include, getting the fund authorized, marketing the fund, investment etc. Their main aim is to make the fund profitable.
- Trustees – they ensure that the management perform their duties diligently and abide by the trust deed. They are instrumental in the pricing of the units and are paid their due diligence by the management. A trustee can be a bank, an insurance company or any such financial institution.
- Investors – they invest in the fund by buying the units, with the expectation of gaining good returns

3. Open-ended investment company (OEIC)

An investment company similar in corporate government features to an investment trust, but with open ended characteristics of a unit trust, which allows the fund to expand to accommodate new investors

4 Forwards, Futures and Options



A derivative is a financial contract whose value is dependent on the value of the underlying asset, group of assets or a benchmark. The asset may be an equity or commodity like gold. Futures, options and forwards are types of derivative contracts. A derivative serves the purpose of either mitigating risk (hedging) or assuming risk with the expectation of higher returns. It is a means of transferring risk from the risk averse to the risk seekers.

4 Forwards, Futures and Options

1. Forwards

A forward contract is a contract to buy or sell an asset at a specific date in future on an agreed basis. Forwards can be customized according to the needs of the concerned parties and do not have any specific way of being presented. They are over the counter traded. Since they are not traded on an exchange, the rules and regulations of the exchange do not apply to forward contracts. This exposes them to credit risk, unless the parties involved have a high credit worthiness. The counter is a theoretical one and most of the dealings happen over call between two financial institutions, between two individuals or between a financial institution and an individual.

For example, someone who buys jewellery, will place an order a few weeks in advance. The price, design, current gold rate, making and other specifications will be decided in advance. The buyer will also have to make a small deposit in advance. In agreeing to buy the jewellery on a future date at a specified price, they have entered into what is known as a forward contract.

4 Forwards, Futures and Options

2. Futures

Like a forward contract, a future contract is a contract to buy or sell an asset on an agreed basis in the future. However, futures contracts are standardized contracts that can be traded on a recognized exchange.

- **Exchange traded**

Unlike forward contracts, future contracts cannot be customized or tailor made to suit the needs of the parties. They are standardized, and only the price of the contract can be according to the discretion of the involved parties. Standardization may be with respect to currency of payment, unit size, delivery date, etc. Standardization enables a huge number of contracts to be sold on the same lines, with not much deviation except with respect to the price. This makes future contracts highly liquid and their administration easy to deal with.

Futures are exchange traded and are hence regulated by its rules. The exchange acts as a mediator between buyers and sellers bringing them all under one roof and authorizes who is fit to trade on it. Its main function is to operate what is known as a clearing house.

4 Forwards, Futures and Options

The clearing house is a designated intermediary between the buyer and seller, matching orders between them, ensuring that both the buyer and seller honor their contractual obligations and collecting margins. It acts as a party to each trade, acting as a buyer to every clearing member seller, and as a seller to every clearing member buyer. It acts as a guarantor between the parties, thus mitigating any credit risk.

- **Credit risk and margin**

One way of dealing with credit risk and ensuring that both parties honor their contractual obligations, is by collecting a small deposit amount from both the parties, which is known as the initial margin. Variation margins which vary with the variations in the underlying asset prices, are then collected at regular intervals, during the course of the contract.

- **Long and short position**

Having a long position in the contracts means having a positive economic exposure to the asset. In futures and forwards, the long party is the one taking the delivery of the asset in the future.

Having a short position means having a negative economic exposure to the asset. The short party is the one delivering the asset in the future

4 Forwards, Futures and Options



Snow-Rainfall Futures

The amount of snow and rain (in inches) that falls in an area can be traded as a futures contract. These can be traded at various geographical locations, usually designated by a major airport in the city. They are traded on the Chicago Mercantile Exchange.

Snowfall and rainfall futures can be used by utility companies, transportation services, mail operations, farmers, etc to hedge their risk against excess snow or rain. It can also be used by companies that provide services such as sprinkling salt on roads to hedge risk against light snow.

3. Options

An option is the right but not the obligation to buy or sell an asset. Options are similar to futures, with the difference being that the holder of the option has the right to choose whether or not he wants to execute the contract on the said date.

The option holder is the buyer of the option and has the right to choose to oblige or not. The option writer is the one who sells the option, and has to execute the option if the holder decides to execute it.

4 Forwards, Futures and Options

The option holder pays a price known as the premium to buy the option from the writer. Another point of difference between options and futures is that futures cost nothing to be exercised, whereas the cost of the option is the premium amount also known as its price.

A call option is the right but not the obligation to buy the underlying asset at a specific price, on a specified date or dates in future.

A put option is the right but not the obligation to sell the underlying asset at a specific price, on a specified date or dates in future.



Buying a put option is not the same as selling a call option. The difference among the two is the difference of right and obligation. Buying the put involves paying a price for it and gaining the right to have the option of choosing to sell it or not. Selling a call involves gaining the price of the option, and obliging to the holders choice of exercising the option or not.

The put option holder can choose to not sell the underlying asset at the specified future date, if its market prices have risen from the strike price.

The writer of the call option has to sell the underlying asset if the holder wants to exercise the contract when the market price is higher than the strike price.

4 Forwards, Futures and Options

The exercise or strike price, is the price at which the underlying asset can be sold to (for a put) or purchased from (for a call) the writer or issuer of the option.

One must note that the strike price is not the option premium. The premium is the price paid to purchase the buying or selling right, whereas the strike price is the price fixed at which the asset may be bought or sold in future.

Unlike futures and forwards, options can be both exchange traded as well as over the counter traded.

A European Option is one that can only be exercised at expiry.

An American Option is one that can be exercised at any date before its maturity.



Which of the two option types would have a higher premium price and why?



There is a third category of option known as the Bermuda option. Just like Bermuda lies somewhere between Europe and America, the Bermuda option is similarly somewhere between the European and American options. Here the writer of the option will provide the holder certain specific dates on which the option can be exercised instead of a single date as in European option or any date before expiry as in American option.

4 Forwards, Futures and Options

4. Warrants

A warrant is an option issued by a company over its own shares. The holder has the right to purchase shares at a specified price at specified times in the future from the company.

When a company issues warrants, it becomes the writer and the buyer becomes the call option owner. Most warrants are equity warrants, but bond warrants may also exist.

The price at which the shares can be purchased in future is known as the strike price and can be different from the current market price of the shares.

Unlike shareholders, warrant holders do not have the rights of voting or the right of receiving dividends.

However they are protected against any changes in the ordinary share capital such as rights issues, as these changes are adjusted for in the warrant strike price and the number of shares

5 Uses of Derivatives

Future contracts can be used to set the price of an asset or commodity in advance. Consider a utility company, which can offer fixed price tariffs to consumers by using futures to buy gas and electricity in advance. A instant coffee manufacturer can buy coffee beans futures to secure the price of the ingredients. Most of the times when an investor or a financial institution trades in futures it does not necessarily want the delivery of the underlying asset or commodity. Their sole purpose of trading in futures is to take the advantage of changes in price of the asset. For example an insurance company trading in rice futures, which promises the delivery of a specific quantity rice in five months time for a price X. Now the company wouldn't want the actual delivery of the rice, so just before the delivery, it sells an identical rice future at the then price Y. this means that the insurance company will deliver that specific quantity of rice at the same date for price Y. By taking out the exact opposite position in a futures contract, the company has carried out what is known as closing out their position and does not need to take the delivery of the commodity. He makes a profit or loss by the difference between Y and X.

In case the investor wants the actual delivery of rice at the specified time, then he will not close out his position.

5 Uses of Derivatives

Options also give financial institutions the opportunity to alter the structure of their portfolios without the need to trade in the underlying assets.

An insurance company which has a risk appetite that states that it must sell \$5m of equities if the price falls by 20%. If the company is required to hold capital against a 40% fall in equities, they can reduce their equity exposure by buying a put option on the equity market at 20% below the current price. If by expiry the market would have fallen and risen again, the company would not have had to exit the market and lose the cost of re-entry.

The put option limits the downside equity exposure to a maximum of 20%, as a result of which the company might need to hold only 20% of their capital against a fall in equity. Now if the fall in equity is more than 20% of its value, then the company can exercise the put option and limit its losses to just 20% than it would otherwise have to face had it held on to the equity.

On the other hand if the equity value falls by more than 20% but has recovered the loss in value by the expiry date, then the company can choose to not exercise the put option and hold on to the equity, thereby saving itself from the trouble of exiting the market and re-entering it.

Derivative transactions are not cheap to enter into, and they require a cost to be incurred and any collateral to be paid, must be accounted for in the calculations.

6 Reasons for Overseas Investment

The main objective of investment is to gain rewards in the form of returns. Returns come with a set of risks. Efficient investment practices are those which minimize risk for a given level of returns, or those which maximize returns for a given level of risk.

International or overseas market is another investment avenue along with domestic market, and gives opportunities to maximize returns which may or may not be presented by domestic markets.

1. Matching Liabilities in Foreign Currency

Consider a trader who needs to make payments in the currency of the country from which he has imported his goods. The trader is exposed to adverse currency movement risk, unless he matches his liabilities by investing in assets in that currency.

A trader who only deals in domestic trade, needs to consider the effects of overseas investments on the expected risk/return performance of his whole portfolio

6 Reasons for Overseas Investment

2. Increasing Expected Return

Returns on overseas investment can be higher than domestic markets because they are a fair compensation for the higher risk involved, or if inefficiencies in the global market allow fund managers to find individual countries whose markets are undervalued. However returns provided by domestic and international markets are more or less the same in the long run.

3. Diversification

A major benefit of overseas investment market. Investing in different countries which have a low degree of correlation helps diversify risk. Diversification also gives the opportunity to invest in industries that are not available for investment in the home country.

An investor whose portfolio is dominated by domestic investments, will suffer greatly if there is a fall in the domestic market. On the other hand an investor whose portfolio is spread across various countries, will be only slightly affected by the fall in market of a single country.



Give specific examples how overseas investment help diversify a portfolio

7 Problems of Overseas Investment

- A different market performance to the home market and the associated mismatching risk.
- Currency fluctuation risk. Significant losses can be incurred if the foreign currency depreciates or if the domestic currency rises against the foreign currency. For example the Russian Ruble which soared highly against the dollar after the Ukraine invasion war crisis. Investors who would have invested in the Russian market, incurred significant profits
- Increased expertise needed to assess the markets because the investor may not have the required knowledge or information about the functioning of the overseas market. Also a greater number of variables need to be considered when investing overseas as opposed to domestic investments
- Additional administration functions : custodian, dividend tracking and collection
- Different tax treatment and accounting practices
- Language problems, although most of the overseas companies publish accounts in English
- Poorer market regulations in some countries
- Risk of adverse political developments
- liquidity – many less developed markets are not very liquid
- Restrictions on the ownership of certain shares
- Time delays

8 Indirect Overseas Investment

Indirect means by which an investor can obtain overseas exposure include :

1. Investment in multinational companies based in home market.

The advantages are :

- It is easy to deal in the familiar home market.
- The companies will have expertise and tend to conduct their business in the most profitable areas overseas, including areas where direct investment may be difficult.

The disadvantages are :

- Such a company's earnings may be diluted by domestic earnings
- The investor will have no choice in where the company transacts its business

2. Investment in collective investment vehicles specializing in overseas treatment.

3. Investment in derivatives based in overseas market

8 Indirect Overseas Investment

Indirect investment is particularly suited for small funds although sometimes even large funds can benefit from vehicles investing in specialist areas which are outside the fund's own area of expertise. Also indirect overseas investment does with some problems that come with direct investment.

Overseas Investment via Domestic Companies with Overseas Exposure

Investors can also have an exposure of overseas investment by investing in domestic companies that have international operations as well. For example investing in a hospitality company, which has a chain of hotels and resorts worldwide.

9 Investing in Emerging Markets

Stock markets in countries with developing economies such as India, China, Brazil, Singapore etc are known as emerging markets. They promise high expected returns due to rapid industrialization, but also carry high risks.

Factors to consider before entering emerging markets:

- Current market valuation and level of marketability
- Possibility of high economic growth rate
- Currency stability and strength
- Range of companies available
- Degree of political stability
- Market regulation
- Restrictions on foreign investment
- Available and quality of information

9.1 Attractions of Investing in Emerging Markets

1. Current Market Evaluation

Profits are a result of market inefficiency. Stock and current markets in developing economies, are highly inefficient, causing significant anomalies. Investors tend to make huge profits due to market inefficiency which gives them the opportunity to buy cheaply.

Also emerging markets have a high risk profile, which is why they do not attract many investors. This low level demand keeps prices also low.

2. Rapid Economic Growth

Developing countries like the BRICS nations are having a high growth rate, which is unachievable by the developed nations. Equity investors in fast growing economies have a share in this increase in wealth

3. Better Diversification

The economies and markets of many smaller countries have a lesser interdependency than those of the major economic powers. Therefore investing in emerging markets may provide a good method of diversification

9.2 Drawbacks of Investing in Emerging Markets

1. Volatility

Emerging markets have a high degree of uncertainty. High capital inflow and foreign investments in developing countries, makes their currency and markets extremely volatile. This makes investments unstable. Emerging markets usually tend to be the ones that are best performing and worst performing.

2. Marketability

Emerging markets suffer from illiquidity. Market imperfection results in higher broker fees and an increased level of price uncertainty. Investors who try to sell their stocks with poor marketability, face the risk that their orders will not be fulfilled at the current price, and the transaction will only go through at an unfavorable level.

3. Political Instability

Instability brought by adverse government actions and decisions such as possibility of war, tax increases, loss of subsidy, change of market policy, inability to control inflation, freebies, etc. Markets in developed countries tend to follow a free market discipline of low government intervention.

9.2 Drawbacks of Investing in Emerging Markets

4. Regulation of the Stock Market

US has the highest level of market regulation with rigorous actions taken in the case of insider trading. Emerging markets being small and just starting out, cannot promise thorough regulation and investor protection. They suffer from inefficient market regulatory practices.

5. Restrictions on Foreign Investments

Developing countries have strict laws with respect to foreign investments in domestic companies. For example in India certain industries such as atomic energy, real estate business, lottery business, manufacturing of tobacco products etc. are not eligible to be receiving foreign investments. As for some sectors such as air transport services, private sector banking, print media are allowed to receive foreign investments only to a certain percentage.

6. Communication Problems and Availability and Quality of Information

Markets inefficiency is the lack of information available. Although it can benefit investors as they can buy cheaply, it also makes it difficult for them to analyze if a particular investment is worth their money and will give them good returns. Communication barriers may be in the form of language barriers, presentation of information etc