**105026: Occupational Certificate: Financial Advisor**

**Module 6**

**Investments Advice**

**SAQA ID: 105021**

**NQF Level 6**

**183 credits**

**LEARNER GUIDE**

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**1. HOW TO USE THIS GUIDE**

This guide belongs to you. It is designed to serve as a guide for the duration of your training programme and as a resource for after the time. It contains readings, activities, and application aids that will assist you in developing the knowledge and skills stipulated in the specific outcomes and assessment criteria. Follow in the guide as the facilitator takes you through the material, and feel free to make notes and diagrams that will help you to clarify or retain information. Jot down things that work well or ideas that come from the group. Also, note any points you would like to explore further. Participate actively in the skills practice activities, as they will give you an opportunity to gain insights from other people’s experiences and to practice the skills. Do not forget to share your own experiences so that others can learn from you too.

**2. ICONS**



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**3. HOW YOU WILL LEARN**

The programme methodology includes facilitator presentations, own readings, individual activities, group discussions, and skill application exercises.

**4. OVERVIEW OF THE MODULE**

This Module is at NQF level 06 and successful completion of the module will earn you 183 credits towards Occupational Certificate: Financial Advisor. The material will enable you to understand the fundamentals of investment and be able to advise clients on various investment instruments to meet their investment needs and goals to grow their wealth.

The time you will spend on this module will be a combination of classroom training, formative and summative assessments, self-study and workplace learning. It involves learning, practising, completing activities of a formative nature, doing self-evaluation and putting into practice, in your workplace, what you have learnt.

The approach of classroom contact session-based training is that an adult learning situation is created (through stimulation) by the facilitator to get as much participation as possible from the course participants.

This module has 7 learning units which cover both knowledge and practical and workplace experience components. Guidance is provided in separate guides, of how to perform some of the practical activities and workplace tasks as required.

Someone who has competence in at least an NQF Level 4 qualification with English Communication is eligible to study this course.

**GLOSSARY OF TERMS**

|  |  |
| --- | --- |
| **Active Asset Management** | An [investment strategy](https://www.investopedia.com/terms/i/investmentstrategy.asp) that involves ongoing buying and selling activity by the investor. Active investors purchase investments and continuously monitor their activity to exploit profitable conditions |
| **Advice** | Advice is terms of the FAIS Act is defined as any recommendation, guidance, or a proposal of a financial nature, furnished by any means or medium to any Client Group of groups of Clients in respect of the following:   * The purchase or investment in any financial product, * The conclusion of any other transaction aimed at incurring any right or benefit or liability in respect of any financial product (this includes loan or cession); and   The variation, replacement, or termination of any financial product |
| **Annuitize** | This is the exchanging of a lump sum at retirement for a series of periodic payments by an insurance company. The reason for doing this is to ensure that the retiree has an income during retirement years |
| **Annuity** | A scheduled payment that a retiree purchases from a life insurer using the portion from pension, provident and retirement annuity that has not been commuted as cash |
| **Arbitrage pricing theory** | A [multi-factor](https://www.investopedia.com/terms/m/multifactor-model.asp) asset pricing model based on the idea that an asset's returns can be predicted using the linear relationship between the asset’s expected return and a number of macroeconomic variables that capture systematic risk |
| **Asset Allocation** | An [investment strategy](https://www.investopedia.com/terms/i/investmentstrategy.asp) that aims to balance risk and reward by apportioning a portfolio's assets according to an individual's goals, [risk tolerance](https://www.investopedia.com/terms/r/risktolerance.asp), and [investment horizon](https://www.investopedia.com/terms/i/investment_horizon.asp) |
| **Asset Class** | A grouping of investments that exhibit similar characteristics and are subject to the same laws and regulations |
| **Bankers’ Acceptances (Bas)** | A Bankers’ acceptance is a bill of exchange that entitles the holder of the instrument to a payment of the face value at maturity day by a Bank. The maturity period varies between 30 to 180 days. |
| **Beta coefficient** | A measure of the volatility, or [systematic risk](https://www.investopedia.com/terms/s/systematicrisk.asp), of a security or portfolio, in comparison to the market as a whole |
| **Bond Market** | A Bond market is a market for fixed income securities that consist of a series of fixed payments to the investor on specified dates and repayment of the principal at maturity date. Bonds have maturities ranging from 2 to 20 years and trade in the Capital market |
| **Bond with a put option** | A Bond with a put option gives the bondholder the right to sell the bond to the issuer at a special put price |
| **Bond Yield** | The yield of a Bond is the interest rate that would make all future cash flows of the Bond equal to the present value of the Bond |
| **Bulking** | The practice by an FSP of pooling together money from different Clients in order to benefit from economies of scale for example higher interest rates |
| **Business Cycle** | Fluctuations around the long-term GDP Growth. The Phases of the Business cycle are Trough (the lowest point of a contraction), Expansion, peak and contraction |
| **Business Risk** | This is the risk that a business that an investor has invested funds in ceases to be a going concern due to a collapse in its operating model and goes bankrupt |
| **Call Deposits** | Call deposits are interest-bearing accounts with banks that can be called at any time by the depositor. The interest rate earned is a function of the amount invested and is paid monthly but calculated on a daily basis. |
| **Call option** | Financial contract that gives the option buyer the right, but not the obligation, to buy a stock, bond, [commodity](https://www.investopedia.com/terms/c/commodity.asp) or other asset or instrument at a specified price within a specific time period |
| **Call Risk** | This risk pertains to Bonds that have call options. When interest rates fall, there is increased risk that the issuer may recall the Bond in order to take advantage of lower interest rates |
| **Callable Bond** | A callable Bond gives the issuer the right to buy the Bond from the bondholder (the investor) |
| **Capital Asset Pricing Model (CAPM)** | A model that describes the relationship between systematic risk and [expected return](https://www.investopedia.com/terms/e/expectedreturn.asp) for assets, particularly stocks |
| **Capital Gain/Loss** | Capital gain is the gain realized from an appreciation of an asset price relative to the purchase price. Capital loss is the loss realized from a depreciation of an asset price relative to the purchase price |
| **Capital Market** | A market where savings and investments are channelled between the suppliers who have capital and those who are in need of capital for the long term |
| **Capital preservation** | A conservative investment strategy where the primary goal is to preserve capital and prevent loss in a portfolio |
| **Cash Reserve requirement/structural liquidity requirement** | A tool that the reserve bank uses to influence the supply of money in the economy by requiring all commercial banks to keep a prescribed percentage of their total liabilities as cash |
| **Circular flow of income** | Economic model that illustrates the equilibrium between income that is earned from production and the value of goods and services produced in an economy |
| **Coefficient of variation** | A statistical measure of the dispersion of data points in a data series around the mean |
| **Collective Investment Scheme** | A pooled investment that enables investors to share in the risk and return of the underlying assets in the fund |
| **Commodity** | A basic good used in commerce that is interchangeable with other goods of the same type |
| **Consumer Price Index (CPI)** | A measure of the general increase in the Price Level in the Economy measured through a representative Basket of goods and services in the Economy. This also known as Headline inflation |
| **Conventional annuity** | An annuity pays you a guaranteed annuity income for the rest of your life, regardless of what happens to interest rates or investment markets in the future |
| **Convertible Bond** | A Bond that gives the Bondholder (the investor) the right to convert the Bond into shares of the company that issued the Bond. These types of Bonds are issued by corporates as it is not possible to own the shares of the government |
| **Coupon Bonds (vanilla or straight Bonds)** | Coupon Bonds pay periodic interest payments (known as coupons) at agreed dates for example after every 6 months. The initial amount invested is paid on maturity date |
| **Credit risk** | This is the risk of default by the issuer of a Bond. |
| **Depression** | Long term sustained contraction of GDP in an economy often spanning several years |
| **Derivative** | A [financial security](https://www.investopedia.com/terms/s/security.asp) with a value that is reliant upon or derived from, an underlying asset or group of assets |
| **Earnings per share** | The earnings per share is calculated as the net profit after tax divided by the total number of ordinary shares. All things being equal, a higher earnings per share is desirable for investors. |
| **Earnings Yield** | The earnings yield is the inverse of P/E and is calculated as (Headline earnings per share/Price of a share). A higher earnings yield indicates that the share is delivering higher earnings given its price and vice versa |
| **Equity risk premium** | The difference between the expected return on the share and the return on a risk-free asset such as Treasury Bill. |
| **Exchange traded fund (ETF)** | ETFs combine characteristics of collective investment scheme and conventional stocks. ETFs are pooled investment fund that are traded on the stock exchange. While many ETFs are designed to passively track a particular index, there are also actively managed ETFs. |
| **Expansionary fiscal policy** | The use of the government’s budget to increase aggregate demand resulting in an increase in GDP in an economy |
| **Expansionary phase of the Business cycle** | Phase of Business cycle characterized by increased business profitability, high money supply and low interest rates, inflation, low unemployment, high consumer and business spending and high GDP Growth |
| **Expected return** | The profit or loss an [investor](https://www.investopedia.com/terms/i/investor.asp) anticipates on an investment that has known or anticipated [rates of return](https://www.investopedia.com/terms/r/rateofreturn.asp) |
| **Expected Return** | The probability weighted average of return distribution |
| **Financial Life cycle** | A model that shows the changes in the needs of an individual caused by trigger events during their lifetime |
| **Financial Services Conduct Authority (FSCA)** | The FSCA is the market conduct regulator of financial institutions that provide financial products and financial services, financial institutions that are licensed in terms of a financial sector law, including banks, insurers, retirement funds and administrators, and market infrastructures. This role was implemented on 1 April 2018, taking over from the Financial Services Board as part of the initiative in implementing the Twin Peaks model of Regulation |
| **Financial Services provider (FSP)** | A Financial services provider (FSP) is any person other than a person who furnishes advice, furnishes advice and an intermediary service, or renders an intermediary service as a regular feature of their business |
| **Financial Services Regulation Act** | Legislation signed into law on 21 August 2017 to give into effect the twin peaks model of financial regulation |
| **Fiscal policy** | The use of the government’s budget to influence economic variables |
| **Forward contract** | A customized contract between two parties to buy or sell an asset at a specified price on a future date |
| **Fundamental Analysis** | A method of determining a security’s intrinsic value by analysing economic and financial factors in relation to the security |
| **Futures Contract** | A standardized legal agreement to buy or sell a particular commodity asset, or security at a predetermined price at a specified time in the future |
| **Gross Domestic Product (GDP)** | Measure of production in an economy. It is made up of Consumption(C), Investment (I), Government expenditure (G) and net exports(X-M) |
| **Hedge fund** | An alternative investment that pools funds and employs different strategies to earn active return, or alpha, for their investors |
| **Holding period return** | Measures the return from holding a share over a period and is calculated as the capital gain/loss plus the dividend yield |
| **Income replacement ratio** | The income that the retiree will receive in retirement compared to the income before retirement |
| **Inflation** | Inflation is the ***sustained*** and ***continuous*** rise in the general price Level of an Economy |
| **Inflation linked Bond** | The inflation linked Bond adjusts the initially invested amount that is the coupon rate is calculated on a fluctuating par value that is adjusted for inflation |
| **Inflation risk** | In relation to Bonds, this is the risk that inflation could go up and erode the value of fixed coupon payments for Bonds that are not inflation linked |
| **Inflation targeting** | The SARB’s target inflation range in order to achieve and maintain price stability in the interest of sustainable and balanced economic development and growth |
| **Interest rate risk** | The risk that Bond prices may fall due to a rise in interest rates |
| **Investment horizon** | length of time an investor is aiming to maintain their portfolio before selling their [securities](https://corporatefinanceinstitute.com/resources/knowledge/finance/marketable-securities/) for a profit |
| **Investment Horizon** | This is the length of time that the investor expects to be invested in an investment |
| **Investment risk** | The chance that an outcome or investment's actual gains will differ from an expected outcome or [return](https://www.investopedia.com/terms/r/roys-safety-first-criterion.asp) |
| **JSE** | The Johannesburg stock exchange. Its function is to facilitate the raising of primary capital by business. It also functions as a price determination and trading platform for listed securities |
| **Key individual (KI)** | An appointee by an FSP who oversees the operations and activities of the FSP. |
| **Liquidity Risk** | The risk that the bondholder may find it difficult to sell a bond in the market due to the deterioration the creditworthiness of the issuer |
| **Living annuity** | An annuity that allows a retiree, to invest in a selection of funds so that the capital generates an income, and adjustment to retirement income can be made each year, within prescribed withdrawal rate limits |
| **Monetary policy** | The framework that the SARB uses to manage the supply of money and interest rates in the economy |
| **Monetary policy committee (MPC)** | The committee within the SARB which makes decisions on the appropriate monetary policy stance. It has seven members and is chaired by the SARB Governor |
| **Money market** | The money market is a broad definition of liquid investments with maturities that are less than 12 months |
| **Needs Analysis** | The process of analyzing a client’s financial position, their personal and financial objectives in order to draw up a financial plan that will steer the client to his/her desired goals |
| **Negotiable certificates of deposits (NCD)** | An NCD is a receipt issued by a bank as acknowledgement that an investor has deposited funds with the bank. It offers a market related rate of return. Instead of holding the NCD to maturity, the holder or bearer of the NCD can sell the NCD in the secondary market |
| **Net Asset Value (NAV)** | Represents the net value of a Collective Investment Scheme and is calculated as the total value of the assets minus the total value of its liabilities(costs) |
| **Nominal GDP** | GDP measured at current prices that is without taking into account the effect of inflation in the computation of GDP |
| **Nominal interest rate** | The cost of borrowing money without taking into account the effect of inflation |
| **Notice Deposits** | A notice deposit is an interest-bearing investment that requires the investor needs to give notice of withdrawal in advance. The deposited funds earn interest based on the amount invested. |
| **Passive Asset Management** | A [style of portfolio management](https://www.investopedia.com/articles/mutualfund/10/investment-style-indexes.asp) associated where a fund's portfolio mirrors a [market index](https://www.investopedia.com/terms/m/marketindex.asp) |
| **Portfolio Benchmark** | A standard or measure that can be used to analyse the allocation, risk, and return of a given portfolio |
| **Price to earnings Ratio** | The P/E ratio is the price of a share divided by its headline earnings per share |
| **Primary market** | The primary market is the market for new securities. |
| **Prime rate** | Is the lowest rate at which commercial banks lend money to the public after adding a profit margin to the repo rate |
| **Private Equity** | An [alternative investment](https://www.investopedia.com/terms/a/alternative_investment.asp) class and consists of capital that is not listed on a public exchange |
| **Promissory Notes** | A promissory note is a written promise by the issuer to pay another party a specified sum of money at an agreed date or on demand.  The promissory note will contain the principal amount, interest rate, maturity date, date and place of issuance and the issuer’s signature |
| **Prudential Authority** | An arm within the South African Reserve Bank (SARB) responsible for regulation and monitoring of the financial soundness and safety of Banks, insurers, cooperative financial institutions, financial conglomerates, and certain financial infrastructures. |
| **Put option** | Financial contract that gives the option buyer the right, but not the obligation, to sell a stock, bond, [commodity](https://www.investopedia.com/terms/c/commodity.asp) or other asset or instrument at a specified price within a specific time period |
| **Quantitative easing** | A deliberate central bank strategy to increase the money supply in order to increase Business activity and GDP growth |
| **Real Estate** | Property made up of land and the buildings on it, as well as the natural resources of the land including uncultivated flora and fauna, farmed crops and livestock, water, and any additional mineral deposits |
| **Real GDP** | GDP at constant prices, that is, GDP adjusted for inflation |
| **Real interest rate** | The cost of borrowing money after adjustment for inflation |
| **Rebalancing** | Resetting the weights of the portfolio to the desired levels |
| **Recession** | A prolonged decrease in GDP growth. A technical recession occurs when two GDP Quarters record negative growth |
| **Reinvestment Risk** | This is the risk that interest rates may be lower at the time that the Bond is called by its issuer or at the time that a coupon is reinvested. If prevailing interest rates are lower, the proceeds from the callable bond are reinvested at a lower interest rate. |
| **REIT** | A company that owns, operates, or finances income-generating real estate |
| **Repo rate** | The repurchase rate, better known as the repo rate, is the rate at which the SARB lends money to commercial banks |
| **Required rate of return** | The minimum return an investor will accept for owning an investment, as compensation for a given level of risk associated with holding the investment |
| **Retirement planning** | The determination of one’s income goals after retirement and establishing and implementing a plan to meet those retirement income goals |
| **Risk Aversion** | The behaviour of human investors, who, when exposed to uncertainty, attempt to lower that uncertainty. |
| **Risk free rate** | The [rate of return](https://www.investopedia.com/terms/r/rateofreturn.asp) of an investment with no risk of loss and is measured using the current [Treasury bill](https://www.investopedia.com/terms/t/treasurybill.asp), or T-bill, rate or long-term government bond yield are used as the risk-free rate |
| **Risk tolerance** | The ability and willingness of an investor to take risk of capital loss on their investments |
| **SARB** | The South African Reserve Bank is the central bank of the Republic of South Africa. The primary purpose of the Bank is to achieve and maintain price stability in the interest of balanced and sustainable economic growth in South Africa. Together with other institutions, it also plays a pivotal role in ensuring financial stability |
| **SARB Open market transactions** | This is a range of transactions that the SARB undertakes in the money market in order to influence the money supply and interest rates in the economy. Example of such transactions are the issuance of SARB debentures, movement of public funds between the market and the SARB and the conduction of foreign market swaps in the foreign market |
| **Secondary market** | The secondary market is the market where existing securities are traded |
| **Sharpe ratio** | A ratio of the average return earned in excess of the risk-free rate per unit of [volatility](https://www.investopedia.com/terms/v/volatility.asp) or total risk |
| **Sovereign Risk** | Sovereign risk is the risk posed by the deterioration of a government’s ability to repay its debt obligations. |
| **Standard Deviation** | A measure of the magnitude of the deviation from expected returns of an investment |
| **Swap** | A [derivative](https://www.investopedia.com/terms/d/derivative.asp) contract through which two parties exchange the cash flows or liabilities from two different financial instruments |
| **Systematic risk** | Market wide factors that affect the pricing of an asset class |
| **Tax free savings** | The new Tax-Free Savings Accounts (TFSA) introduced in 2015 are part of non-retirement savings and help to maximize tax relief.  All proceeds, which include interest income, capital gains and dividends from these accounts, are tax-free |
| **Technical Analysis** | A trading discipline employed to evaluate investments and identify trading opportunities by analysing statistical trends gathered from trading activity, such as price movement and volume |
| **Time value of money** | The concept that money is worth more now than the identical sum in the future due to its potential [earning capacity](https://www.investopedia.com/terms/e/earning-potential.asp) |
| **Total Expense Ratio (TER)** | A measure of the total costs associated with managing and operating a Collective Investment Scheme |
| **Treasury Bills** | Treasury Bills are government issued money market instruments in order to raise money for government programmes or as a way of implementing monetary policy. They have a maturity of either 91 days or 182 days. |
| **Treynor ratio** | A risk measurement approach that describes the relationship between systematic risk and [expected return](https://www.investopedia.com/terms/e/expectedreturn.asp) for assets, particularly stocks |
| **Unsystematic risk** | Refers to company specific factors that can cause the actual return to vary from expected outcome |
| **Volatility Risk** | This is the risk of an asset price going up and down in response to supply and demand which are determined by company specific and market wide forces |
| **Yield curve risk** | The risk of a change that could affect the yields of bonds of particular maturities and not all bonds. |
| **Zero Coupon Bond** | Zero coupon bonds are sold at a discount and do not pay regular coupons. At maturity, the issuer pays the par value to the investor |

# **LEARNING UNIT 1: GENERAL INVESTMENT PRINCIPLES**



**Learning Outcomes**

By the end of this learning unit and having completed all the formative assessment activities, you will be able to:

* Outline the six-step financial planning process
* Identify a client’s financial goals
* Identify the stage in the financial planning process when needs analysis needs to be carried out and its importance
* Develop investment objectives following a needs analysis taking into account different factors
* Analyse factors that can impact and shape an investor’s investment objective.

**INTRODUCTION**

As a financial adviser, you ought to understand the general investment principles for you to adequately advise clients on various investment instruments to meet their goals. Suppose you are asked by a client in your first meeting what the best investment option for a R10 000 investment is. What would be your answer be? Stock market? The Bond or money market investment perhaps or property? Would you have an answer right away for the client?

You will not have to suck the answer out of your thumb if you apply the six-step financial planning process which is pivotal in ensuring that the advice that you give to a Client is effective and in the best interests of the client.

A key step in the six-step financial planning process is the analysis of the client’s financial information as well as the client circumstances in order to establish his or her needs. The technical term for this process is needs analysis. A financial planner’s role is to assist the Client in reaching their financial objectives. In order to achieve this, one needs to have a clear understanding of what the client needs and only then can investment proposal be developed to address these needs. Financial advisers usually sell and advice of financial products on behalf of Financial Service Providers (FSP).

We summarize the six-step financial planning in this chapter but more broadly discuss needs analysis and the determination of a Client’s investment objectives and how this culminates in developing a relevant and effective investment recommendation.

**1.1 The six-step financial planning process**

Financial planning can be defined as a process that establishes a balanced plan in order to meet short term and long term financial goals. The Financial Planning Institute of Southern Africa (FPI) is the professional body that seeks to professionalize the financial planning profession for the mutual interest of clients and the industry. It is part of the global Financial Planning Standards Board (FPSB) and prescribes a six-step approach in developing a financial plan for its members.

FPSB’s Financial Planning Process consist of six steps that financial planning professionals use to consider all aspects of a client’s financial situation when formulating financial planning strategies and making recommendations.

We look at these six steps below in order for us to understand where the major focus of this topic (needs analysis) fits in the overall financial planning equation. The financial services industry has for long grappled with ethical transgressions punctuated by inappropriate advice which has resulted in clients incurring life changing financial losses. It is therefore imperative that the steps listed below are followed in order to achieve better financial outcomes for clients. This will reflect positively on the industry and increase public confidence in our profession. We list the steps below as defined by the FPI.



Source: www.fpsb.org

**Step 1**

**Establishing and defining a professional relationship**

This is the initial point of contact with the client where the financial planner clearly defines their role and service offering as well as establishing any specific needs or concerns that the client may have. The scope of the engagement with the client is established at this stage.

**Step 2**

**Gathering Data, including goals**

The financial planner gathers financial data and establishes personal circumstances at this stage. The financial data collected will include assets, liabilities, income sources, the client’s budget and current plan that has been established in order to achieve goals. Personal information such as attitude to risk is also collected at this stage.



An important requirement at this stage is to document the advice given in a document called a record of advice. This is a document that summarizes the advice given by the financial planner and the main contents of the document should be as follows:

* It should state the parties to the record of advice that is the client and the financial adviser. The client’s full names and identity number as well as the adviser’s full names and the details of the FSP that the adviser represents including its physical address should be clearly stated on the document.
* The record of advice should state that the adviser’s business information and proof of registration as an FSP has been furnished to the client.
* It should also indicate whether a comprehensive or simple needs analysis was conducted, that a risk profile analysis was done, and the adviser subsequently offered investment related advice which the Client agreed to and the date on which this was done.
* Subsequent to accepting the advice, the record of advice should also state that the Client instructed the adviser to implement the recommended products and that the record of advice includes the essential elements of the advice in writing.
* The owner of the investment, the type of investment vehicle (e.g., a collective investment scheme), the lump sum and/or recurring investment amount should be clearly stated.
* An important component of the record of advice is the name of the chosen investment provider as well as the primary reason why the provider was chosen ahead of other providers.
* Further, the record of advice should show the asset allocation in percentage terms to Local and international equity, local and foreign fixed income and local international property.
* It should be stated which investment approach best suits the investment objective for example if the objective is to invest money for the medium term, a balanced approach would most likely be employed to achieve this objective. Therefore, it should be clearly stated that the investment will have exposure to both high risk and low risk assets and that the high risk component exposes the investor to short term volatility.
* The investment objective should be stated, any guarantees or minimum investment term should be included.
* One of the most important aspects of the record of advice is the upfront and ongoing adviser fee inclusive of VAT which has been agreed upon by both parties.

**Step 3**

**Analyzing and evaluating financial status**

The financial planner analyzes the data gathered is step 3 in order to establish the distance between a Client’s desired financial outcomes and their current position. The industry term for this process is needs analysis which we will discuss in more detail below.

**Step 4**

**Developing and presenting financial planning recommendations and/or alternatives**

An analysis of needs alone without developing strategies to help the client achieve their goals would not add any value to the client. This is the stage where the financial planner gives advice. In the process of developing the recommendation, the financial planner needs to clearly articulate the decisions that the client needs to make in order to achieve their goals. The planner also needs to present different options that could be used to address the current position before recommending the most effective solution and include reasons why the other options were not the most suitable.

**Step 5**

**Implementing the financial planning recommendations**

Having established the solutions in step 4, the financial planner coordinates the implementation of the plan. This will include assisting the client with the application process and handling the administration to ensure that the recommended plans are in place as well as coordinating with other professionals who may need to be involved for example estate planning attorneys or the client’s accountants.

**Step 6**

**Monitoring the financial planning recommendations**

This is a very key step which most financial planners miss to the detriment of their clients. It is not enough to implement the financial plan. Regular reviews and monitoring need to be carried out in order to ensure that the plan remains relevant given changes in the Client’s personal and financial circumstances. Other factors such as changes in the macro economic environment and/or financial markets and changes in legislation may necessitate changes in the financial plan.

**1.2 Needs analysis and the determination of a Client’s investment goals**



Needs analysis is the process of analyzing a client’s financial position, their personal and financial objectives in order to determine draw up a financial plan that will steer the client to their desired goals. Although this section will deal with needs analysis in relation to investments, it is important to realize that this process should be holistic and look at a client’s circumstances transcending beyond investments. We look at the information that is required to conduct a comprehensive needs analysis below.

**1.2.1 Information required for needs analysis**

Prior to getting to the needs analysis stage, the financial planner should collect all available information in order to be fully appraised of the client’s financial position in relation to objectives. The below information should be collected from the client, and it is important to state here that this list is not exhaustive:

* **The client’s financial information**: This information relates to the client’s financial position and will include data such as assets and liabilities, income level and sources, cash flows, client’s age and dependents, the client’s budget, current investments, provision for risk management that is short term and long term insurance policies and healthcare planning.
* **The client’s personal and financial goals:** A client’s personal and financial goals are intertwined. For example, a client with a desire to travel the world after retirement will need a financial plan to make that dream a reality. It is important therefore to understand what the client’s desires are. It is also important to realize that although the Client may have multiple personal and financial goals, there will be goals that are high priority and these need to be identified when interacting with the client. Additionally, some clients may not have clear financial goals and hence it will be the financial planner’s responsibility to unearth these goals and translate them into an effective financial plan.
* **Client’s behavioral profile:** The financial planner should be fully cognizant of the fact that a key determinant of the financial plan will depend on the client’s values. A good financial plan will take into account a client’s values and attitude towards risk for example a retired client who desires to leave a legacy for the grandchildren will prioritize the setting up of a will. Additional factors such as religion and personal beliefs may shape a client’s investment strategy for example an environmental activist may take issue with investing in companies that do not promote sustainable renewable energy in their operating model.

Perhaps the best way to illustrate needs analysis at play is through a worked example. It is important to understand that needs analysis in order to come up with an investment recommendation for a client should take into account all other facets of a client’s situation for example, a client who does not have an emergency fund in place would need part of his investment to be liquid in case of emergencies. This will be clearly illustrated in the example below:



Let us suppose that you have been introduced to the Ndlovus, a young couple in their 30s who have been married for the past 7 years. The couple has been blessed with twins and these children are 5 years old and are soon to enroll into Grade 1 in the next year. Being Chartered Accountants, the Ndlovus pay attention to how they spend and keep record of all purchases in addition to having a monthly budget. They have provided you with the following information:

* After all monthly obligations have been met, they have a budget surplus of R12 000 per month. They are thinking of investing R6 000 of this every month in order to have enough income to purchase an additional property for cash in 10 years’ time. The value of the property will be R2 000 000 in 10 years’ time.
* The Ndlovus have an emergency fund that is equivalent to 6 times their monthly combined salaries.
* All the physical assets that is 3 cars, 2 houses and household contents are comprehensively insured.
* The Ndlovus have an investment for their kids’ education funding needs that will be needed when the kids turn 19. The investment is currently invested in a money market account that has slightly underperformed inflation for the past 5 years. They request that you advise if this is the best investment strategy for their kids’ education.
* Additional investments include an R2 million investment in a collective investment scheme. The investment has been generating an income of approximately R200 000 per year and the couple is concerned about the tax that they pay on the income. Additionally, this income is automatically reinvested as they do not have immediate use of the money at least for the next 10 years. Being high income earners, the couple is in the highest tax bracket of 45%.
* Although the Ndlovus have employer funded retirement funds, they would like to set up retirement annuities in their individual capacity. They would like to know the maximum possible contribution in order to maximize on the allowable tax deduction for retirement contributions.
* The two houses that they own are fully paid for and they do not have major liabilities as the cars are fully paid up as well.

From the information that has been given, you have been tasked with analyzing their needs and to recommend strategies in order to assist the clients in achieving their investment objectives.

**Need 1:** **Investment of budget surplus of R6 000 in order to purchase House in 10 years’ time:**

The Ndlovus have indicated that they would like to buy a house worth R2 000 000 in 10 years’ time. The following need to be considered in developing a recommendation for them:

* Using a financial calculator, the required rate of return or the return that would be needed on a R6 000 monthly investment is 19% in order to have a R2 000 000 in 10 years’ time. It is important to note that 19% return per annum is may be an unrealistic expectation as the performance of SA equities is about 13.6% per annum over a period of 91 years.[[1]](#footnote-1)
* The investment horizon of 10 years is fairly long and given that a high return of 19% per annum is required, there is a strong motivation to invest the money in growth assets such as shares and property. These asset classes are volatile in the short to medium term but provide long term inflation beating returns.
* Investing in shares and property will be efficient from a tax perspective as capital gains tax will be deferred until the end of the investment term.

**Need 2:** **Education funding needs:** You have been asked to assess the adequacy of the current education funding investment. The following are loopholes in the current strategy:

* The investment term is quite long. The funds will be required in 14 years’ time and yet the funds are conservatively invested. A money market investment carries the risk of underperforming inflation such that the Ndlovus may not be able to fully fund education needs when Kids reach 19 years of age.
* Additionally, the money market investment will be subject to tax as interest income is taxable (subject to an exemption of R23 800) per year. This will result in tax liability for an income that is not needed, and this is inefficient.
* In addition, capital protection is not a priority for this investment. The investment term is long enough for the investment to weather short term fluctuations associated with growth assets such as shares and property.
* It would be wise for the couple to realign this investment and invest in growth assets given the tax and inflation implications of the current strategy.

**Need 3: Tax effectiveness of Collective investment Scheme investment:** This investment presents the same challenges that the education fund has.

* The investment is a long term investment and there is no need for liquidity as the funds will only be required in 10 years’ time. The structure of the investment is not consistent with the investor’s objectives.
* Instead, the investment is generating an income when no income is needed, and in the process, subjecting the client to an unnecessary tax bill.
* The investment needs to be realigned with a focus on growth assets such as shares and property that defer capital gains tax and at the same time reducing the risk of underperforming inflation that is posed by interest income over the long term.

**Need 4: Maximization of tax deduction on retirement contributions:**

* The Ndlovus can maximize their tax deduction for contributing to a retirement annuity up to 27.5% of taxable income or income but limited to R350 000 per annum.
* The investment term is long as the couple is still in their 30s. However, given the fact that retirement savings are so important and could result in a very uncomfortable retirement if capital is lost, RAs are required to balance the need for growth as well as capital protection. As such, the investment limitations will be as follows: Equity 75%, listed property 25%, offshore assets 30% and Hedge Funds 10%.

**1.2.2 Factors that determine investment objectives**

We have looked at a practical case of determining investor objectives above. However, it is important to realize that client circumstances and needs will vary from case to case. Having said this, we can identify factors that generally influence a client’s investment objectives. These are discussed below. Below is a diagrammatic depiction of the factors that affect a client’s investment objectives. We discuss these in detail below:



Source: https://www.holisticinvestment.in/

**a) Investor’s risk tolerance:**

Risk tolerance can be defined as the ability and willingness of an investor to take risk of capital loss on their investments. There are two facets to risk tolerance. The first is a person’s natural inclination to risk. You could come across a client who is natural risk taker and will take on any amount of risk to achieve their investment goals. On the other hand, there are people with less inclination to take risk regardless of the limit that avoiding risk has on potential returns. Secondly, regardless of an individual’s natural attitude to risk, the individual’s financial position will determine the amount of risk that can be tolerated. In other words, although the individual has a natural tolerance of risk (willingness), the financial position of the client would hinder the risk of capital loss (ability) that can be endured. For example, an investment which constitutes a significant portion of one’s overall financial portfolio may need to be invested conservatively in order to minimize capital loss as significant losses may change the investor’s life forever.

All things being equal, investments in growth assets such as shares, and property pose a higher risk of capital loss in the short term compared to Bonds and money market investments.



Matthew is a 65 year old retiree who is considering the best investment option for his retirement. Matthew is a risk averse Client and this stems from the huge losses that he incurred during the 2008 global financial crisis. He lost more than half of his wealth in listed property stocks on the S&P 500. He is aware of the risk of underperforming inflation if he invests in low risk investments and would rather lose purchasing power to inflation than to see fluctuations in his investment values.

Matthew is a risk averse client and this stems from past experiences. To compound this, he is in his retirement years and hence his earning capacity would have diminished unless if he has assets that generate passive income for him.

In a nutshell, his life stage and past experiences contribute to Matthew’s low risk tolerance.

**b) Tax implications**

For some investors, the main goal may not be so much about growth or capital protection but about effective tax management. This need may be more pronounced in high-net-worth individuals whose income places them in the highest tax bracket. There are various ways in which the client could efficiently minimize the tax bill through investments as follows:

* Tax free savings accounts introduced by the Ministry of Finance in 2015 allow investors to invest in unit trusts, REITs, and fixed deposits to a maximum of R33 000 per year and a lifetime maximum of R500 000
* Retirement annuity contributions up to a maximum of 27.5% of taxable income or income capped at R350 000 per annum.
* Endowment policies for individuals whose tax bracket exceeds 30%. This would reduce the inclusion rate for capital gains from 18% to 12% for capital gains and the tax on income earned would be reduced to 30%.

**c) Investment horizon**

An investment term can be categorized as short term, medium term or long term. All things being equal, an investment for 5 years or less is considered a short term investment with an investment for between 5 to 10 years categorized as a medium term investment. Investments for over 10 years are generally considered long term investments. A good example of a long term investment is a retirement annuity where the term to retirement age is more than 10 years away. An investment for the purposes of down paying a house 4 years away can be defined as a short term investment. The investment term will determine the investment objective as discussed below:

* Long term investment horizons provides the investor with sufficient time to recover from any short term fluctuations in investment values. On the flip side, there is a risk of losing value if the investment underperforms inflation over the long term. When combined, these two factors provide a case for a long term growth objective. This would entail investments in growth assets versus capital preserving assets.
* Growth assets fluctuate in the short term. It would be quite risky to have an investment objective that is growth oriented for a short term investment. Due to the risk of capital loss, a short term investment objective will under normal circumstances result in a capital preserving investment objective.
* A medium term investment horizon may entail a delicate balance between growth and capital preservation. Although the investor may want to grow the capital, there is a risk of capital loss if there is a prolonged market downturn. This may result in capital losses. Equally, the investor may be concerned about the eroding effects of inflation over the medium term. In order to achieve a balancing act, the investor may have to adopt a balanced investment objective there both capital preservation and growth are achieved.

**d) Liquidity**

The need for liquidity is a key consideration in the investment equation. Liquidity is defined here as the ability of the investor to dispose of the assets invested in with ease and with minimal capital loss.



Consider an elderly investor who has retired and is seeking an investment that will provide a monthly income in retirement years. What would be the best investment strategy?

An effective strategy would be to invest a portion of the investment in income generating assets such as money market instruments and bonds. The income producing nature of these assets is such that the monthly income needs are met without having to dispose of assets at a loss. If invested in growth assets, there is a risk of a capital loss every time when the monthly income need is met. This may result in depletion of the investment capital to the detriment of the retiree.

**e) Net Wealth of Investor**

As already discussed, high net worth individuals are subject to higher tax and this consideration can shape an investment to focus on tax efficiency. Additionally, the amount invested in relation to the client’s net wealth has a bearing on the client’s risk tolerance. All things being equal, high net worth individuals may have a higher risk tolerance as capital losses in one investment could only be a fraction of the investor’s net worth. This scenario encourages a growth investment objective.

A scenario where the value of the proposed investment is high in proportion to the Client’s net worth fosters a capital preservation approach.

**f) Income Level**

Income level shapes investment objectives from a number of angles:

* An investor with a high income may not necessarily need to get an income from the investment. This would remove liquidity and the need for income from the equation.
* A high income level may also indicate a higher risk tolerance of the investor. This is because any capital losses may be offset by income from other sources. This scenario would favour a growth strategy.
* As we have already seen, a high income places the investor in a high tax bracket. This may necessitate a tax efficient investment objective.

In a nutshell, the factors discussed above are intertwined and should not be considered in isolation. It is also important as well to note that these factors are not static and will evolve over time hence the need for periodic reviews of the Client’s financial plan.

**1.3 Elements of a solid financial plan**

A well-crafted investment plan needs to be completed by an overall solid financial plan in order for it to be successful. Although individual circumstances will differ, it is generally accepted that the following financial habits or strategies augur well for successful investing.

**1.3.1 Budgeting of finances**

A budget is a plan that guides the income and expenditure of an individual. A budget is the platform upon which investment planning takes place as it is the budget that will inform how much to invest and for how long. The drawing up of a budget will vary based on the circumstances of an individual but the process should largely the following guidelines:

* Gathering all the information that is needed for the budgeting process such as expenses. Where there are no accurate records of expenses, this is a good starting point to begin keeping record of what an individual spends their money on.
* Calculation of income from all sources
* Calculation and categorization of expenses into personal and household, fixed and variable expenses as well as identification of needs and wants
* A comparison of income and expenses is done and a surplus or deficit is established. This then becomes the starting point. In the case of a surplus, the surplus could be used to reduce debt or invest. Where the client has established a deficit, a plan needs to be put in place to reduce debt obligations or do away with certain expenditure that is deemed unnecessary

The budgeting exercise as outlined above should add value to the financial plan in the following ways:

* It helps in the identification of problem areas that are leading to financial strain and based on this information, corrective measures can be undertaken.
* It provides peace of mind as it gives a guide on how expenses should be covered. This then lays a platform for investment planning with all important expenses having been covered.
* Budgeting helps in distinguishing between needs and wants and in the process, one is able to channel resources to priority areas

**1.3.2 Have an emergency fund in place**

A successful financial plan is one that caters for unexpected financial expenses. It may be futile to embark on investment when there are no funds that have been put aside to cover unexpected events. Emergencies can range from unexpected loss of employment, a car breaking down or a temporary disability resulting in the inability to work. A general guideline is to have 3 to 6 months of the value of living expenses set aside for emergency purposes. The emergency fund should be built up over time and should be held in a savings vehicle that does not hinder immediate access.

**1.3.3 Debt management is key**

It is inevitable that an individual will at some point need debt in order to finance needs and wants. In so doing, one needs to distinguish between what is regarded as “good debt “and “bad debt.” Low interest debt which has tax benefits and is taken to acquire assets that appreciate in value is considered “good debt.” An example is mortgage. On the other hand, although it serves a purposes, “bad debt” comes at high interest rates, no tax benefits and acquires assets that depreciate in value over time. Credit card debt and goods purchased on hire purchase fits this category. Bad debt has the effect of lowering one’s standard of living due to the high interest payments that are not compensated by capital growth of the assets acquired. A prudent financial plan keeps “bad debt” at a minimum and in the best-case scenario eliminates it altogether. In a case where one has higher levels of debt, a plan to repay earlier such as paying more than the required minimum repayment will reduce the strain that high debt levels have.

**1.3.4 Insurance coverage is vital**

We have pointed out that an emergency fund is a vital cog in a financial plan. However, it may sometimes not be able to cater for life changing events that may occur. Consider a scenario where one has been involved in a serious car accident. There could be several financial implications that can derail one’s finances. The car may need to be repaired or replaced and the cost maybe way more than the cost. Further, there could be serious injury which may result in huge medical bills and the loss of income due to incapacity to work. In this case, the existence of car insurance, medical aid and income replacement cover could minimize the financial impact on the individual concerned

**1.4 Basic investment principles**

Although each investor’s circumstances is unique, there are investment principles that have led to investment success over the years. We discuss some universal principles which an investor needs to invest successfully in this section.

**1.4.1 Principle 1: Tradeoff between Risk and return**

A basic investment principle of investment is that high risk assets have the potential of high return. Risk in this case is defined as the risk of capital loss. Assets in this category include Equity and property. A common measure of the risk of an asset is the historical standard deviation of returns. This measure gives an indication of how returns have deviated from the expected return or historical average.

This risk return relationship is more pronounced over shorter periods of time for risky assets such as shares and property.



An analysis of the FTSE/JSE all share index between 1 June 1996 and 30 September 2015 shows that the average return was 17.24%. During that period, the highest 12-month return was 73% in April 2006 and the lowest return over 12 months was -37.59% recorded in Feb 2009.

Over a longer period (from 1925 to 2015), a comparison of equity, listed property, bonds and cash shows that equities have given a higher real return (that is after removing the effect of inflation) of around 8%. This has come with a higher degree of variability of returns compared to the other asset classes.

It is vital therefore for an investor to be aware of this relationship between risk and return in determining investment objectives.

**1.4.2 Diversification reduces risk**

In pursuit of investment objectives, an investor in a financial asset is exposed to the risk that the actual investment outcome will vary from the expected outcome. This risk can be systematic or unsystematic. Systematic risk refers to market wide factors that affect all financial assets across the spectrum for example a sustained economic downturn affects financial markets negatively as this impacts the operating environment that listed companies operate in and ultimately their profits. Unsystematic risk refers to company specific factors that can cause the actual return to vary from expected outcome for example a lower than expected operating profit as a result of an inefficient operating model.

The concept of diversification states that by spreading an investment across many financial assets of the same nature for example listed shares or different asset classes for example having shares and bond and cash in the same portfolio, an investor can reduce the risk of an uncertain return or capital loss. A great example to use to explain the diversification concept is by looking at the diversification effect of investing in a basket of shares as opposed to investing in only one counter.

According to Harry Markowitz’s modern portfolio theory, which was first published in 1952, an investor can reduce risk within one asset class by combining as many assets with negative correlation as possible. The more the investor includes assets with negative correlation in their portfolio, the lesser the portfolio unsystematic risk. This means diversification can reduce asset specific risk. The only risk that an investor cannot eliminate is market specific risk within the same asset class. Let us take a look at an example to illustrate this point.



The JSE all share index measures the performance of the largest 164 listed companies on the Johannesburg stock exchange. In other words, it tracks the performance of almost all the companies listed on the JSE. An investor seeking to get a return that is equivalent to the performance of all the listed companies on the JSE can invest in an Exchange Traded Fund (ETF). An ETF is an investment vehicle that invests funds in order to track the performance of an index. An investor in an ETF that tracks the all-share index would practically be invested in all of the shares in the index. Now let us look at some figures.

On 14 January 2020, the all-share index had a 1-year return of 8.28%. This is the return an investor in an all-share index ETF would have received. However, an investment in Anglo American would have returned a whopping 141.76%! On the flip side, an investor in Intu properties would have recorded a loss of 76.7%!

We see that investing in only one counter can result in very astronomical returns for some and huge losses in some cases. This risk can be reduced by diversification.

The benefits of diversification are further amplified when investments are spread across asset classes for example having a portfolio that includes shares, bonds, property and cash.

**1.4.3 The magic of long term consistent investing**

A mistake some investors make is to try and time the market. This is a very difficult feat even for professional investors as evidenced by the number of times that active fund managers fail to beat the market or a passive investment strategy. Investment markets respond to the minutest of data or events and hence markets are volatile in the short term. Successful investors are those who ignore the “noise” and remain invested even when “common sense” dictates otherwise.

Growth assets such as shares, and listed property tend to exhibit high volatility over the short term and often at times underperform conservative investments such as money market over the short term. Such periods often lead to a flow of money from the stock market to the money market. The long term trend shows that short term fluctuations are weathered as volatility is lower and returns higher for growth assets.



As at May 2018, the 1, 5 and 10 year returns for the different asset classes were as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Asset Class** | **1 Year Return** | **5-year Return** | **10-year Return** | **15-year Return** |
| **SA Bonds** | 9% | 6.5% | 9.1% | 8.5% |
| **SA Cash** | 7.6% | 6.7% | 7% | 7.5% |
| **SA property** | -5.6% | 8.5% | 13.6% | 16.8% |
| **SA Equity** | 2.9% | 6.6% | 7.6% | 15.3% |

The above shows the long term trend of growth assets outperforming conservative assets for periods above 10 years of investment.

**1.4.4 Remember to rebalance your portfolio**

An investment portfolio may suit the investment objectives of the investor at inception but may need rebalancing in order to remain within the scope of the investment objectives. Rebalancing involves resetting the weights of the portfolio to the desired levels. Over time, investment performance of some asset classes particularly growth assets may cause overweighting in a particular asset than required. This could actually mean the investor taking more risk than envisaged and hence a need to balance the scales when the need arises.

**1.4.5 Cost matters**

This is one critical part of the investment process that most investors have often neglected. Part of the reason for this is the complexity of pricing of financial products which has traditionally made understanding the cost structure of investments complex. However, this is changing with the clampdown by regulators leading to more transparent pricing mechanisms such as “clean pricing” of unit trusts and mandatory disclosure such as the “effective annual cost” initiative by ASISA.

The cost of investing in a certain financial product will include a combination of any of the following: administration, advice fees, asset management fees, brokerage fees, platform fees, administrative penalties and more. The investor should analyze these costs to see what the effect on the actual return on the investment is. In particular, it is important to check if performance fees are charged by the service provider and whether the structure of the performance fee is for the mutual benefit of the Client and the investor.



The passive versus active management debate has raged and become prominent in South Africa in recent years. As this happens, there has been an increase in the number of providers offering passive management services through Exchange traded funds (ETF). One of the arguments that passive managers make is that active managers hardly beat the market in most cases. This is a discussion for another day. We focus here on the second proposition that passive managers significantly reduce costs, and this translates into a better return for an investor. According to one passive investment manager, the industry average of the cost of managing an investment is 3% compared to less than 1% for an ETF. The cost advantage of ETFs has led to a large inflow of funds to passive managers recently.

**1.4.6 Understand the tax implications of your investment**

An investor should do homework on the implication of tax on an investment that they intend to invest in. Depending on the type of investment, tax impacts the investor at contribution level, when gains are made and at withdrawal stage.

**(a) Tax implications at contribution stage**

Contributions to certain types of investments have tax benefits. Generally, discretionary investments do not have tax implications at investment stage that is the funds have already been taxed at source e.g., a unit trust investment where the source of funds is a salary which has already been taxed that is post tax money. Retirement fund contributions that is retirement annuity, provident and pension fund contributions enjoy tax deductibility status of up to 27.5% of taxable income or income, limited to R350 000 per year. Tax free savings accounts and endowments do not enjoy tax deductibility at contribution stage that is contributions are made from income or wealth that has already been taxed.

**(b) Tax implications of returns from investments**

* **Capital gains:**

Capital gains are subject to Capital gains tax (CGT). A capital gain is recorded when the price of a financial instrument is higher than the price at which it was bought at. It is important for the investor to know that Capital Gains are realized when the asset is disposed of. In other words, an investor needs not pay capital gains tax until the date of disposal which means that capital gains tax can be deferred until the date of disposal.



Any capital gain made in a tax-free savings account or retirement vehicle is exempt from capital gains tax.



The below table shows the inclusion rate and effective tax rate for capital gains for individuals and different legal entities as well as Exemptions for the tax year 2019/2020. This applies to Discretionary investments.

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of Entity** | **Inclusion rate** | **Maximum Effective Tax rate** | **Exemptions** |
| **Individuals** | 40% | 18% | R40 000(and R300 000 at death) |
| **Trusts** | 40% | 18% | R0 |
| **Companies** | 80% | 22.4% | R0 |
| **Trusts** | 80% | 36% | R0 |

The inclusion rate is the percentage of capital gains that is taxable. The maximum effective tax rate is calculated by multiplying the inclusion rate with the maximum tax rate for the type of entity under consideration. The exemption is the tax-free amount for that particular entity

For example, if Jack (whose marginal tax rate is 45% that is he is in the highest tax bracket) made a capital gain of R300 000 on the disposal of his unit trust investment, the Capital gain taxable is calculated as (R300 000 – R40 000) x 40% (inclusion rate) x 45% (his marginal tax rate) = R46 800.



The current CGT rate for an endowment for the 2019/2020 tax year is 12%. This makes an endowment an attractive investment vehicle for individuals with a higher marginal tax rate.

* **Tax on interest and rental income**

Unlike CGT, interest and rental income are taxed when accrued and not when the investor receives the actual income. This is a very important consideration when one is considering investing in an income producing investment.

Rent and interest are taxed at an individual’s marginal tax rate with the first R23 800 for under 65s and R34 500 for over 65s being exempt from tax. This is as per the 2019/2020 tax tables and is subject to change in future. In an endowment structure, income is taxed at 30% making it attractive for individuals in higher tax brackets.



Income earned or accrued in a tax-free savings account or retirement product are exempt from tax.

* **Tax on Dividends**

Dividends withholding tax is currently 20%. It is the responsibility of the company declaring the dividend to withhold the dividend and pay it over to SARS unless if the dividend is being remitted to a regulated intermediary.



Dividends for shares held in tax free savings accounts and retirement vehicles are exempt from dividends withholding tax.

**Tax on withdrawals**

As already discussed, CGT is applied upon disposal of assets. Income is taxed when earned or accrued and will be applied during the course of the investment whether earned or accrued. A very important tax implication is the one pertaining to retirement investments upon withdrawal. As per the 2019/2020, withdrawals on retirement funds as a result of resignation or dismissal are taxed as follows:

Retirement lump sum withdrawal benefits

|  |  |
| --- | --- |
| Taxable income | Rate of tax |
| 0-25 000 | 0% |
| 25001-660 000 | 18% of taxable income above 25 000 |
| 660 001-990 000 | 114 300+27% of taxable income above 660 000 |
| 990 000 and above | 203 400+36% of taxable income above 990 000 |

**Retirement, Death and severance benefits are taxed as follows:**

|  |  |
| --- | --- |
| Taxable income | Rate of tax |
| 0- 500 000 | 0% of taxable income |
| 500 001-700 000 | 18% of taxable income above 25000 |
| 700 001-1 050 000 | 36 000+27% of taxable income above 700 000 |
| 1 500 001 and above | 130 500+36% of taxable income above 1 050 000 |

**1.5 The impact of legislation on investment principles**

We have seen how legislation impacts investment decisions through for example taxation. By giving tax incentives such as tax-free savings accounts and deductions for retirement contributions, Treasury is trying to cultivate an investment culture in South Africans in order to push up our very low savings rate. But in order to see how legislation is used to enforce the investment principle of diversification which we have already discussed, let us have a look at a piece of legislation called Regulation 28 of the pension funds act.

**1.5.1 Regulation 28 of the Pension Funds Act**

**A Background**

Regulation 28 of the pension Funds Act gave effect to section 36(1) (bB) of 1956. This applies to all funds issued after 1 April 2011. Any funds existent before this date should comply with the limits when certain changes are made such as when there is an increase in recurring contributions or changing the payment frequency of contributions.

This provides that the Minister of Finance may make regulations relating to the following:

* Limit the amount and the extent to which a fund manager may invest in a particular asset class.
* Prescribe the basis on which the limit invested in a particular asset class will be determined.
* **Define the categories of assets of which this limit applies to**

Following the financial market Crisis triggered by the subprime mortgage collapse in the United States in 2008, Treasury saw the need to tighten the amount of money that retirement funds could invest in one asset class and in particular assets that are volatile during market collapses. In addition to protecting the member from risk of capital loss, the Regulation also seeks to promote economic growth by ensuring that retirement funds are channeled to achieve economic growth.

* **Application of Regulation 28**

The current asset limits that a retirement fund investor can invest in as per the 2019/2020 Budget are as follows:

|  |  |
| --- | --- |
| Asset Class | Exposure Limit |
| Equity | 75% |
| Listed property | 25% |
| Offshore Assets | 30% |
| Hedge Funds | 10% |

* **Impact of Regulation 28 on investment decision making**

We see the application of the Law to enforce investment decision making through the application of Regulation 28. An investor in a retirement product has no option but to diversify in order to stay compliant. Although the legislation has diversification benefits from the spreading of assets in a retirement fund, there is some opposition to it. One of the arguments by critics is that in the pursuit of channeling retirement funds to assets that promote economic growth, the legislation is prioritizing government objectives over investment principles. They point out that the requirement to invest 75% in local equities even at times when the local bourse is overvalued results in a “buy high” scenario which detracts from investment returns. Although the above points may be valid, the protection of retirement funds through the requirement to diversify risk cannot be understated. Retirement savings form a significant portion of most individuals’ total wealth, and the risk of capital loss would have life changing implications on both retirees and the government which would have to foot a higher bill in welfare support.

**1.6 Risk associated with investments**

Risk in investments can be defined as the deviation of investment outcomes from the investment objectives that the investor upon making the investment decision. This deviation of returns can range from a worst-case scenario of total loss of capital to an investment underperforming its benchmark. Other forms of risk may not be so obvious to the naked eye and a good example of this is inflation risk which is the risk of an investment losing value due to underperforming inflation.

The investor faces the risks summarized above on many fronts. The choice of a financial institution to invest with is very important and can pose a risk to an investment. A component of risk is related to the choice of investment product/ vehicle. Further, the choice of a particular asset class has risk implications. We discuss these points below:

**1.6.1 The choice of investment institution and risk**

An investor needs a financial institution in order to access financial markets. Financial institutions range from retail banks, asset managers, insurers, stockbrokers and investment bankers amongst others. These institutions are entrusted with custody and management of wealth by the public. The risk inherent in financial institutions is that they could mismanage the funds entrusted to them or not meet prescribed minimum operating standards such as minimum capital requirements resulting in the institutions not being able to honour its financial obligations to clients. In extreme cases, financial institutions have collapsed resulting in clients suffering huge capital losses.

**1.6.2 The risk of financial mismanagement**

The South African financial system is regarded as structurally strong due to strong regulation ably backed by institutions such as the Financial Sector Conduct Authority. This has been demonstrated by the ability of our financial system to weather the effects of the global subprime crime which had had contagion effects and led to collapse of major financial institutions worldwide. The risk of financial institutions being undercapitalized in relation to the entire financial system is called systematic risk. Under capitalization of financial institutions results in them defaulting on their liabilities for example banks would be unable to repay depositors. Although our financial markets are well regulated, there has been instances of registered financial providers mismanaging clients’ funds resulting in huge losses.



In July 2019, the FSCA launched an investigation into allegations of financial mismanagement of client funds by Stringfellow Financial Services. The FSP licence was also provisionally withdrawn. The financial institution stands accused of incurring losses due to investing clients’ funds in unregulated funds. It is alleged that based on a promise of 14% per annum return to pensioners, investors were led to invest into a loan account and this money was ultimately invested in a now defunct Australian sportswear company. Investors who invested later on encountered challenges in getting the promised returns paid to them.

**1.6.3 The risk of financial institution collapse**

A risk faced by investors is the likelihood that the financial institution itself may collapse due to a failure in its operating model. This would result in the financial institution not being able to meet its liability obligations that is repay funds entrusted to it by the public. Investors should therefore conduct due diligence on the financial institutions that they intend to place their money with, in order to minimize this risk.



A case in point is that of African Bank. The SARB announced on 10 August 2014 that it was placing African Bank under curatorship. African Bank’s operating model has resulted in a bad debt book of R17bn. According to the SARB, retail investors who constituted about 1% of the total client base would not be affected and would be able to access their deposits and interest payments. However, this was not the case for non-retail investors for example holders of bonds issued by African Bank as the curatorship meant that meant the suspension of interest payments whilst a turnaround strategy was being crafted. This move had obvious ramifications for investors who depended on the interest payments for an income.



As at November 2019, African Bank was on its way to recovery after reporting a third year of profit as at 30 September 2019. However, its collapse and curatorship resulted in temporary financial hardships for investors who depended on income and could not get their interest payments at the time.

**1.6.3 Choice of investment product and risk**

Is there a risk in the choice of a financial product? The answer is a definite yes. Investors should be careful to ensure that the product that they choose for their investment is in line with their investment objectives. A financial product is a conduit through which an investor has access to the asset class of choice.



Consider an investor seeking to invest a lump sum in order to receive a regular income from the investment. Let us suppose that the investor has the option to invest in a one-year fixed deposit account with a bank, a flexible unit trust with a local money market manager and an endowment offered by one of the life insurers. The investor’s goal is to get a regular income from this investment. The fixed deposit does not meet the investor’s goal of earning an income as the investment will be locked in for a year. Choosing this product would put a client in a difficult position where the much-needed liquidity is not provided. Investing in the endowment will also limit withdrawals that can be made thus hampering the objective to get a regular income from the investment. The flexible unit trust investment seems to be a viable option for the investor as withdrawals can be made to provide for the required income.

It is clear from the above example that the choice of an investment vehicle can trigger some unforeseen risks. It is important to align investment objectives with the correct investment product/vehicle.

**1.7 Asset classes and risk**

In pursuit of investment goals, investors have a wide array of assets to invest in. It is vital that the investor understands the risk embedded in the asset class that is to be invested in. An asset class is defined as a grouping of assets that have the same risk/return profile and are governed by the same regulations. Conventional or traditional asset classes are those that have been existence for a while, and they are categorized as:

* Equities
* Bonds
* Listed Property and,
* Cash.

We discuss the risks of different asset class investments below:

**1.7.1 Equities**

An investor in the ordinary shares of a business buys shares with the expectation that the business will be profitable and declare dividends or realize a capital gain in the event that the share price goes up.

* In return for ownership acquired through purchase of ordinary shares, the investor carries the risk that the profit expectation may not be realized or in the worst-case scenario, the business can become insolvent and lose its status as going concern. In the event of a business’ liabilities exceeding its assets and thus becoming insolvent, the ordinary shareholder is the last to be paid as creditors and preference shareholders rank higher in term of priority in the event of a liquidation.
* Investors in listed shares expect the market price of the shares to rise resulting in capital gains. However, company specific factors can cause the market price to go down for example an unexpected decline in forecasted earnings can cause the share price to fall as holders of the shares sell due to dwindling expectations of profits. This is known as unsystematic risk. Sometimes, the share price of a solid company with high prospects of profits can fall as a result of market wide forces some of these global for example the JSE suffered losses in January of 2020 as a result of global fears about the outbreak of the coronavirus in China. The FTSE/JSE index fell by 2.37% on 27 January 2020 with the virus fears being the driver of the unexpected losses. This is known as systematic or market risk.
* Investors require compensation for the risk of deviation from expected returns and this compensation is measured by the equity risk premium. The equity risk premium is the difference between the expected return on the share and the return on a risk-free asset such as treasury bill. In other words, in return for a higher expected return, investors are prepared to accept possible deviation from expected outcome. The risk of variation from expected outcome is measured by the standard deviation of the shares in question.
* Liquidity risk is the risk that the investor will be unable to sell the shares invested in at the going market price due to adverse perception of the prospects of the company invested in. This usually results in huge capital loss to the investor.
* A variation from ordinary shares is a form of equity ownership known as preference shares. Preference shares pay a fixed percentage of dividends when a company is profitable, but this is not guaranteed. They are less risky to ordinary shares in the sense that they get preference of dividend payment over ordinary shareholders and preference shareholders are second in line in terms of priority of payments after debt holders. The risk that preference shareholders face is that they cannot map the strategic direction of the company as they have no voting rights. The fact that preference share dividends get paid after debtholder interest payments also make this equity ownership risky particularly when a company is going through a financial strain such as a liquidation.

**1.7.2 Bonds**

Investors in bonds practically lend money to the government or to corporate bodies in return for regular interest payments (known a coupons) and repayment of the initial amount invested at the end of the investment period. Issuers (borrowers) include the government, quasi government institutions such as municipalities and State-owned enterprises and corporates. Bonds are generally considered less risky than equities due to the predictability of future cash flows (coupon payment dates and amounts are known at issuance for most types of bonds). In addition, credit rating agencies assign rating categories to bonds and this gives guidance on the quality of the issuer and the ability of the issuer to repay the debt obligation on time. Having said this, there is some risk that bond investors take on. We discuss this below:

**1.7.2.1 Default risk**

Bondholders face the risk of default by lenders. Default occurs when the bond issuer is not able to pay the coupon, or the initial amount invested on time or in the worst-case scenario is not in a position to repay at all. The latter scenario occurs in extreme cases such as when bond issuer is liquidated or declared insolvent. Investors can minimize this risk by conducting a proper due diligence of the issuer’s ability to repay and in addition the credit rating of the issuer by renowned credit rating agencies can be used as a guide to determine the creditworthiness of the issuer.

* + - 1. **Reinvestment risk**

Investors in Bonds are exposed to the risk of reinvestment of coupon payments or maturity value at a lower interest rate than the one that was being paid on the current bonds that they hold. A repo rate cut by the Reserve Bank results in lower coupon payments on newly issued bonds.

**1.7.2.3 Risk of Capital loss**

Bond prices are interest rate sensitive, and their prices fluctuate when interest rates change. In a rising interest environment (when interest rates are generally rising), existing bonds become unattractive as their coupon payments are based on lower interest rates which were obtaining at the time of issuance. As a result of this, bond prices fall and if the bonds are sold at this stage, a capital loss would be incurred. Similarly, when interest rates decline, existing bonds that were issued based on higher interest rates become more attractive and hence their prices go up. It is vital to understand this risk as bonds are most often touted as risk free.

**1.7.2.4 Liquidity risk**

This risk is closely linked to the risk of capital loss. A deterioration in the creditworthiness of the issuer of a bond can result in a holder facing considerable difficulty in selling it at a fair market price resulting in losses and in extreme cases, not being able to sell the bond totally.

**1.7.2.5 Call Risk**

A feature of some Bonds is to give the issuer the right to call the bond that is to repay the borrowed amount before maturity of the bond. In a declining interest rate environment, Bond issuers could opt to call the bond that is to repay the borrowed amount (which was borrowed at higher interest rates) and then issue new bonds at lower interest rates (borrow money at lower interest rates). The rationale behind this is to cut borrowing costs. A holder of a callable bond faces the risk of a recall of a bond which would trigger reinvestment risk as the investor would now have to reinvest the money which was paid prematurely at lower interest rates.

**1.7.3 Listed property**

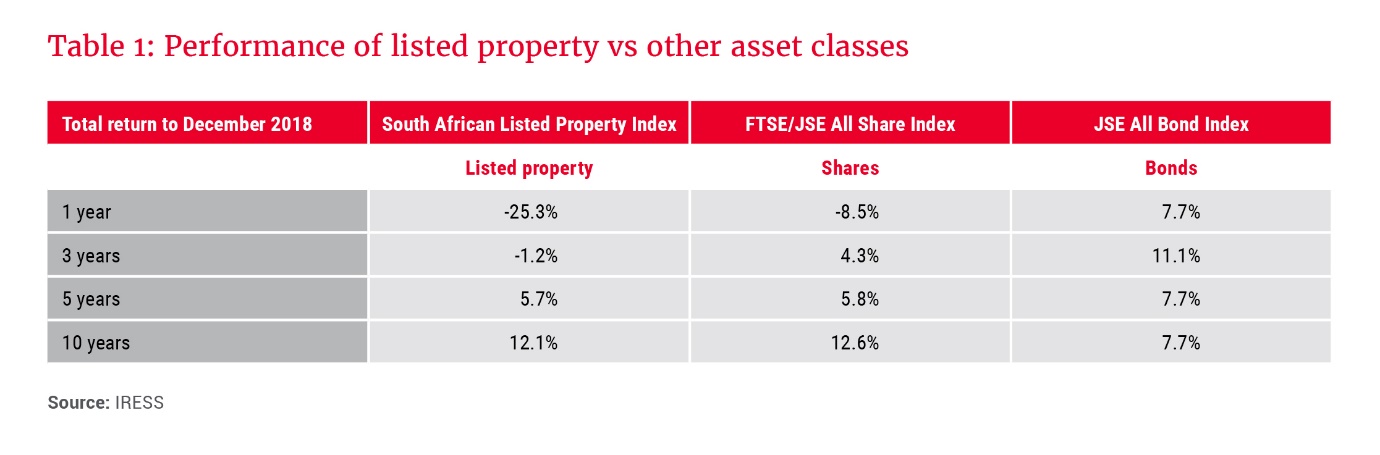
Listed property shares are similar to ordinary shares of any company in any sector with the major difference being that property companies invest solely in income producing property. An investor in listed property expects a return in the form of capital gains when the share price rises and dividends. Property companies invest in diverse sectors for example residential, industrial, office and commercial properties. There is a widely held perception that property is the most secure from of investment but evidence on the ground points out to the risks embedded in property investment. Some Investors also point out that the Real Estate Invest Trust (REIT) legislation which compels property companies to distribute at least 75% of profits to shareholders reduces the risk of investing in property. What then are the risks in investing in property?

**1.7.3.1 Capital loss**

The most obvious risk of a listed property investment is the risk of capital loss when the share price falls. Any factor that contributes to falling profit prospects such as low occupancy rates, increasing rental defaults, slow economic growth, high interest rate environment and falling consumer disposable incomes may cause a decline in the share price of the listed property company.



In the aftermath of the global financial crisis of 2009, listed property was the best performing asset class returning more than a 100% between 2009 and 2016. Between the same periods, the JSE South African Listed property index (SAPY) yield (this measures the property dividend yield) and the bond yield were similar and thus making property an attractive investment for investors seeking an income. Fast forward to April to December 2018 and property was the worst performing asset class at -25.3% over a 1-year period and -1.2% over a three year period. This is shown in the below table.



One of the reasons for the poor performance is attributable to slowing economic growth which led to demand/supply disequilibrium. The decade long growth in property developments increased supply which was not met with an equivalent increase in demand.

The above shows that although the income distribution component of property investments is an attractive feature, there is risk of short term capital losses.

**1.7.3.2 Uncertainty of income distributions**

REIT legislation stipulates that a listed property company should distribute at least 75% of profits to shareholders. However, income distributions are not contractual in the way interest payments to bondholders are. As a result, income distributions to shareholders rank secondary to bondholders which presents a risk of the income distributions not being met particularly when a company is facing high debt servicing costs which are not matched by increasing revenue. Further, there is a school of thought whose view is that the requirement to distribute income to shareholders may encourage short term decision making by company executives as free cash flow that would have been available to invest in the business is paid out as distributions. This may hamper the company’s ability to remain competitive and profitable thus heightening the potential for capital loss.

**1.7.4 Cash**

The terms cash or money market are used interchangeably to describe this asset class. A cash investment is a short-term investment typically less than a year where an investor receives a regular interest payment for the duration of the investment period. Examples of money market investments are Negotiable Certificate of Deposits (NCDs), Bankers Acceptances, certificates of deposits, promissory notes and government-issued treasury bills also known as gilt edged securities. Due to the short term nature of money market investments, the interest paid is lower due to the lower perceived risk of default by the borrower. Money market investments are considered the least risky of the four main asset classes due to the short term nature of the investment period and the quality of the borrowers in the market (for example the government issued TBs are virtually risk free as it is inconceivable that the government can default on its debt obligations). Money market securities are highly liquid and tradeable in the secondary market making and thus liquidity risk is minimal. As a result of these features, they are an attractive asset class to investors seeking a guarantee of capital over a short term investment horizon.

**1.7.4.1 Inflation risk**

Money market investors with a long term need investment horizon need to be wary of the erosion of purchasing power of their investment in periods of low interest rates. The benchmark for money market interest rates is the repo rate and this rate changes as per Reserve Bank policy. In an interest rate cutting cycle, there is a risk of money market interest rates falling below the inflation rate resulting in negative real growth. This risk is more pronounced in the long term where performance of the money market is worryingly near or below the inflation rate.

**1.7.4.2 Default Risk**

Although money market investments are considered risk free, there is a possibility of an issuer defaulting on the interest payment obligations. This can be the case in extreme cases even for government issued money market investments. A recent case in point is the government date crisis that gripped the European Union that had to take the European Central Bank bailing out Greece for the country to remain afloat. It must be stated though that default risk is much lower on money market instruments compared to the Bond market.

**1.8 Principles of investment and a financial solution**

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We have discussed the principles of investments, major asset classes and the tax implications of investments at contribution stage during the course of the investment and at withdrawal stage. Let us now put these learning outcomes to practical use.

**i) Identification of Client objectives**

Let us suppose that Michael is one of your newest Clients. Michael is 30 years old and has a 1-year-old Son Matthew. You have conducted a needs analysis and identified that Michael needs an education plan in order to cater for his son’s tertiary fees at the age of 19. Michael will not need to use the money until 19 years’ time. He is prepared to accept short term fluctuations in investment values, but his objective is long term capital growth with no need for income from the investment. His major concern is underperforming inflation which currently stands at 9% per annum. Michael is also wary of investing in one particular sector of the economy and would like his investment to be diversified even though one asset class is invested in.

**ii) Investment options for Michael**

Let us suppose that the following investment options are available for Michael:

1. A fixed term one-year deposit with a local bank which guarantees an 8% return for the year
2. An open-ended money unit trust investment which invests in local money market instruments. Its average return over the past 5 years has been 7%.
3. An open-ended general equity unit trust fund which invests 100% in local shares across different sectors of the economy.
4. An open-ended listed property unit trust that invests in locally listed property companies.

**Required**

Given Michael’s objectives,

1. Identify the most suitable investment for Michael and give reasons why the other available options are not suitable
2. Discuss the tax implications of the chosen investment solution



**Formative Activity 1**

How do we define needs analysis in financial planning? (2)

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**Formative Activity 2**

Which data and information are supposed to be collected at the data gathering stage of the six step financial planning process? (5)

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**Formative activity 3**

Why is it important to monitor a financial plan on an ongoing basis? (2)

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**Formative activity 4**

Which are the 6 factors affecting a client’s investment objectives as discussed in the learner guide? (6)

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**Formative Activity 6**

Discuss what standard deviation measures in investment theory? (2)

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**Formative activity 7**

Please indicate whether the following statements are true or false? (6)

|  |  |
| --- | --- |
| Statement | True or false? |
| Market timing is very difficult feat even for professional investors as evidenced by the number of times that active fund managers fail to beat the market or a passive investment strategy |  |
| Money market investments tend to be more volatile over the short term compared to Bonds and shares |  |
| Rebalancing involves resetting the weights of the portfolio to the desired levels |  |
| Discretionary investments do not have tax implications at contribution stage that is it is “after tax money” or money that has already been taxed that is invested |  |
| Cost is not an important consideration for an investor as a successful investment strategy only depends on how effective the investment strategy is |  |
| An investor needs not pay capital gains tax until the date of disposal which means that capital gains tax can be deferred until the date of disposal |  |

**Formative activity 8**

Define the term Equity risk premium (2)

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**Formative Activity 9**

Reinvestment risk is one of the risks associated with investing in Bonds. Briefly describe this risk (2)

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**Formative Activity 10**

Which asset class is compelled by legislation to pay-out at least 75% of its profits as distributions? Why might this requirement reduce the expected return by investors in the long term? (4)

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**Formative Activity 11**

Indicate if these statements are true or false? (3)

|  |  |
| --- | --- |
| Statement | True/False |
| In an interest rate cutting cycle by the SARB, inflation risk is low |  |
| Money market investments are considered the least risky of the traditional asset classes |  |
| Money market instruments carry less liquidity risk compared to Bonds |  |

# **LEARNING UNIT 2: PRE AND POST RETIREMENT PLANNING**



**Learning Outcomes**

By the end of this learning unit and having completed all the formative assessment activities, you will be able to:

* Discuss the impact that providing for retirement has on post retirement lifestyle
* Illustrate how the choice of retirement age affects the income that one will have post retirement
* Outline the key assumptions used in planning for retirement
* Give advice on the suitable option for post-retirement income
* Analyse the impact of annuity rates on retirement income provision.

**INTRODUCTION**

According to an article in a respectable online business site, South Africans who have saved about R1.8m at retirement stage and expect to receive a R12 000 monthly pension have a capital shortfall of about 22% given the annuity rates prevailing in April 2019 in order to achieve their income goal of R12 000. This would imply an annual income rate of 8%. This projection is for traditional annuities. Further, if annual inflation increases are considered given the annuity rates, the income rate for a 65-year-old male who has a 61 year old spouse, the annual income rate achievable is 6.5%. Those pensioners who wish to draw R12 000 from a living annuity need a capital of R3.6m if they drawdown the FSCA recommended 4%.

The bottom line is that most people do not achieve a financially comfortable retirement. Statistics has it that about 6% of South Africans retire comfortably. In light of this, what message should we as advisers be carrying out there in order to assist Clients to have better retirement financial outcomes?

This is the essence of this learning unit.

**2.1 Aspects impacting on comfortable retirement**

**2.1.1 Planning for income provision to fund lifestyle after retirement**

Each client has a rough idea of how they want their retirement to be like. Some long to fulfill lifelong goals such as travelling around the world, others desire to be debt free whereas some may have philanthropic ambitions as in for example assisting the less privileged. Therefore, it is not enough to just aim for an income replacement ratio but to look into each Client’s individual needs and then tailor make a financial plan that will take the client to the intended objectives. Although, each individual’s situation will be unique, the following are widely regarded as factors that a client should plan for in order to have a comfortable retirement:

* The required income replacement ratio: The replacement ratio is the income that the retiree will receive in retirement compared to the income before retirement. It is generally held that an income replacement ratio of 75% is sufficient to maintain a person’s standard of living post retirement.
* Debt obligations and other household expenses should be considered. If by the planned age of retirement, the retiree still has debt obligations such as mortgage, vehicle finance costs and education costs, the client should consider the fact that retirement capital should be sufficient to pay off these obligations and that this will have an effect on retirement income. A plan that just focusses on the replacement ratio without considering the need to repay debt from retirement capital may result in insufficient provision for retirement.
* Although some expenses may have fallen off at retirement, for example education costs if it is expected that children are independent at retirement, some costs may increase for example medical costs and the need for long term care in later years. With more time on their hands, retirees may need to have more recreation, entertainment, and holidays
* Retirement planning should consider the impact of tax on required income. Tax does not fall away at retirement (although retirees get more tax concessions). If not considered, a retiree may retire on less than initially planned for
* The age that the client intends to retire at should be considered. Retiring early means more years of required retirement income and hence a higher provision for retirement. Additionally, assumed mortality rates and the post retirement period should be projected so as to have an insight on how the period that the retirement income should last.
* Having considered the above factors, a calculation of the required capital at retirement age to cater for the Client’s needs at retirement and post retirement has to be done the financial planner. The calculation should determine the future value of the required capital (at retirement) and then discount that amount to the present value. Further, an assumption of mortality rates which gives the length of retirement phase is made.
* Having established the capital requirement, the gap between the required capital and the capital to be achieved by the current retirement plan should be established. This calculation will consider projected growth of current retirement balance plus future contributions in order to find the future value if the client sticks to the current retirement plan. The difference between the required capital and the projected capital based on current plan is used to guide the client on the additional provision required in order to reach retirement goals.

**2.1.2 Deciding on the investment option at retirement**

It would be sad if a good post retirement plan is derailed by the investment/annuity choice at retirement stage. With different annuity options available to the retiree, it is the financial planner’s role to ensure that the option chosen is compatible with a client’s current circumstances. A worst-case scenario example would be for an unmarried individual to choose a joint life annuity option when there is no spouse at all. This would affect the retiree’s income and affect the standard of living when this should not be the case. We look at the different options that one has at retirement and when these options are appropriate.

**2.2 Annuities.**

An annuity is a scheduled payment that a retiree purchases from a life insurer using the portion from pension, provident and retirement annuity that has not been commuted as cash. There are two forms of an annuity that the retiree can choose from that is a conventional annuity or a living annuity. We look at the different forms of annuities below.

1. **A conventional annuity**

Although there are many variations to the conventional annuity, it is important to remember that the distinguishing feature from a living annuity is that a conventional annuity pays a guaranteed amount to the retiree until death. Different forms of a conventional annuity are as follows:

* An annuitant has the option to purchase either a single life annuity or a joint life annuity. A single life annuity ceases when the main member (retiree) passes on. This option is therefore viable in a case when an annuitant is unmarried or has a spouse who is financially independent. It must be emphasized to the annuitant that choosing a joint life annuity will result in a lower pension as provision has to be made for spouses’ pension after death. In most cases, annuitants opt for a reduced spouse’s pension in order to consider that there will be one person depending on the Spouse after the death of one of the spouses.
* An annuitant can also choose an annuity that escalates at a fixed percentage or at a rate indexed to the inflation rate at every policy anniversary. Another option is to choose a level annuity that remains the same until death. The advantage with the latter is that the initial annuity is higher than escalating annuity, but it is exposed to inflation risk such that the pensioner is at risk if inflation is higher than expected.
* An additional option is to have a built-in guarantee period where the annuity is payable to a nominated beneficiary if the annuitant dies within a certain period for an example an annuity with a 10-year guarantee period would pay the full annuity to a nominated beneficiary for the remainder of the period if the annuitant died in year 3. Because of the guarantee, the monthly annuity where there is a guarantee is lower than where there is no guarantee.

1. **Living annuities**

* A living annuity is an investment that the annuitant chooses at retirement that allows for a drawdown of between 2.5% and 17.5% of the investment value annually. The drawdown rate is reviewed at every policy anniversary. The drawdown percentage can be changed at any time upon pronouncement by the Minister through a government gazette. This flexibility allows the annuitant to increase the income when there is a need to do so but the downside is that a high drawdown or poor investment performance can result in the capital being depleted before death.
* A feature that some retirees find attractive in a living annuity is the fact that if the annuitant dies before depleting the capital, a nominated beneficiary may continue receiving this annuity or commute as a lump sum. If at death the nominated beneficiary chooses to commute a lump sum, there is a tax benefit in that the lump sum is taxed in the hands of the deceased as if the deceased has retired that is retirement fund lump sum tax tables are used. The tax is in the hands of the deceased but recoverable from the beneficiary. If no beneficiary has been nominated, the remaining capital is payable to the estate of the deceased annuitant.
* It is important to note that unlike the conventional annuity where the annuity is guaranteed as per the annuity policy, the living annuity does not provide a guarantee and whether or not it will last throughout the retirement years depends on the investment performance of the underlying assets invested in and the drawdown rate of the annuitant. High drawdown rates and poor investment performance puts the annuitant at longevity risk that is the risk of outliving the capital.
* Where possible, an annuitant who minimizes the drawdown rate can actually see a growth in the capital if investment performance is above the drawdown rate. This allows the retiree to increase the drawdown rate in later years and when they most likely need more funds because of increasing health care costs and long term care as one grows older.
* The annuitant benefit from transparency in costs when a living annuity is chosen instead of a conventional annuity. Additionally, the annuitant is able to choose an investment strategy that suits the risk profile with the flexibility to change and switch portfolios that hold the underlying investments.
* The living annuity allows an annuitant to convert it to a conventional annuity when the need arises. This is not possible with a conventional annuity which cannot be reversed or converted to a living annuity.



Mark is a 65-year-old retiree who has decided to commute 1/3 of his pension fund and purchase any annuity with the remaining 2/3. The value of the 2/3 portion is R2 000 000. Mark is divorced and has a 3-year-old Grandson Shaun that he is fond of, and he would like to leave an inheritance for him. A few years ago, Mark was diagnosed with a terminal illness and has been told that he is unlikely to live beyond the age of 70. Because of the escalating medical costs as his health condition deteriorates, Mark expects his income requirement to increase in the next few years and would like flexibility of adjusting the income that he draws when the need arises. Additionally, Mark has comprehensive knowledge of how the investment world works and would like a hands-on approach regarding his investments after retirement.

You have been requested to advise Mark on the appropriate annuity given his circumstances.

**Solution**

Mark is single and hence the option of a conventional joint life annuity is totally not an option. Further, his life expectancy is short and hence there is little need to guarantee an annuity for the rest of his life in order to eliminate longevity risk. Further, a conventional annuity would only be able to pay his grandson for the remainder of the guarantee period if one is built in for a conventional annuity, a situation which does not maximize or fully address the need to leave a legacy for his grandson. Further, due to the need to cater for escalating costs to treat his health condition, a conventional annuity does not have the flexibility to increase the drawdown ratio apart from a fixed percentage increase or inflation adjusted increase that a conventional annuity would provide.

Mark’s needs can be addressed by a living annuity. He can leave the capital to his grandson as a legacy by nominating him as a beneficiary. Further, he desires to map his own investment strategy by choosing his own investment portfolio and switching if the need arises. He also has the flexibility to drawdown between 2.5% and 17.5% something which will address the escalating costs of treating his health condition.

**2.3 Annuity rates and their impact on retirement planning**

We have established that for an annuitant who elects a conventional annuity, the annuitant pays a lump sum to a life insurer in return for a guaranteed payment till the death of the annuitant. Where a guarantee period has been selected or where the policy is a joint life policy, the beneficiaries or spouse would receive payment. The question to ask here is how the insurers determine the annuity rate that is what determines the annuity that an annuitant will receive during retirement. The annuity purchased by the same lump today and one to be purchased by the same amount 10 years later will be different. If the lump sum payments are the same, why would the annuity payments be different? We explore this in this section.

**2.3.1 Impact of the economy and interest rates on annuity rates**

A factor that Life insurers consider when calculating the annuity that will be paid to an annuitant is the level of interest rates at the time of purchase. In a high interest rate environment, insurers get a higher return by investing in interest-bearing instruments and hence the annuity rates offered are high. If the time the annuitant purchases the annuity coincides with a low interest rate environment, the annuity will be lower as insurers would invest the lump sum at a less profitable rate. Interest rates are influenced by the SARB through the repo rate based on the inflation and economic outlook. A dim economic growth outlook usually triggers a low interest rate environment in order to boost consumption and investment (provided that inflation is within the target range). An annuitant who purchases an annuity in such an environment is most likely to get a lower annuity rate. The reverse applies when the economic growth is high. Interest rates would be high to stem inflation and hence the annuity rates would be higher.

**2.3.2 Factors that affect annuity rates**

We have already mentioned that annuity rates are a function of the economy and the level of interest rates at the time that the annuity is purchased. Other factors that determine the annuity calculation are as follows:

**a) Life expectancy**

Since the annuity payment is guaranteed until death of annuitant, surely there must be an assumption made about how long the annuitant will live. Life insurers use mortality tables to determine the life expectancy of an individual at the time of annuity purchase. As an example, the life expectancy of a 65-year-old male is 11.77 years whilst that of a female is 15.18 years as per the annuity tables. This means that females are expected to live longer and therefore, the annuity payment for a female would be a lower than that for a male since the annuity for the female is spread out for a longer period. Therefore, the age at which the annuity is purchased, and the gender of the annuitant determine the annuity rates. This is illustrated below:

**Fig 1**



The above graph shows that a R1 000 000 annuity purchase in January 2017 at the age of 55 would have purchased a monthly income of R4 600 for a male and about R4 100 for a female annuitant. Had the annuity been purchased by 70-year-olds, the monthly annuity would have been about R7 000 for a male and R6 300 for a female.

The decision on when to retire and purchase an annuity obviously has a huge bearing on the income to be received in retirement. This needs to emphasize to clients when rendering advice.

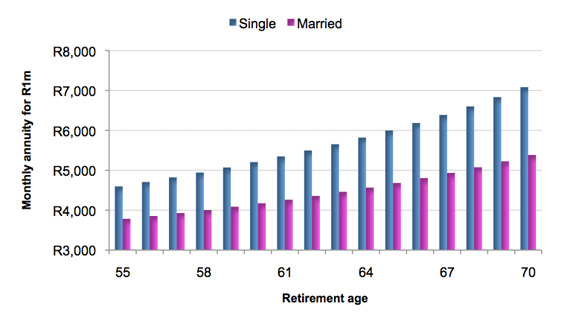
**b) The retirement capital**

This is perhaps the biggest factor that determines the retiree’s lifestyle during retirement. It also happens to be a factor that an individual has control over. Starting retirement savings early and investing as much as possible will lead to the highest possible retirement lump sum. This will culminate in a higher regular income.

**c) The option of the conventional annuity**

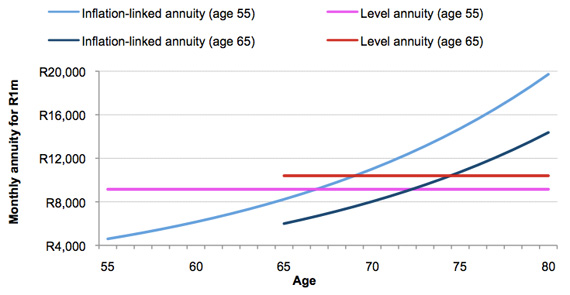
The below graph shows the difference in the annuity payments for a single life and a joint life policy purchased in January 2017.

**Fig 2**



* As a joint life policy needs to cater for the income needs up to the last surviving Spouse, the annuity payment is approximately half of a single life annuity. It is clear that the choice of either a single life or joint life policy has a huge bearing on the annuity payments.
* The annuitant can also choose a level or escalating annuity. Let us see what this entails in as far as the annuity income is concerned.

**Fig 3**



A Level annuity purchased by a male aged 55 in January 2017 for a R1 000 000 lump sum would have resulted in an annuity payment of about R9 000 per month. An inflation linked annuity would have resulted in a lower initial annuity of about R4 600. By the age of 80, this level annuity would be lower than an inflation linked annuity which would be about R20 000. Inflation linked annuities result in a lower pension to cater for future increases whilst level annuities remain at the same level.

Similarly, an annuity where a guarantee period has been chosen will be lower than one where no guarantee has been chosen. This is because the insurer has to factor in the possibility of paying an annuity for the remainder of the guarantee period in the event of death compared to the annuity ceasing upon death.

**A worked example illustrating a retirement Solution**



Let us use a practical example in order to illustrate how to plan for the required lifestyle after retirement.

Let us suppose that you are advising a 45-year-old married male (Pete) who is married to a 45 year old female (Ruth) who is unemployed. The Couple have two kids that will be independent by the age of 65 when they plan to retire. They expect to live up to the ripe age of 90. The husband, who is the sole breadwinner earns an income of R60 000 after tax. Given the fact that the children will be independent, they expect that a net income equivalent to 75% of his current net income should be sufficient to cater for their household expenses (including increased medical costs and long term care in their old age). However, they expect to have a remaining balance of R200 000 on their existing bond and would want this debt to be paid off at retirement from the capital that they would have saved for retirement. Pete currently belongs to a company sponsored provident fund where the employer contributes the full 10% contribution. The accumulated investment value on his provident is currently R2 000 000 and he expects this and his annual contributions to grow at 10% every year. Pete has received an average of 6% salary increase every year and he expects this trend to continue until the age of 65.

In retirement, Pete and his Wife would like their income to grow by 6% and the investment growth on their investment capital to grow by 10% per year.

You are required to determine if Pete and Ruth will have a shortfall at retirement and to recommend an annual investment that will solve the shortfall problem if there is a shortfall. Assume that all contributions are made annually in advance.

**Solution**

**Step 1: Needs analysis**

Pete and Ruth require the following at retirement:

* Net Income equivalent to 75% of R60 000 in today’s value at the age of 65. This equivalent to R45 000 for 25 years. This income should increase at 6% per year.
* R200 000 should be paid off once off from the accumulated retirement capital at 65

**Step 2: Calculate the lump sum that we be available at retirement:**

Using an HP 10B11 calculator, the calculations are follows:

1 The value of the current accumulated provident fund value at 65 is calculated as follows

PV R2 000 000

I/YR 10

N 20

P/YR 1

FV R13 454 999.90

2 The value of recurring provident fund contributions at age 65 is calculated as follows

PMT (R6 000 per month x12) R72 000

I/YR (resultant rate is explained in section 4.1.6) 3.7736

N 20

P/YR 1

FV R2 173 383

Therefore, the total value that Pete and Ruth will have at retirement based on their current plan as the age of 65 will be R13 454 999.90 plus R2 173 383 which is R18 628 382.

**Step 3: Calculation of the lump sum required at the age of 65**

1. At the age of 65, Pete and Ruth will need an income equal to 75% of R60 000. At 65, Pete’s final is calculated as follows:

PV R45 000

I/YR 6%

N 20

P/YR 1

FV R144 321

Pete’s salary will be R144 321 per month in when he retires in 20 years’ time. His annual income requirement is R144 321 x 12 =R1 731 852 (We assumed that income is payable yearly in advance) He will need R144 321 with 6% inflationary increase every year for 25 years (from 65 to 90). We can calculate the present value at age 65 of this income requirement:

PMT R1 731 852

I/YR (Resultant rate) 3.7736

N 25

P/YR 1

PV (at age 65) R28 760 186

1. Pete and Ruth also need to pay off the mortgage Bond outstanding balance of R200 000 at the age of 65.

Therefore, the total amount that they need at retirement is:

Lump sum to cater for income requirements R 28 760 186

Add Outstanding loan balance R 200 000

**Total capital required is R28 960 186**

**The shortfall is R28 960 186 – R18 628 382 R10 322 804**

Step 4: In order to close the gap, Pete and Ruth have the following options:

1. They could make level annual contributions to a retirement vehicle calculated as follows:

FV R10 322 804

I/YR 10

N 20

P/YR 1

PMT R163 847

An investment of R163 847 annually for the next 20 years would ensure that their income needs are met:

1. They could contribute an amount that increases every year (let us assume at the inflation rate) calculates as follows:

Calculate the present value of the future value required at 65

FV R10 322 804

I/YR 10

N 20

P/YR 1

PV R1 534 419

Then calculate PMT required given annual inflationary escalation of 6% and assumed growth of 10 % (that is using the resultant rate)

BGN mode

PV R1 534 419

I/YR (resultant rate) 3.77

N 20

P/YR 1

FV 0

PMT R106 599

An investment of R106 599 in the first year and escalating at 6% per annum would ensure a comfortable retirement for Pete and Ruth

**2.4 Understanding behavioural finance**

During periods of extreme market volatility, it is very difficult for some investors to remain invested. These investors panic and sell their investments at a time when prices are heavily depressed, which means converting paper losses in to realised losses, thus locking in their losses. Emotions and other biases can have a negative impact on the investment process. This makes it very important to understand how such emotions and biases creep into the investment process and how they can be dealt with properly to ensure that investors do not harm themselves financially by making decisions based on these emotions or biases.

Studies have shown that when investor try to protect their investments by moving in and out of the market, they end up reducing their gains and increasing their losses. Although taking a long-term view can be difficult especially in times of extreme market stress, this approach can be very rewarding. This is due to the fact that taking a long-term view and remaining invested, especially during times of extreme market volatility allows for long-term portfolio growth.

In a study by Momentum Investments titled *Covid-19 Investor Behaviour revealed* that during the coronavirus pandemic, as panic set in, the number of switches in March 2020 (when the market saw a sharp decline), switching activity spiked to 300% of normal levels. From January until the end of September 2020, 11 608 switches were made on the Momentum Wealth platform of at least R1 000 or more. An investment switch represents a change in strategy – moving from the current portfolio of investments to another that often represents a trade-off of future investment returns for current emotional comfort. The flight to safety. The average value of these switches was slightly in excess of R150 000. Overall, on the Momentum Wealth platform alone, approximately R 100 million was lost over the period of April to December 2020. This shows how overreacting during times of market stress can be financially disastrous. This situation is not peculiar to South Africa. A study by Schwab Asset Management, Cerulli Associates and Investments & Wealth Institute showed that there was a significant surge in behavioural biases during the coronavirus pandemic in the United States.

Behavioural finance helps us to understand why investors are influenced by their emotions and other cognitive biases to behave in ways that are contrary to what traditional finance model assume. In essence, behavioural finance helps us to understand actual investor behaviour in the real world as opposed to how investors are expected to behave in theory. It focuses on understanding how investors make decisions, both individually and collectively. Understanding how investors behave in the real world can help us to modify or adapt to our behaviours in order to improve financial outcomes and to achieve our financial objectives. In most cases, understanding and integrating behavioural finance in the investment process can lead to better investment outcomes. Understanding the effects that behavioural biases on the investment process, can help to significantly improve investment outcomes and achieve the investor’s stated financial goals.

**2.4.1 Cognitive and Emotional Biases**

In creating a suitable portfolio for the client, it is important to have an understanding of how emotions can derail a well-structured financial plan. Behavioural finance can help the advisor in identifying client biases that can affect the investment process negatively. Studies have shown that when faced with complex decision-making problems that require considerable time and cognitive processing, we sometimes find it difficult to analyse and devise a rational approach to map out a proper course of action. This problem is made worse by the fact that we receive lots of information on various things at any given time and tend to experience information overload. We therefore tend to make sub-optimal decisions by simplifying the options available to us, and usually apply only a subset of the information available and disregard the rest of the information or options (these usually are the more complicated but potentially useful), in order to arrive at a more manageable set of information. In so doing, we settle for a solution that is “good enough” instead of finding the optimal solution. This approach to decision making is very common when we make investment decisions and studies have shown how this approach to decision making can have a significant and negative impact on investment outcomes.

Behavioural biases can be classified as either cognitive or emotional biases. This classification can be very useful when developing an approach to deal with client biases. Cognitive biases stem from basic information processing, statistical, or memory errors that lead to sub-optimal decision-making process and choices. Emotional biases on the other hand are mainly spontaneous and stem from feelings and attitudes that lead to sub-optimal decision-making process and choices.

This section introduces some of the more popular behavioural biases and how the impact investment decision making. It is important to know that in researchers have uncovered over 200 behavioural biases and they all cannot be discussed in this section.

**a) Cognitive Biases**

This section provides a brief discussion on some popular cognitive biases.

*i) Framing Bias*

People may respond to a particular situation in different ways depending on how information relating to the situation is presented (framed). This phenomenon is referred to as framing and can occur in different contexts. For example, how data is presented, how figures are illustrated and how the problem is described. A person’s willingness to accept risk may change depending how the information, question or scenario was framed, i.e., where negatively or positively. For example, assuming Portfolio A and Portfolio B are identical in every aspect, if Mrs Khumalo knows that has a 70 per cent chance of helping her achieve her investment objective, and there is a 30 per cent chance that Portfolio B will not help her achieve her investment objective, Mrs Khumalo, just like most people, will choose Portfolio A, because it has an attractively framed performance prospect.

*ii) Recency Bias*

People can easily recall and emphasise events and observations the occurred recently than those that occurred in the distant past. This cognitive redisposition that leads people to give more emphasis to recent events is known as the recency bias. In investing, one of the common evidence of recency bias among investors is the misinterpretation of investment performance records for unit trusts (collective investment schemes or funds) where fund that deliver superior performance in the past year, or past two or three years are experience significant inflows as investor make their investment decisions based on the most recent performance without taking into consideration the cyclical nature of asset classes returns. Therefore, these investors tend to find such fund as more attractive. Investors are therefore continually warned that past performance are not indicative of future performance.

*iii) Availability Bias*

Availability is a metal shortcut or a rule of thumb that people use when estimating the probability of an outcome based on how frequent that particular outcome occurs I their lives or how frequent they encounter such outcomes. The availability bias occurs when people perceive events they can easily recall as being more likely to occur than events they have difficulties in recalling, find it hard to imagine or comprehend its occurrence. For example, in a study, people usually guessed that fatal shark attacks occur more frequently than airplane parts falling from the sky. Although it may be difficult to comprehend, airplane parts falling from the sky is thirty times more likely to occur than shark attacks[[2]](#footnote-2), however, shark attacks receive more coverage in the media (and likely to invoke greater fear), therefore, it was easier for people to imagine dying from a shark attack than being crushed to death by falling airplane parts and therefore, presumed to be prevalent. Investors are likely to select investments based on information that is available to them through, for example, suggestions from friends or advertisements and in such cases, do not engage in in-depth research or due diligence to determine whether that investment is a good choice.

*iv) Confirmation Bias*

This refers to the penchant for selective perception by emphasising ideas or information that support our convictions while information that contradicts our convictions. For example, it is common for us to decide, after buying a much-desired item, for example, a large flat screen TV, to look for the same television at a different store know to have higher prices. This is done in order to confirm that we made a good buying decision. In making investment decisions, an investor may disregard any negative news relating an investment that he or she recently made, even when all evidence coming out shows that the investment was a wrong choice.

*v) Representativeness Bias*

To derive meaning from life experiences, we tend to develop the tendency to classify objects and thoughts, and when we are faced with a new situation that is not consistent with our already-established classifications, we adopt a rough best-fit approximation to place this situation into our existing classifications. The representativeness bias occurs when we make decisions by comparing things to concepts that we already have in mind. In so doing, we apply mental shortcuts to make decisions based on past events that are representative of, or similar to the current situation. We sometimes may not have the time or the resources to analyse and evaluate all available information, so we resort to mental short cuts in order to make quick decisions. Although this mental short cut may sometimes be helpful in making quick decisions, they may also lead us to make sub-optimal decisions since we do not consider all available information.

**b) Emotional Biases**

*i) Loss aversion Bias*

Studies have shown that we generally have a stronger impulse towards avoiding losses than acquiring gains of the same amount. Studies on loss aversion have shown that the psychological impact (pain) of a loss of say R300, is twice as high as the impact (excitement) of a gain of R300. We are therefore generally, risk averse. Loss aversion can prevent investors from letting go of unprofitable investments, even if there is very little or no prospect of the investments turning around over time to be profitable. Also, loss aversion bias can cause investors to focus too much on avoiding risk when evaluating the prospects of an investment. This is because, avoiding a loss is a more urgent concern than making a profit. This can be dangerous for investors because, when investments start performing well, loss-averse investors tend to be too quick to lock in the gains by selling the investments due to the fear that the investment gains may be reversed over time. Loss aversion may therefore lead to prematurely divesting investments which in turn, limits the upside potential. This bias can lead investors to hold their underperforming investments for too long and sell their winning investments too quickly, leading to suboptimal investment returns.

*ii) Endowment Bias*

Research have shown that the minimum selling price that people are willing to accept for something they own tend to exceed the maximum price they are willing to pay for the same item. In effect, the ownership of an asset suddenly “endows” the asset with some added value. This endowment bias can influence the attitude toward an asset, or an item owned over long periods of time and can crop up immediately after the acquisition of the asset making the owner unwilling to sell the asset for the same price as it was purchased. Many financial advisors have dealt with clients who are unwilling to sell investments they inherited from a deceased relative or a loved one. In most cases, clients mention a feeling of disloyalty associated with the selling inherited investments, tax concerns, or a general uncertainty in deciding on “the right thing to do”.

*iii) Regret Aversion Bias*

Sometimes, we avoid taking decisive action because we fear that in hindsight, whichever choice we made may end up being less than optimal or not most suitable choice. This is called regret bias and people who exhibit this bias try to avoid the emotional pain or discomfort of regret for making a poor decision. This bias can cause investors to feel unnecessarily apprehensive about investing in financial markets when the markets have recently experienced extreme volatility. Even investors with a long-term horizon may be unwilling to buy into the market immediately after it has gone through extreme price depression. The instinct to retreat in order to conserve whatever is left of investments in the market kicks in, and even such long-term investors may be unwilling to buy into the market to snap up investments that may be undervalued. Although it is the goal of all investors to buy-low-and-sell-high, i.e., buy investments when their prices are very low and sell them when the prices reach their peak, it is difficult for many investors to follow through with this maxim as they panic and sell their investments when their prices are depressed thus selling low, and only buy back into the market when they are sure the worst is over. However, by this time, prices would have recovered and possibly reached new high levels hence, buying at a higher price.

Regret aversion is not only present when there is a fear of investment loss; it can also cause investors to hold onto an investment that is doing well and reluctant to sell the stock even if it appears over-valued. A revers averse investor will remain invested fearing that he or she may miss out on further gains if the investment is sold.

*iv) Status quo Bias*

The status quo bias is present when people prefer things to remain relatively the same or prefer to stick with a decision that was made previously (the status quo). Status quo bias is consistent with loss aversion, and that it could be psychologically explained by previously made commitments, sunk cost thinking[[3]](#footnote-3), and regret avoidance. Status quo bias can cause investors, to feel more comfortable with an existing investment and hold on to it even if it is inappropriate for the investor’s risk profile. This can means the investor will then be taking excessive risk or is being too conservative which can have a negative impact on the investor’s financial goals.

*v) Overconfidence Bias*

Diagram

Description automatically generated with medium confidenceOverconfidence can be described as unwarranted faith in one's intuitive judgments, reasoning and cognitive abilities. The concept of overconfidence emanates from psychological experiments and surveys in which subjects overestimate their own predictive abilities and the precision of the information they have been provided. However, in investing, overconfidence can lead to emotionally charged behaviour, such as taking excessive risk. Generally, people tend to think that they are smarter than they actually are and possess better information than they actually do. For example, people may read about a new concept or investment on the internet and feel ready to invest because they have acquired the necessary knowledge and suddenly become expert on the concept or investment based on their perceived knowledge advantage.

Researchers have identified over two hundred behavioural biases and they cannot all be described in this section. You can visit the [Decision Lab](https://thedecisionlab.com/biases/) website to learn more about the various behavioural biases

**2.4.2 Behavioural Investor Types**

Michael Pompain created the Behavioural Investor Types (BITs) to guide financial advisors to deliver quick but insightful assessments on the type of clients they are working with before making investment recommendations (Pompian, 2016). It is important to determine your client’s investor type at the onset of the advisory process to minimise client behavioural surprises which can lead the client to changing his or her portfolio during times of significant market stress.

Clients who have very low risk tolerance and clients who have very high-risk tolerance tend to exhibit emotional biases. A client with a very low risk tolerance usually has a high need for security and therefore has a huge fear of losing money and therefore experiences extreme emotional distress when markets undergo severe price depression. Clients with a very high risk tolerance are also emotional investors; they are usually overconfident and mistakenly believe that can control the outcomes of their investments.

Between the two types of emotional investors are investors s who are mainly affect cognitive biases. Advisors find it more difficult working with emotional investors; therefore, it is important to identify the type of client upfront before making any investment recommendations. This can help in dealing with any behavioural bias that creeps up in future. Table 1 shows the BIT characteristics and their behavioural biases.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Conservative BIT | Moderate BIT | Growth BIT | Aggressive BIT |
| Risk Tolerance | Low | Medium | High | Very high |
| Bias Type | Primarily emotional | Primarily cognitive | Primarily  cognitive | Primarily  emotional |
| Biases | Endowment  Loss aversion  Status quo  Anchoring  Mental accounting | Regret  Hindsight  Framing  Cognitive dissonance  Recency | Conservatism  Availability  Confirmation  Representativeness  Self-attribution | Overconfidence  Self-control  Affinity  Illusion of control  Outcome |

Source: Pompian (2016)

Clients who exhibit cognitive biases can be guided through financial education and providing them with information on their biases and their impact on their investments and financial objectives. For overconfident clients, it is important for the advisor rather appeal to their emotions through discussions on how such overconfidence can have a negative impact on certain emotional issues relating to their standard of living, their family members, and their legacy.

It is important to note that the advice provided to clients with cognitive biases must be different from advice provided to clients with emotional biases. Appealing to the emotions by showing how a kneejerk decision can have a negative impact on important emotional issues such as financial security, retirement, and the impact on future generations, can be a more effective approach to dealing with clients with emotional biases. For such clients, advice that focuses on pointing out the negative consequences of client emotional biases on emotional issues that clients care about will be more effective than focusing on technical investment concepts with the aim of preventing the client from overreacting. However, a more technical approach will be effective in dealing with clients with cognitive biases. This is because, cognitive errors can be easily resolved with through financial education and information that points out the flaw in the clients decision and thus point out the biases. This can help in guiding the client toward making a more suitable investment decision.



**Formative activity 1**

What is an income replacement ratio and why is a high income replacement ratio desirable? (4)

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**Formative Activity 2**

In addition to the income replacement ratio, which other factors need to be taken into account when determining the capital needed at retirement? (4) Why is it important to take these factors into account? (4)

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**Formative Activity 3**

What is a conventional annuity? (1)

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**Formative Activity 4**

Why does a joint life annuity pay a lower pension to the main member compared to a single life annuity? How can a retiree address this concern upon retirement (2)?

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**Formative Activity 5**

Give one advantage and one disadvantage of a living annuity (2)

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**Formative Activity 6**

How do interest rates affect the annuity rates that are applied to retirement capital at retirement? (4)

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**Formative Activity 7**

Explain how cognitive and emotional biases influence investment decisions of investors and potential investors?

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# **LEARNING UNIT 3: TAX IMPLICATIONS FOR INVESTMENTS**



**Learning Outcomes**

By the end of this learning unit and having completed all the formative assessment activities, you will be able to:

* Apply the Income tax act to long term insurance, investments, medical schemes, investment products and retirement funds
* Discuss the impact of budget changes on the taxation of investments
* Explain how different forms of tax are applied in different investment scenarios
* Calculate the tax payable for retirement products at withdrawal and retirement stage
* Examine the tax advantages of different investment products
* Discuss the tax treatment of local and foreign dividends and interest
* Apply capital gains tax on investments.

**INTRODUCTION**

An analysis of the potential of a proposed investment to meet a client’s investment objective should look at both the positive and negative tax implications. Tax affects the investor at three different points along the investment journey that is at contribution stage, when gains or income is received and upon withdrawal. Minimization of tax or maximization of tax benefits can be achieved when one has a solid understanding of tax implications on investments. We look at the income tax sections that affect different forms of investments and then expand on this by looking at the application of different forms of tax in the investor’s journey.

**3.1 The Income Tax Act and long-term insurance**

An investment in a product regulated by the Long Term Insurance Act will be subject to tax according to section 52 of the Long Term Insurance Act subject to section 29A and 29B of the Income Tax Act of 29B. This tax implication is well known as the five funds approach in the investments industry. What then are the implications of the five funds approach?

Each insurer is required by SARS to establish and maintain five separate funds namely:

* The untaxed policyholder fund
* The individual policyholder fund
* The company policyholder fund
* The corporate fund
* The risk fund.

Each policy issued by the insurer should be placed in any one of the above funds in accordance with the risk that the insurer has taken on. Income accruing to the five separate funds is then taxed in accordance with the tax rate applicable to that type of fund in a particular tax year. The current tax rates applicable to the five funds are as follows:

* 30% for individual policyholder fund
* 0% for the untaxed policyholder fund
* 28% for company policyholder fund
* 28% for risk policy funds
* 28% for corporate funds (funds for the corporate fund.

**3.2 The Income Tax Act and medical aid schemes**

Membership to a medical aid is a very important component of one’s financial plan. An unexpected medical event that has not been planned for can disrupt an otherwise effective investment plan. Besides the obvious benefit of being on a medical aid, medical aid rebates are a tax incentive that reduce a member of a registered medical aid’s tax bill. The application of the tax rebate is defined in the income tax act of 1962 in section 6B (1).

The medical schemes tax credit (MTC) is a rebate that reduces the tax bill of the individual belonging to a medical aid. The rebate is applicable for the main member and the dependents on the medical aid scheme and the amount will be pronounced by the minister of finance in the annual budget speech. The rebates applicable for the 2019/2020 tax year are as follows:

* R310 per month for the taxpayer who paid the medical scheme contributions, or for a member or dependent of a medical scheme or fund where the taxpayer is not a member of a medical scheme or fund.
* R620 per month for the taxpayer and one dependent or R620 in respect of two dependents where the taxpayer is not part of the medical scheme.
* R209 for each additional dependent.



Sipho is 56 years old. He is married and has a 16-year-old daughter. Sipho is not a member of a registered medical aid, but he pays for his wife and daughter’s membership on a registered medical aid. Is Sipho entitled to any medical schemes tax credit since he does not belong to a medical aid?

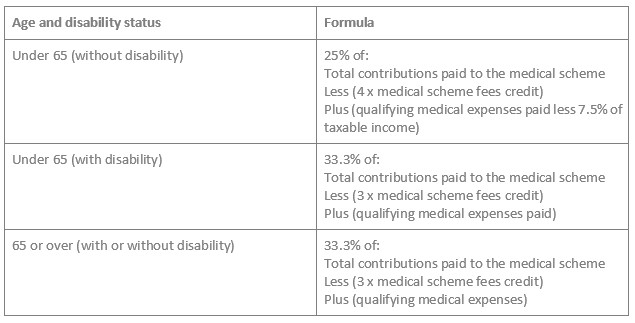
**Solution**

Sipho does not belong to a medical aid, but he is paying contributions for his Wife and Daughter’s membership on a medical aid. Sipho therefore qualifies for the MTC tax rebate.



There are many instances of a medical scheme not meeting all the medical expenses incurred by the medical aid member. Besides the MTC rebate which reduces a member’s tax bill, is there any way that the taxpayer is compensated for these additional expenses?

Fortunately, section 6B of the income tax act provides a relief for medical scheme members who incur additional out of pocket expenses. It is important to note that these expenses need to be “qualifying” that is meeting a certain criterion for example over the counter cough syrups would not qualify for this additional rebate whilst consultations with a registered medical practitioner will be taken into account. The formula for calculation of this additional tax rebate is given in the below table:



**3.3 The income Tax Act and Investment instruments**

We have looked at the tax implications on investments and retirement annuities in the first learning unit, but it is important for the adviser and the client to be aware of which sections of the income tax affect the different forms of tax that they will potentially pay on their investments. Sections 64D to 64M on the income tax act pertain to Dividend withholding tax whilst sections 5 to 37H deal with the levying of normal tax that is income tax and Capital Gains Tax. Sections 54 to 64 of the income tax act deal with Donations Tax whilst 26A deals with the inclusion of a capital gain in the taxable income of a taxpayer. We will expand on these different forms of tax in the next sections.

**3.3.1 The Annual Budget speech and its implications**

The annual budget speech by the Minister of Finance is a keenly followed event by all stakeholders as it details the government’s plans for its income and expenditure in the next fiscal year. As the government relies on income from taxes to implement its fiscal policy, almost every year highlights changes in tax. We look at the major changes in the 2019/2020 tax year to illustrate the impact that the budget has on tax planning for investors.

On the 21st of February 2019, the Finance Minister delivered his 2019/2020 budget in an environment dominated by very negative sentiment with slowing economic growth, rising unemployment and a decline in the health of state-owned enterprises with Eskom’s woes a worrying factor for the entire economy. Against this background, the following were the major highlights of the budget:

**What changed?**

* There were no changes in the tax bracket. This highlighted the minister’s goal of maximizing tax revenue in order to plug the R243 Billion budget shortfall. This decision resulted in some taxpayers falling into higher tax brackets due to inflation creep. This is because some taxpayers who had received an inflation adjusted salary increases would have fallen into higher tax brackets as there was no corresponding adjustment by the minister to take this into account.
* There was a slight increase in tax thresholds and rebates resulting in some tax relief for low-income earners.
* The 29c increase in the fuel levy and 30c for diesel was a major source of outcry as this levy has a direct effect on the price of fuel which in turn fuels inflation in the economy.
* As is the case in any year, “sin taxes” increased with excise duties of between 6% to 10%.

**Unchanged**

* Capital gains tax
* VAT at 15%
* Corporate tax at 28%
* Estate Duty at 20%
* Donations tax at 20% (25% for Estates above R30 million)
* Interest exemptions for local interest income
* Medical aid rebates
* Transfer duty
* Retirement fund deductions at 27.5% of taxable income capped at R350 000 per annum.
* Withdrawal and retirement tables remained unchanged.
* Dividends withholding tax at 20%

In a nutshell, the budget was a delicate balance given the little room to increase taxes and the need to fund key institutions like Eskom which got an R69Billion pledge over 3 years.

**3.3.2 Tax implications of different investment vehicles**

As we have already discussed, a key investment principle is for the investor to understand the implications of tax at contribution, during the investment and at withdrawal stage. This knowledge can be used to maximize tax efficiency and to maximize returns. Investments can be grouped into the following categories:

* Discretionary investments (these include unit trusts, money in the bank, investments in listed shares)
* Tax free savings accounts
* Long term insurance investments that is endowments
* All forms of retirement investment vehicles.

An investor in any of these vehicles may realize a return in the following forms:

* Dividend payments: These are a portion of the company’s profits that are paid to the shareholders.
* Capital Gains: This is the gain from the capital appreciation of the asset invested in
* Rent: This is a return from investment in a rental producing asset for example property
* Interest: This is a payment that an investor receives periodically as a reward for having invested in an interest-bearing asset.

A matrix of the application of tax for different forms of gains as at 2019/2020 budget speech is given below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Discretionary investments | Tax-free savings accounts | Endowments | Retirement vehicles |
| Dividends | 20% Dividend withholding tax | Full Exemption | 20% Dividend withholding tax | Full exemption |
| Capital Gains | * Exemption on first R40 000(R300 000 at Death * Thereafter taxed at marginal tax rate of taxpayer (subject to inclusion rate of 80%) | Full Exemption | 12% with no exemption | Full exemption |
| Rent | * Exemption on first R23 800 for taxpayers under 65 * Exemption on first R34 500 for taxpayers over 65 * Thereafter taxed at marginal tax rate | Full Exemption | 30% with no exemption | Full Exemption |
| Interest | * Exemption on first R23 800 for taxpayers under 65 * Exemption on first R34 500 for taxpayers over 65 * Thereafter taxed at marginal tax rate | Full Exemption | 30% with no Exemption | Full Exemption |



Given the above tax treatment of returns on different investment vehicles, let us suppose you have been asked to advise a client who is 66 years old and is in the highest marginal tax rate of 45%. The client intends to invest R2 million in either a discretionary investment or an endowment in interest-bearing assets at 10% per annum. The investor does not need an income from the investment for the next 5 years.

**Option 1: Discretionary investment:**

At an interest rate of 10% per annum, the investor would get interest income of R200 000. This would be taxed whether received or accrued. R34 500 of this would be tax free (as per the exemption for over 65s) meaning R165 550 would be taxable at 45%. The investor would pay tax of R74 475 on the investment.

**Option 2: Endowment:**

An endowment is taxed at 30% under the 2019/2020 tax and is taxable from the first Rand with no exemption. 30% tax on R200 000(10% of R2 000 000) is R60 000.

The endowment option is more tax-efficient. This explains why an endowment is a great tax planning tool for high-net-worth individuals.

**3.3.2.1 The application of tax on contributions to retirement funds (Retirement annuities, provident and pension funds)**

According to the income tax act, a retirement funds (pension, provident and Retirement annuities) are funds whose rules provide for contributions by members or transfers of members interest in (approved pension funds, pension preservation funds, provident funds, provident preservation funds and other retirement annuity funds) for the sole purpose of providing a pension for members, dependents or nominees of deceased members. The Act further states that:

* For Retirement annuities and pension funds, no more than a third of the total value of the retirement interest may be commuted as cash with the remainder two thirds paying an annuity during retirement (except where remaining 2/3 is less than R165 000 or where the member is deceased).
* Until the Taxation amendment Laws amendment Act of 2008, a retirement annuity policyholder could not access their benefit as cash prior to age of 55 and membership to the retirement annuity fund automatically ceased at the age of 70. The restriction regarding access to the funds does not apply if the fund value is less than R7 000 whilst members can continue membership after the age of 70 following the amendment.
* Further, for retirement annuities, a member can now access benefits before retirement upon emigrating, upon ceasing to be a tax resident and this also applies to expatriates whose visa has expired and has subsequently left South Africa based on Taxation Laws Amendment Act of 2015. Lastly, the entire amount can be commuted as cash when its total value is below R247 500. The option to commute cash for pension and provident fund members was already in place for provident and pension fund members.
* Effective 1 March 2016, the maximum tax deduction for all retirement (that is retirement annuity, pension, and provident funds) contributions in a tax year changed to 27.5% of taxable income but limited to a maximum of R350 000 in a tax year.
* Contributions made by employers will reflect as fringe benefits in the calculation of taxable income but are also tax deductible. In other words, both employee and employer contributions are tax deductible.
* Any excess contributions can be carried over to the following tax year and deducted subject to the annual limit of R350 000.
* The lump sum taxation of retirement annuities will be discussed in a later section as the tax treatment is the same for retirement funds.

A key similarity between a retirement annuity and a pension fund is that the commutation rule of a maximum of a third as a lump sum applies at retirement. However, the restriction of access to the funds before retirement (for balances above R7 000) does not apply to pension funds.

A pension fund and provident fund both allow for withdrawals before retirement age whilst a retirement annuity does not except in special circumstances as mentioned above. However, at retirement age, a member of a provident fund can commute the lump sum in full whilst a pension fund member is restricted to a maximum of a third as cash.

**3.3.2.2 Taxation of retirement withdrawal fund lump sums**

Effective 1 March 2016, a lump sum from a retirement fund is taxed as a retirement lump sum in the event of attainment of retirement (including early and ill health retirement), upon death of a member or upon severance of employment. Although many of us are familiar with the tax retirement tax tables, the actual process in calculating the tax on the retirement lump sum is as follows:

* The current retirement lump sum to be received is calculated
* Any contributions that were not allowed as a tax deduction are subtracted from the retirement lump sum
* Previous retirement fund **withdrawal** lump sums received or accrued on or after 1 March 2009 are added to the current lump sum
* Previous retirement lump sums received or accrued after 1 October 2007 are added to the current lump sum
* Any severance benefits received or accrued after 1 March 2011 are added to the current lump sum
* The amount of tax payable on the current lump sum should be reduced by the tax that would be levied on previous lump sum withdrawals after 1 March 2009, previous retirement lump sums after 1 October 2007 and previous severance benefits after 1 March 2011 based on current tax tables.

Having followed these steps, the following tax tables would be applied as at 2019/2020 tax year:

**2019/2020 retirement tax tables**

|  |  |
| --- | --- |
| Taxable income | Rate of tax |
| 0- 500 000 | 0% of taxable income |
| 500 001-700 000 | 18% of taxable income above 25000 |
| 700 001-1 050 000 | 36 000+27% of taxable income above 700 000 |
| 1 050 001 and above | 130 500+36% of taxable income above 1 050 000 |



Trevor has reached retirement age of 65 and is a member of the AGF pension fund. His current pension value is R3 500 000. He would like to commute the full 1/3 of the lump sum as cash. In April 2009, Trevor resigned from XYZ pension fund and took the full R750 000 as cash. Trevor has also retired from a provident fund before: he was a member of BCD pension fund which he retired from in 2015. He took the full R600 000 as cash upon retirement.

Trevor has also informed was a member of Peterhouse pension fund in the year 2012 and his employment was terminated following which he got a severance benefit of R200 000

Trevor has had additional contributions above the R350 000 annual limit of R250 000 that have been carried over from the previous tax year.

You are advising Trevor and he would like to know how much tax he will pay on his retirement lump sum.

The following steps are used to calculate Trevor’s tax at retirement:

**Step 1: Calculate the value of current lump sum**

1/3 of R3 500 000 = R1 166 666.67. This is the option that will be taxed based on retirement tax tables. The remainder 2/3 will be taxed at the retiree’s marginal tax rate when he receives his monthly annuity.

**Step 2: Deduct any unallocated contributions from the previous tax year**

= R1 166 666.67 – R250 000 = R916 666.67

**Step 3:**

* Add retirement withdrawal benefits after March 2009(XYZ pension fund) = R750 000
* Add retirement lump sum benefits after March 2007(BCD pension fund) = R600 000
* Add severance benefit after October 2011(Peterhouse pension fund) = R200 000

This would give us an aggregate lump sum of R2 466 666.67

**Step 4: Calculate tax on the aggregate lump sum**

Using the tax tables, the tax would be calculated as R130 500 + (0.36 x (R2 466 666.67 – R1 050 000) = R640 500

**Step 5: Use current tax tables to calculate the tax that would have been paid on the previous lump sums received (excluding the current lump sum)**

Lump sums received or accrued previously = R750 000 + R600 000 + R200 000 = R1 550 000

Tax using 2019/2020 tax tables would be R130 500+ (0.36x (R1 550 000 – R1 050 000) = R310 500.

**Step 6: Deduct tax that would have been paid for previous lump sums from the tax payable on the aggregate lump sum.**

Tax on aggregate lump sum calculated in step 4 = R640 500

Less Tax payable on previous lump sums calculated in step 5 = (R310 500)

Tax on current lump sum = R330 000



In the example above, we have simplified the deduction that is allowed, to reduce the taxable portion of the benefit to retirement fund contributions that did qualify as a deduction under section 11k of the income tax. There are additional deductions that are permissible to reduce the taxable lump sum and in summary these are:

* Any transfer to a retirement fund or preservation fund
* Any transfer between retirement funds that was taxed. A transfer from a pension to provident fund used to be taxable. This is because pension fund contributions used to enjoy tax deductibility whilst provident fund contributions were not tax deductible.
* Any unclaimed benefit that was transferred to a preservation fund and was taxed at the time of the transfer
* Transfers by public sector funds to a retirement fund or preservation fund based on a formula that is beyond the scope of this course.

**3.3.2.3 Taxation of retirement withdrawal lump sums**

The tax tables for retirement fund withdrawal benefits (withdrawal before retirement age) offer less concessions compared to retirement tax tables. Withdrawal is triggered when a retirement fund member takes a cash portion upon leaving the company before retirement age. The steps to calculate. The steps to calculate the tax is similar to the calculation of tax on a retirement fund lump sum benefit as follows:

* The current retirement lump sum withdrawal benefit to be received is calculated
* Any contributions that were not allowed as a tax deduction are subtracted from the retirement lump sum
* Previous retirement fund withdrawallump sums received or accrued on or after 1 March 2009 are added to the current lump sum
* Previous retirement lump sums received or accrued after 1 October 2007 are added to the current lump sum
* Any severance benefits received or accrued after 1 March 2011 are added to the current lump sum
* The amount of tax payable on the current lump sum should be reduced by the tax that would be levied on previous lump sum withdrawals after 1 March 2009, previous retirement lump sums after 1 October 2007 and previous severance benefits after 1 March 2011 based on current tax tables.

The retirement fund lump sum withdrawal benefits tax table for 2019/2020 tax year is as follows:

|  |  |
| --- | --- |
| Taxable income | Rate of tax |
| 0-25 000 | 0% |
| 25001-660 000 | 18% of taxable income above 25 000 |
| 660 001-990 000 | 114 300+27% of taxable income above 660 000 |
| 990 000 and above | 203 400+36% of taxable income above 990 000 |

The steps followed in calculating the lump sum tax should be followed in calculation retirement lump sum withdrawal tax.

**Step 1: Calculate the value of current retirement lump sum withdrawal**

**Step 2: Deduct any unallocated contributions from the previous tax year**

**Step 3:**

* Add retirement withdrawal benefits after March 2009
* Add retirement lump sum benefits after March 2007
* Add severance benefit after October 2011

**Step 4: Calculate tax on the aggregate lump sum**

**Step 5: Use current tax tables to calculate the tax that would have been paid on the previous lump sums received (excluding the current lump sum)**

**Step 6: Deduct tax that would have been paid for previous lump sums from the tax payable on the aggregate lump sum**



The second schedule of the income tax act requires a taxpayer receiving a retirement fund lump sum withdrawal benefit to include the following in their gross income:

* For a divorced member where a divorce order was granted on or after 13 September 2007, the amount that has been granted to non-member Spouse. Where divorce order is before 13 September 2007, the amount is tax free both for the member and non-member Spouse
* Any transfer by the member to a retirement fund or retirement preservation fund
* Any other lump sum that does not fit the criteria in the first two definitions above but that is not as a result of death, retrenchment, or retirement

The following deductions are permissible for retirement fund withdrawal benefits:

* For a retirement fund benefit that has been granted through a divorce decree, the non-member Spouse can deduct any amounts transferred to a retirement fund to another retirement fund including transfers to retirement fund preservation funds (provident and pension preservation funds)
* Deductions against lump sums to be transferred are permissible for specific transfers as listed in the second schedule
* For other lump sums, the taxpayer can deduct contributions that were not deducted in terms of section 11k, specific transfers between the different retirement funds, any previous transfers between funds that were previously taxed, any transfers from preservation funds to unclaimed benefits any tax-free portion as a result of a transfer from the Government Employees Pension Fund pre March 1998 tax free amount.

**3.3.2.4 Taxation of voluntary and compulsory annuities**

An annuity is a periodic payment that a taxpayer receives in return for a lump sum consideration to a Life insurer. There are many forms of annuities depending on how the income stream is structured and also due to the source of the lump sum used as consideration to earn an annuity. An annuity that is purchased with proceeds from a retirement fund is called a compulsory annuity whilst one that is purchased voluntarily that is a lump sum other than a retirement lump sum is called a voluntary annuity. There is a huge difference in the tax treatment of these annuities that advisers need to be aware of in order to adequately guide their clients’ choices.

1. **Taxation of a voluntary annuity**

A voluntary annuity purchased by a natural person, a natural person’s deceased or insolvent estate and a trust whose purpose is for the benefit of a natural person can get an exemption of the capital portion of their annuity. This exemption is calculated at any point in time when the annuity is being received and if the annuitant decides to commute a lump sum in respect of future annuity stream. Perhaps an example will illustrate this concept well.



Let us suppose that Alex is a 37-year-old male who has R1 000 000 and has decided to purchase a voluntary annuity with an insurer. In return for the R1 000 000, the insurer will pay Alex a fixed annuity of R125 000 per year. What is the capital exempt portion of the annual R125 000?

**Solution**

The R125 000 annual annuity includes a portion of the lump sum that was paid to the insurer and return. In order to calculate the exempt capital portion, the following formula is used: Y= (A/B) xC,

Where Y is the capital portion to be calculated,

A = the lump sum paid to the insurer upfront

B = Total expected return as per the annuity contract (this is calculated as the annual annuity x life expectancy as given in a (55) annuity tables)

C = the annual annuity amount.

In the above example, the cash consideration is R1 000 000,

The total expected return would be R125 000 x 37.349 (as per the annuity tables) = R4 668 625

C is the annual annuity which R125 000

Therefore, the capital portion = (R1 000 000/R4 667 500) x R125 000) = R26 774.48

What this means is that of the R125 000 being received as an annual annuity, R26 774.48 is tax free.

This means in the above example, only R98 225.52 (being R125 000- R26 780.93) is taxable and should be included in the gross income of the taxpayer and taxed at the marginal tax rate.

An additional formula exists for the calculation of the capital exempt amount where a taxpayer elected to purchase an annuity by paying a lump to an insurer and then deciding to commute the annuity payments as a lump sum before the expiry of the annuity term.



Let us suppose that instead of purchasing an annuity for the rest of his life as per the example above, Alex chose to purchase a 15-year voluntary annuity with an annual annuity of R200 000 over 15 years after having paid the insurer a consideration of R1 000 000. This means that very year, R66 666.67 of the capital of R1 000 000 is paid to Alex. If Alex decides after 10 years to commute remaining annuity payments for a lump sum for a lump sum of R400 000, when calculating tax on this lump sum, we need to remove the capital portion from the annuities that would have been received in the next 5 years but have been converted to a lump sum.

This is found by using the formula: X = A-D

Where X is the capital amount to be exempted,

A is the lump sum consideration at contract initiation which was R1 000 000

D is the total capital portion that has already been allowed as a capital exemption

D is therefore calculated as (R66 666.67x10) = R666 666.70. This is the total amount that has been allowed as a deduction for the 10 years that Alex has been receiving an annuity. Therefore, X = R1 000 000 less R666 666.70 = R333 333.33

Therefore, from the lump sum commutation of R400 000, Alex can claim a R333 333.33 tax deduction resulting in only R66 666.67 being taxable.

1. **Taxation of a compulsory annuity**

The amount payable on a retirement benefit not commuted as a lump sum is taxed as a compulsory annuity and is supposed to be included in the taxpayer’s gross income. Section 10C of the income tax act now allows for a taxpayer to deduct from their annuity any amounts that were previously not ranked as tax deductions. This is a welcome relief to taxpayers who opt for an annuity as the tax deduction was only applied to taxpayers who chose to commute their benefit as a lump sum. This means a compulsory annuitant can now deduct any previously disallowed contributions to a pension fund (including preservation funds) or retirement fund from the compulsory annuity received in a tax year.



If an annuitant is receiving say R500 000 as an annuity for the current tax year but has previously disallowed contributions to a pension fund or retirement annuity of R700 000, the pensioner will not pay tax on the compulsory annuity that tax year as R500 000 can be deducted from his annuity. In the following tax year, he can deduct a further R200 000 from his taxable income as there is still R200 000 of previously unallocated deductions to a pension fund.

**3.4 The taxation of dividends**

**(a) Local Dividends**

All dividends distributed by a South African resident company for the shares held by a taxpayer are subject to dividends tax except in the following circumstances:

* Where the dividend is a result of reduction of the shareholder’s capital, where there are capitalisation issues and in the case of a general share buyback by a JSE listed company
* Where a South African resident company is receiving a dividend from another South African resident company
* A micro business that pays less than R200 000 in dividends and certain exempt bodies such as the government and retirement funds as already discussed
* Approved public benefit organizations and rehabilitation trusts
* Non-resident recipients of dividends from dually listed South African resident companies
* Where there is a double taxation agreement with another country a foreign recipient of a dividend from a South African resident company may pay a reduced rate as per the double taxation arrangement.

A low interest rate loan or an interest free loan extended by a company to a resident natural person or trust connected to a natural person or to a person other than a company who is connected to such natural person or trust is considered a deemed dividend and is treated as a cash dividend. The difference between the official interest rate and the rate at which the loan is granted is the deemed dividend.



Legion Fabrics is a tax resident company. In the 2019/2020 tax year, one of its shareholders Max received dividends to the value of R200 000. Additionally, Legion fabrics extended a loan of R500 000 at an interest rate of 5% which was below the official interest rate of 10%. What is the total dividend tax that Max is liable for?

**Solution**

The tax on the R200 000 dividend will be 20% of R200 000 = R40 000. This must be withheld by the company and be paid to SARS.

The low interest rate loan is a deemed dividend calculated as (10% -5%) x R500 000 = R25 000.

Max is therefore liable for R65 000 dividend withholding tax for the 2019/2020 tax year



Dividend tax is withheld by the company or intermediary paying the dividend and is paid directly to SARS before the dividend is received by the taxpayer. If the company paying the dividend is paying the dividend directly to the taxpayer, the company has a duty to deduct the dividend withholding tax and pay it over to SARS. However, if the company is paying the dividend to an intermediary such as a broker or unit trusts that invest in listed companies, it is the intermediary that has the duty to withhold the dividend and pay it over to SARS.

The dividend withholding tax as at 2019/2020 tax year is 20%.

**(b) Taxation of foreign Dividends**

Dividends received from non-resident companies and a non-resident headquarter company are taxable except for a few exceptional circumstances as follows:

* Subject to certain exemptions, where a shareholder holds at least 10% of voting rights shares in the company declaring the dividend
* The company distributing the dividend is listed in the JSE and this includes a dividend in specie effective March 2014
* When a foreign company declares a dividend to another in the same country
* If the distributing company is a controlled foreign company subject to certain limits.

If a foreign dividend does not fall under the criteria listed above, the taxable dividend is taxable (based on a formula) subject to a maximum effective rate of 20%. The formula for the exempt portion of a foreign dividend is the ratio (25/45) as at the 2019/2020 tax year.



Let us suppose that a tax resident has received a foreign dividend of R200 000, and that this dividend qualifies as a taxable dividend. Even though it’s a taxable foreign dividend, (25/45) x R200 000 for the dividend is tax exempt that is R111 111. The taxable dividend would be R200 000 less R111 111 which is R88 889.

**3.4.1 The taxation of Capital Gains**

October 2001 saw the introduction of capital gains in South Africa. From that date onwards assets of a capital nature are required to pay Capital gains tax upon disposal or deemed disposal. Those assets acquired before October 2011, are also taxable under capital gains but a value as at 1 October 2001 has to be determined in order to calculate base cost of the asset (that is the cost of the asset plus any improvements). But what led to the shift in tax policy that culminated in the introduction of CGT in South Africa? We look at the rationale behind CGT implementation below:

* Due to the effect of globalization, South Africa needs to align with international best standards in order to align our processes to international standards. This allows our economy to integrate with the rest of the world and fosters ease of doing business. With the developed world having introduced CGT a while back (for example the United States in 1913 and the UK in 1965), it was a matter of time before South Africa implemented CGT.
* CGT introduction was also meant to curb tax arbitrage that is to close loopholes that tax avoidance schemes could exploit. For example, because capital gains were not taxed, taxpayers could choose to invest in assets that produced capital gains and avoid tax instead of investing in income producing assets that would attract tax. This resulted in horizontal inequality where two individuals with the same wealth would pay different taxes due to the choice of investments. Additionally, the principle of vertical equity states that those with more wealth should pay more tax than the less privileged. With no capital gains, this principle was being negated as capital assets usually form a bulk of high-net-worth individuals’ assets. The combination of these factors had led to a shrinking tax base for the revenue collector.
* Prior to the introduction of CGT, it was very easy to disguise income as a capital gain and avoid paying tax. A popular method was for a business owner to sell their business and receive a capital gain which would not be taxable instead of a regular income which would have been taxed. Capital gains was therefore a tax avoidance measure.
* In a bid to avoid tax, investment funds would be channeled towards assets that produced capital gains instead of income producing assets. This would result in a misallocation of resources as the rationale behind the investments would be to avoid tax regardless of the economic impact of the investment.
* Lastly, the tax base needed to be broadened and hence the introduction of CGT brought a new revenue stream for the receiver of revenue.

**3.4.2 Valuation Date and capital gains calculation**

In order for a capital gain or loss to be calculated, there needs to be a base cost from which the gain will be calculated. For assets that were acquired after 1 October 2001, the purchase price is used as the base cost for CGT calculation. Assets acquired before 1 October 2001 can use the value of the asset as at valuation date 1 October 2001 as the base cost plus any additional costs after valuation date.



Assume that an asset was acquired by the owner in 1995 for R1 000 000. This asset was worth R2 000 000 in October 2001 and was sold for R2 500 000 in 2015. The capital gain here is only R500 000 as the value of the asset at valuation date is used and not R1 000 000. In other words, only the growth post valuation date of October 2001 is considered a capital gain.

In order to determine the base cost as at valuation date (October 1, 2001), the taxpayer has the choice of using the highest of the base cost calculated using the below methods. This would lead to the smallest capital gain (a higher base cost results in a lower capital gain).

**a) Time apportionment method:** All allowable expenditure incurred after valuation date

This method calculates the proportion of the profit (capital gain) made before 1 October 2001 and adds it to the price that the capital asset was purchased for. Let us use an example to calculate this.



Let us suppose that an asset was bought in October 1999 for R500 000. In October 2009, this asset was sold for R1 000 000. The total profit capital gain is R500 000(R1 000 000 less R500 000). However, in order to calculate the taxable capital gain, we need to calculate the base cost as at 1 October 2001. The time apportionment method does this by adding to the purchase price (R500 000), the proportion of the profit that was made over 2 years (from 199 to 2001) to the original purchase price.

The total gain made was R500 000 over 10 years. However only (2/10) of this gain is attributable to the period 1999 to 2001. This would give us R100 000.

Therefore, the base cost as at 1 October R500 000 plus R100 000 which is R600 000.

Therefore, the taxable capital gain is R400 000 (that is R1 000 000 less R600 000)

In general, where all costs (purchase price plus cost of improvements) were incurred before valuation date, the time apportionment for the profit made after valuation date which is to be added to the base cost is given by the following formula:

Y = B + ((P-B) x N))

(T+N)

Where Y is the Base cost to be calculated

B is the purchase price plus allowable expenditure (improvements) between purchase price and valuation date of October 2001

P is the proceeds (selling price of asset)

N is the period between purchase and valuation date of October 2001

T is the period between Valuation date of October 2001 and the date that the asset is sold)

T+N is the total period that the asset has been held.

1. Time apportionment method: allowable expenditure incurred before and after valuation date.

Where allowable expenditure (that is purchase price and other expenditure deemed as the cost of acquiring the asset) are incurred both pre and post valuation date, the proceeds that will be used in the above formula needs to be adjusted before slotting it in the formula.

The adjustment for the proceeds (P) where allowable expenditure has been incurred before and after valuation date is given by the formula:

P = R x (B/ (A+B)

Where P (proceeds attributable to the time the asset was held prior to October 2001)

R is the proceeds on the disposal of the asset

B is the time the asset was held prior to valuation date

A is the time the asset was held after valuation date.



Let us suppose that an asset was acquired on October 1, 1991, for a R100 000. The Asset was then sold on 1 October 2010 for R300 000. In 2005, the owner spent R40 000 to refurbish the asset. What is the base cost to be used in calculating capital gains tax?

Because the owner incurred additional expenditure after valuation date of October 2001, we can’t simply add the proceeds attributable to the time the asset was held prior to October 2001 to the original purchase to get the base cost as in the previous example. The following steps need be taken:

* Adjust the proceeds by calculating the portion of the proceeds attributable to holding the asset prior to valuation date.
* Using the adjusted proceeds, calculate the base cost of the asset post October 2001 valuation date
* Add allowable expenditure after October 2001 valuation date to the Base cost calculated in step 2
* Calculate the capital gain by subtracting the base cost calculated in step 3 from the proceeds.

In the above example,

Adjusted proceeds P\* = R x (B/ (A+B))

Where R is the proceeds which is R300 000

B is the time the asset was held prior to October 1, 2001, which is 10 years

A is the time that the asset was held post October 2001 which is 10 years as well

Therefore, P\* = R500 000 x (10/20))

= R250 000

This is the portion of proceeds that is attributable to holding the asset prior to 1 October 2001.

We now calculate the base cost attributable to holding the asset after 1 October 2001,

Y = B + ((P\*- B) xN)

(T+N)

Where,

Y is the base cost to be calculated

P\* is the adjusted proceeds as per step 1

B is the purchase price

N is the time the asset was held post October 2001

T is the time the asset was held prior to October 2001

Y = R100 000 + (R250 000 – R100 000) x10

20

= R175 000

This is the base cost of the asset as at 1 October 2001. We now need to add the allowable expenditure post October 2001 which is R40 000.

Therefore, the base cost = R175 000 + R40 000 = R215 000

Therefore, the capital gain to be taxed is R300 000 – R215 000 = R85 000

**(b) Market value method**

The taxpayer has the option to use the market price of assets at valuation date of 1 October 2001 as the base cost for Capital gains calculation. For publicly listed securities, the market value is determined by the price published by the commissioner in the government gazette which uses the average market value of the preceding 5 days prior to 1 October 2001.

In cases where the market value cannot be established due to a number of reasons for example if the asset was suspended on valuation date, the Commissioner of FSCA in consultation with securities exchange can determine the market value.



The market value method can only be used as the valuation date base cost under the following circumstances:

* The asset should have been valued before or on September 2004 and proof of such valuation should be furnished to the receiver of revenue after disposal of the asset. The valuation certificate should have been filed with the receiver of revenue in the first income tax return following valuation.
* Where a disposal of an asset between Spouses has occurred and the Spouse who has transferred the asset has determined the market value
* Where the market value has been determined by Commissioner through the Government Gazette.

**c) The 20% percent rule method**

This value is determined by calculating the proceeds from the sale and subtracting any allowable expenditure incurred after 1 October 2001. The taxpayer then calculates 20% of this net amount and this would be the valuation date value.



An Asset bought in October 1995 for R100 000 is sold for R350 000 in October 2010. In 2005, additional allowable expenditure was incurred to refurbish the asset for R50 000. Determine the valuation date value using the 20% method

Solution

The proceeds is equal to R350 000

Less Post October 2001 expenditure (R50 000)

Net proceeds R300 000

Calculate 20% of R300 000 R60 000

Therefore R60 000 is the valuation date value and is used as the base cost for calculating the Capital gain. Capital gain is therefore R350 000 less R60 000 = R290 000.

**3.5 Concepts in Capital Gains Tax**

Prior to October 2001, capital gains were not taxable. As from October 2001, any taxable capital gains should be included in a taxpayer’s income as per section 26A of the Income Tax Act. How about losses? Any Capital loss is not included in taxable income but is carried over to the following tax year to be offset by against any Capital Gains. Note that the R40 000 exclusion reduces the capital loss for example if a capital loss was (R60 000), only R20 000 capital loss can be carried over to the next year as it is reduced by the R40 000 capital exclusion.

**3.5.1 The difference between income and capital gains**

The Eighth Schedule of the Income Tax gives guidance on the difference between a capital asset and an asset that generates an income. Capital gains or loss and income occur when there has been a disposal or deemed disposal of an asset. **A disposal** is any act which results in the creation, variation, transfer, expropriation, destruction, loss, or extinction of an asset. There is a long list of examples of disposal, but the above are the common ones. However, ceding a security to a third party, issuing of a share by a company or a trust by a unit trust or disposal to correct an error in registration of immovable property is not regarded as a disposal.

A **deemed disposal** occurs upon death of a person, upon a person ceasing to be a resident of South Africa or upon becoming a resident of South Africa, where an asset has changed from a capital asset to trading stock or when trading stock becomes a capital asset. Deemed disposals also occurs when a personal use asset owned by a natural person ceases to be such for example converting a personal use car to a business use car. Further, for insurance companies, a disposal occurs when an asset is transferred from one fund to the other.

Another example of a deemed disposal is the cancellation or reduction of debt. This becomes a deemed disposal with capital gains tax consequences as the taxpayer who benefits from the debt reduction realizes an increase in their net worth. All these events have capital gains tax implications for example, when a person dies, they are deemed to have disposed of their assets and capital gains tax is payable.

Having established that there needs to be a disposal of an asset or a deemed disposal, how then do we determine whether an asset is an income asset and should be taxed as income or when we should classify it as a capital asset and apply capital gains tax?

A key difference between an income asset and a capital asset is that an income asset needs to have been held as trading stock in order for income tax rules to apply. If the asset was not held for the purposes of trading, then that asset is classified as a capital asset. A good example is a personal use car. This car is not owned for the purposes of trading it but for personal use. As a result, upon disposal of the car, capital gains tax rules will apply. The main determining factor is the intent of the taxpayer in acquiring the asset. It is important to remember that a capital need not only be a physical asset that is for example a house. A Business licence or a right to a certain economic right can also be classified as a capital asset. These rules apply to all assets except for cash. Examples of assets for CGT purposes include rights, personal residence house, boats and yachts and listed shares.

**3.5.2 Capital gains Exclusions and limitations**

It is important to understand that there are instances where the full capital gains is taxable and in certain cases, the capital gains is not taxable entirely. This applies in the following circumstances:

* Where a natural person sells their primary residence, there is no capital gains tax payable if the proceeds from the disposal is less than R2 000 000. Further, where there is a gain, the first R2 000 000 of the gain is exempt from tax. It is important to understand that this exclusion only applies to natural persons and not to trusts or companies.
* Personal use assets held by a natural person or a special trust (trust created for the benefit of minor children or disabled individuals) are exempt from capital gains tax. Examples of personal use assets include:
* Motor vehicles
* Artwork
* Caravan
* Stamp collection
* Furniture
* Household appliances
* Assets not used for trade purposes for more than 50% of the time
* Boats not exceeding 10 meters in length
* Aircraft with a mass of 450 kilograms or less.



* The following are not recognized as personal use assets as per CGT rules:
* Financial securities such as listed shares
* Gold coins
* Immovable property
* Short term policies that are not personal use assets.
* A policy whose payment/benefit results from the happening of a certain event e.g. a Life policy.

**3.5.3 Calculation of capital gains tax**

The process of calculating capital gains is as follows:

**Step 1:** Distinguish between capital and income assets

**Step 2:** If a capital asset, determine if there has been a disposal or deemed disposal

**Step 3:** Determine if there is a gain or loss by deducting the base cost from the proceeds

**Step 4:** Apply any rollover, exclusion, or any limitations

**Step 5:** Multiply the taxable capital gain by the inclusion rate in accordance with the taxpayer

**Step 6:** Include the taxable capital gain in taxable income



Suppose in the 2019/2020 tax year, a natural person disposed of the following assets. The taxpayer’s marginal tax rate is 45%.

|  |  |  |  |
| --- | --- | --- | --- |
| Capital Asset | Proceeds | Base Cost | Capital Gain/Loss |
| Primary residence | R1 500 000 | R500 000 | R500 000 |
| Listed Shares | R2 000 000 | R1 750 000 | R250 000 |
| Gold Coins | R150 000 | R50 000 | R100 000 |
| Aircraft (mass is 350kgs) | R750 000 | R250 000 | R500 000 |
| Motor vehicle for personal use | R250 000 | R450 000 | (R200 000) |
| Rented town house | R1 000 000 | R1 250 000 | (R250 000) |

Calculate the capital gains payable for the 2019/2020 tax year

**Solution**

**Step 1:** Distinguish between capital and income assets.

This task has already been done for us as all the assets in the table are capital assets

**Step 2:** If a capital asset, determine if there has been a disposal or deemed disposal

This task has been accomplished as well as we have already been told that all the assets in the table were disposed of

**Step 3:** Determine if there is a gain or loss by deducting the base cost from the proceeds

The capital gains and losses have been calculated in the table by subtracting the base cost from proceeds.

**Step 4:** Apply any rollover, exclusion, or any limitations

At this stage we determine how we should treat the capital gains calculated. This is done below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Capital Asset | Proceeds | Base Cost | Capital Gain/Loss | Exclusions, limitations roll overs |
| Primary residence | R1 500 000 | R500 000 | R500 000 | Excluded (less than R2 000 000 proceeds rule |
| Listed Shares | R2 000 000 | R1 750 000 | R250 000 | Included (financial instrument) |
| Gold Coins | R150 000 | R50 000 | R100 000 | Included (not a personal use asset) |
| Aircraft (mass is 350kgs) | R750 000 | R250 000 | R500 000 | Excluded (personal use asset) |
| Motor vehicle for personal use | R250 000 | R450 000 | (R200 000) | Excluded (personal use asset) |
| Rented town house | R1 000 000 | R1 250 000 | (R250 000) | Included (Immovable property and not a personal use asset) |

The aggregate capital gain is calculated as follows:

Listed shares R250 000

Gold Coins R100 000

Rented Townhouse (R250 000)

Aggregate capital gain R100 000

**Step 5:** Multiply the taxable capital gain by the inclusion rate in accordance with the taxpayer

The aggregate capital gain is R100 000. A natural person has an annual R40 000 exemption on capital gains for the tax year and therefore the taxable capital gain is R60 000.

**Step 6:** Include the taxable capital gain in taxable income

The 40 % (this is the inclusion rate for capital gains for 2019/2020 tax year) of the R60 000 should be included in the natural person’s taxable income. This gives as taxable capital gains of R24 000. This will be taxed at 45 % (the taxpayer’s marginal tax rate). The capital gains tax payable will thus be R10 800.



The inclusion rate (the percentage capital gain to be included in taxable income) depends on the taxpayer type. Natural persons, companies and ordinary trusts have different inclusion rates which affect the effective tax rate (inclusion x maximum tax rate for the taxpayer). This is given in the below table:

|  |  |  |
| --- | --- | --- |
| Taxpayer type | Inclusion rate | Maximum effective tax rate |
| Individuals and special trusts | 40% | 18% (that is 40% multiplied by 45% which is the highest tax bracket |
| Companies | 80% | 22.4% (that is 80% multiplied by 28% which is the highest tax bracket |
| Ordinary Trusts | 80% | 36% (that is 80% multiplied by 28% which is the highest tax bracket) |

Since the introduction of capital gains in October 2001, South African residents are liable for capital gains on their worldwide assets and non-residents pay capital gains on South African based immovable property or assets of a permanent establishment situated in South Africa.

**3.5.4 The impact of CGT on provider and Client**

1. **CGT impact on the provider**

A provider such as a Unit Trust manager does not trigger capital gains tax during the investment management process. In managing the underlying investments for example buying and selling of listed shares held by the Unit Trust, there is no capital gains liability for the fund manager.

1. **CGT impact on the Client**

The investor in a capital asset is liable for capital gains when a disposal or deemed disposal of that asset has taken place. Therefore, capital gains made but not realized through disposal are deferred until such a point that a disposal has been made. The following actions by the investor will trigger capital gains tax:

* Withdrawals
* Switching between funds as this will result in the underlying assets being sold in order to buy the assets owned by the new fund that has been selected
* Divorce where an investor was married in community of property. This would result in the joint estate asset being sold for sharing by the divorcing couple
* Upon emigration or death of a taxpayer
* Transferring of an investment to another party other than a spouse.

**(c) Provider and Client responsibility with regards to CGT**

* A taxpayer is required to include the aggregate capital gain for the tax year (after taking into account the inclusion rate) in the taxable income as per section 26A of the income tax act and using the rules of the Eighth Schedule as a guide.
* Capital gains tax is not a withholding tax as in the case of dividend withholding tax. The provider managing the investment on behalf of the client is not required to remit CGT to SARS on behalf of the client. They are however required to provide the client with a summary of the aggregate capital gain/loss realized for the tax year. This documentation is required as supporting documentation for the income declared by the client.
* Non-compliance by the client and the provider can lead to administrative penalties and in some cases a fine and/or imprisonment.



**Formative Activity 1**

Name the five funds that must be created by an insurer as per SARS requirement (5)

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**Formative Activity 2**

Mark (45) invested R2 000 000 in a Unit Trust in June 2019 and terminated his investment in December 2019. During the course of his investment, interest of R80 000 was paid and the value of his Unit Trust had grown to R2 150 000 at time of termination in December 2019. Dividends of R15 000 were also paid over the period. Calculate the tax that Mark paid over the period if his marginal tax bracket is 45 % (7)

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**Formative Activity 3**

Thato has reached retirement age of 65 and was a member of ABC provident fund. Thato has previously unallocated contributions from the previous tax year of R200 000. He has decided that he will commute as cash his fund credit of R1 000 000. However, this is not the first retirement fund that Thato has belonged to. He previously resigned and withdrew R300 000 from Genesis provident fund in April 2009. In 2015, Thato reached retirement age under the employment of TLC Limited and a lump sum of R250 000 was commuted in full from the provident fund. In addition to this, Thato used to work for BTM Pvt Limited and belonged to a pension fund from which a severance benefit of R150 000 was paid to him in December 2011.

Given the above information, calculate the tax payable by Thato on the lump sum to be commuted now (11).

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**Formative Activity 4**

Olivia is a 53-year-old female who has R2 000 000 and has decided to purchase a voluntary annuity with an insurer. In return for the R2 000 000, the insurer will pay Alex a fixed annuity of R250 000 per year. What is the capital exempt portion of the annual R250 000 is tax free? The life expectancy for a 53-year-old female as per the annuity tables is 27.082 (6)

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# **LEARNING UNIT 4: INVESTMENT AND PORTFOLIO MANAGEMENT**



**Learning Outcomes**

By the end of this learning unit and having completed all the formative assessment activities, you will be able to:

* Discuss and apply Time Value of Money concept.
* Describe and apply the different methods of measuring investment return.
* Discuss the concept of risk in investment management
* Measure investment Risk using different investment risk measurement methods.
* Explain the difference between systematic and unsystematic risk and how diversification reduces unsystematic risk.
* Apply the Capital Asset Pricing Model in investment management.
* Apply the Arbitrage Pricing Model in investment Management.
* Explain the concept of investment style and its influence on asset allocation and selection.
* Discuss how investment mandates impact investment portfolio construction.

**INTRODUCTION**

Investors look for return by foregoing the use of money now. However, in order to be convinced to invest, the return from the investment must be sufficient to compensate the investor for the risks that the investor is exposed to. The question that arises from this is how do we measure investment return, how are assets priced and how do we quantify the risk the investor is exposed to? Further what strategies can be employed to eliminate risk? We look at these concepts in this learning unit.

A portfolio is a combination of different assets that are held by an investor or a group of investors. How do portfolio managers determine which assets to have in their portfolio at each point in time? What are the analytical tools they use and how does the investment management style influence the returns of the portfolios that they manage? Further, how have changes in the consumer environment as well as in other areas led to innovation in the asset management industry? We explore these concepts in this section.

**4.1 The concept of Return on investment and Time value of money concept**

**4.1.1 Calculating the future value of money**

Let us suppose that a generous individual has offered to give you R5 000 in cash today or the same amount (R5 000) after 5 years. Which would be your choice? A basic principle in finance states that a rational investor will prefer receiving the same amount of money now rather than in the future due to the opportunity costs of foregoing receiving the money now. An example of the opportunity cost is that if that money was to be received now, the investor could invest it and receive a return (interest) from now rather than wait to receive the same amount 5 years from now. The principle is the Time Value of money. It states that money has more value received now than in the future due to the opportunity costs incurred from not receiving that money presently. The Time value of money formula is derived from the following simple fact. The value of money today (PV of present value) can be equal to its future value (FV = Future Value at a given date) if the money today (PV) is invested at an investor’s required rate of return (I/YR or interest). The formula for calculating the future value of money is given the following formula:

**FV = PV x [1 + (i / n)] (n x t)**

**Where,**

**FV = Future Value**

**PV = Present Value**

**i = annual interest**

**n = Number of compounding periods per year**

**t = Number of years**

In other words, the investor would be indifferent between receiving the money now or investing it at his required return and receiving the money later with the return included.



**Scenario 1**

Investor A has just received an annual bonus of R50 000 in December of 2018. His Bank has offered him a return of 10% per annum if he invests for a year. What would be the future value of this investment after 1 year?

**Solution**

FV = 50 000 x [1 + (0.1 / 1)] (1)

FV = 50 000 x [1 + (0.1] (1)

FV = 50 000 x 1.1

FV = R55 000

In other words, the investor the investor would be in the same scenario and indifferent if R50 000 was received now or if R55 000 was received a year from now. As the values are the same.

The number of compounding periods in simply the number of times that interest is calculated per year. In the above example, the compounding period was 1 as the interest was calculated once at the end of one year. What would happen if the investment calculated the interest quarterly that is 10% calculated after every 3 months? Let us look at below example:

**Scenario 2**

Investor A has just received an annual bonus of R50 000 in December of 2018. His Bank has offered him a return of 10% per annum if he invests for a year. What would be the future value of this investment after 1 year if interest is calculated quarterly?

**Solution**

The number of compounding periods in a year is now 4(interest is calculated quarterly) so instead of 1(annual compounding), we have 4 our formula would therefore be:

FV = 50 000 x [1 + (0.1 / 4)] (4 x 1)

FV = 50 000 x [1 + (0.025)] (4)

FV = 50 000 x [1 + 0.025] (4)

FV = 50 000 x 1.1038

FV =R55 191



Note that the future value calculated when compounding is quarterly is higher than when the interest is calculated (compounded) once at the end of the year. This is because the interest in the second quarter is calculated on the initial amount plus the interest earned in the first quarter. Similarly interest for the third quarter is calculated on the initial amount plus interest earned in the first and second quarter. This is known as compound interest. The first scenario where interest is calculated at the end of the investment period on the initial amount invested is known as simple interest.

**Scenario 3**

Let us suppose that the investor invests R50 000 for 2 years and the interest is calculated quarterly. What would be the future value?

FV = 50 000 x [1 + (0.1 / 4)] (4 x 2)

FV = 50 000 x [1 + (0.025)] (8)

FV = 50 000 x [1 + 0.025] (8)

FV = 50 000 x 1.2184

FV =R60 920

**Scenario 4**

If the interest was compounded annually for a 2-year investment period, the calculation is as follows:

FV = 50 000 x [1 + (0.1)] (1 x 2)

FV = 50 000 x [1 + (0.1)] (2)

FV = 50 000 x [1.1] (2)

FV = 50 000 x 1.21

FV =R60 500

The above calculations can be made by a financial calculator as follows. The examples use an HP10b11+Financial calculator

**Scenario 1:**

Investor A has just received an annual bonus of R50 000 in December of 2018. His Bank has offered him a return of 10% per annum if he invests for a year. What would be the future value of this investment after 1 year?

**Solution:**

Shift C All (Clears memory &TVM registers to Zero)

1 Shift P/YR (this is the number of compounding periods)

1 Shift N (the number of years of the investment

-50000 PV (present value-negative as it as an outflow)

10 I/YR (interest per year)

**FV 55 000 (positive as it as a cash inflow to investor)**

**Scenario 2**

Investor A has just received an annual bonus of R50 000 in December of 2018. His Bank has offered him a return of 10% per annum if he invests for a year. What would be the future value of this investment after 1 year if interest is calculated quarterly?

**Solution:**

Shift C All (Clears memory &TVM registers to Zero)

4 Shift P/YR (this is the number of compounding periods)

1 Shift N (the number of years of the investment

-50000 PV (present value-negative as it as an outflow)

10 I/YR (interest per year)

**FV 55 190 (positive as it as a cash inflow to investor)**

**Scenario 3**

Let us suppose that the investor invests R50 000 for 2 years and the interest is calculated quarterly. What would be the future value?

**Solution:**

Shift C All (Clears memory &TVM registers to Zero)

4 Shift P/YR (this is the number of compounding periods)

2 Shift N (the number of years of the investment

-50000 PV (present value-negative as it as an outflow)

10 I/YR (interest per year)

**FV 60 920 (positive as it as a cash inflow to investor)**

**Scenario 4**

If the interest was compounded annually for a 2 year investment period, the calculation is as follows:

**Solution:**

Shift C All (Clears memory &TVM registers to Zero)

1 Shift P/YR (this is the number of compounding periods)

2 Shift N (the number of years of the investment

-50000 PV (present value-negative as it as an outflow)

10 I/YR (interest per year)

**FV 60 500 (positive as it as a cash inflow to investor)**

**4.1.2 Calculating the present value of money**

Following the same logic applied to calculating the future value of money, we can calculate the present value of money by discounting the future value of money (FV) using the interest (I/YR), N (the number of years), P/YR (the number of compounding periods). The formula for finding the present value of money is as follows:

**PV = FV**

**[1 + (i / n)] (n x t)**

**Where,**

**PV = Present Value**

**FV = Future Value**

**i = annual interest**

**n = Number of compounding periods per year**

**t = Number of years**



**Scenario 1**

Investor A is to receive R55 000 in a year’s time for an investment made now at an interest rate of 10% per annum compounded annually. What is the present value of this investment? In other words how much should be invested now?

**Solution**

PV = 55000

[1 + (0.1 / 1)] (1 x 1)

PV = 55000

(1.1)

PV = R50 000

Calculated using a financial calculator:

**Solution:**

Shift C All (Clears memory &TVM registers to Zero)

1 Shift P/YR (this is the number of compounding periods)

1 Shift N (the number of years of the investment

55 000 FV (future value-positive as it as an inflow)

10 I/YR (interest per year)

PV - 50 000 (negative as it as a cash outflow to investor)

**Scenario 2**

Investor A is to receive R55 190 in a year’s time for an investment made now at an interest rate of 10% per annum compounded quarterly. What is the present value of this investment? In other words how much should be invested now?

Solution

PV = 55 190

[1 + (0.1 / 4)] (4 x 1)

PV = 55 190

(1.1038)

PV = R50 000

Calculated using a financial calculator:

Solution:

Shift C All (Clears memory &TVM registers to Zero)

4 Shift P/YR (this is the number of compounding periods)

1 Shift N (the number of years of the investment

55 190 FV (future value-positive as it as an inflow)

10 I/YR (interest per year)

**PV - 50 000 (negative as it as a cash outflow to investor)**

**Scenario 3**

Investor A is to receive R60 920 in two years’ time for an investment made now at an interest rate of 10% per annum compounded quarterly. What is the present value of this investment? In other words how much should be invested now?

PV = 66 920

[1 + (0.1 / 4)] (4 x 2)

PV = 60 920

(1.2184)

PV = R50 000

**Calculated using a financial calculator:**

**Solution:**

Shift C All (Clears memory &TVM registers to Zero)

4 Shift P/YR (this is the number of compounding periods)

2 Shift N (the number of years of the investment)

60 920 FV (future value-positive as it as an inflow)

10 I/YR (interest per year)

**PV - 50 000 (negative as it as a cash outflow to investor)**

**Scenario 4**

Investor A is to receive R60 500 in two years’ time for an investment made now at an interest rate of 10% per annum compounded annually. What is the present value of this investment? In other words how much should be invested now?

Solution

PV = 60 500

[1 + (0.1 / 1)] (1 x 2)

PV = 60 500

(1.21)

PV = R50 000

**Calculated using a financial calculator:**

Solution:

Shift C All (Clears memory &TVM registers to Zero)

1 Shift P/YR (this is the number of compounding periods)

2 Shift N (the number of years of the investment)

60 500 FV (future value-positive as it as an inflow)

10 I/YR (interest per year)

**PV - 50 000 (negative as it as a cash outflow to investor)**

**4.1.3 Calculating the interest (I/YR)**

Using similar logic, the interest per year can be calculated given PV (present value), FV (future value), N (the number of years) and P/YR (The number of compounding periods). We will use a financial calculator in this instance as this is now a familiar concept.



**Scenario 1**

Investor A is to receive R55 000 in a year’s time for an investment made now. The interest is compounded annually. Given an investment of R50 000 made now, what is the interest on this investment?

Shift C All (Clears memory &TVM registers to Zero)

1 Shift P/YR (this is the number of compounding periods)

1 Shift N (the number of years of the investment

55 000 FV (future value-positive as it as an inflow)

PV - 50 000 (negative as it as a cash outflow to investor)

**10 I/YR (interest per year)**

**Scenario 2**

Investor A is to receive R55 190 in a year’s time for an investment made now. The interest is compounded quarterly. Given an investment of R50 000 made now, what is the interest on this investment?

Shift C All (Clears memory &TVM registers to Zero)

4 Shift P/YR (this is the number of compounding periods)

1 Shift N (the number of years of the investment

55 190 FV (future value-positive as it as an inflow)

PV - 50 000 (negative as it as a cash outflow to investor)

**10 I/YR (interest per year)**

**Scenario 3**

Investor A is to receive R60 920 in two years’ time for an investment made now. The interest is compounded quarterly. Given an investment of R50 000 made now, what is the interest on this investment?

Shift C All (Clears memory &TVM registers to Zero)

4 Shift P/YR (this is the number of compounding periods)

2 Shift N (the number of years of the investment

60 920 FV (future value-positive as it as an inflow)

PV - 50 000 (negative as it as a cash outflow to investor)

**10 I/YR (interest per year)**

**Scenario 4**

Investor A is to receive R60 500 in two years’ time for an investment made now. The interest is compounded annually. Given an investment of R50 000 made now, what is the interest on this investment?

Shift C All (Clears memory &TVM registers to Zero)

1 Shift P/YR (this is the number of compounding periods)

2 Shift N (the number of years of the investment

60 500 FV (future value-positive as it as an inflow)

PV - 50 000 (negative as it as a cash outflow to investor)

**10 I/YR (interest per year)**

**4.1.4 Calculating the investment period (N)**

Using similar logic, the investment period it will take for an investment to grow given the given PV (present value), FV (future value), I/YR (interest rate) and P/YR (The number of compounding periods). We will use a financial calculator in this instance as this is now a familiar concept.



How long will a R50 000 investment which has a future value of R60 920 need to be invested for given an interest of 10% per annum compounded annually.

**Solution:**

Shift C All (Clears memory &TVM registers to Zero)

1 Shift P/YR (this is the number of compounding periods)

60 920 FV (future value-positive as it as an inflow)

PV - 50 000 (negative as it as a cash outflow to investor)

10 I/YR (interest per year)

**2 N (the number of years of the investment)**

**4.1.5 Calculating the number of payments needed (PMT)**

Given a known future value and interest rate to be earned over a certain period, an investor may want to know how much to contribute regularly in order to reach the investment goal. The most practical case is to calculate how much a person who is preparing for retirement needs to contribute monthly in order to retire comfortably. The same Time Value of money (TVM) principles can be applied.



For calculations involving regular contributions, the calculator should be set in BEGIN MODE if payments occur at the beginning of the period and in END MODE if payments occur at the end of the period. For example, if a pensioner is receiving an annuity at the beginning of the month, BEGIN MODE would use and if an annuity is being received at the end of the month, END mode should be used.

In all our calculations here, we assume cash flows at the beginning of the month and thus BEGIN MODE is used.



**Scenario 1**

A 50-year-old investor is planning to retire at the age of 65. He requires a lump sum of R3 000 000 in 15 years’ time in order to retire comfortably. If he has not made investment towards retirement as yet, what is the annual payment that needs to be made assuming an annual return of 10% compounded annually?

**Solution**

Shift C All (Clears memory &TVM registers to Zero)

1 Shift P/YR (this is the number of compounding periods)

15 N (the number of years of the investment)

3 000 000 FV (future value-positive as it as an inflow)

0 PV

10 I/YR (interest per year)

**PMT -85 838 (regular annual payment over the period)**

A regular annual payment of R85 838 would be required for the investor to achieve the required amount.

**Scenario 2**

A 50 year old investor is planning to retire at the age of 65. He requires a lump sum of R3 000 000 in 15 years’ time in order to retire comfortably. If the investor currently has R1 000 000 saved for retirement, what is the annual payment in order to have R3 000 000 at retirement age?

The investor already has R1 000 000 and so this will be the Present Value and not Zero as per scenario 1

**Solution**

Shift C All (Clears memory &TVM registers to Zero)

1 Shift P/YR (this is the number of compounding periods)

15 N (the number of years of the investment)

3 000 000 FV (future value-positive as it as an inflow)

-1 000 000 PV (negative cash outflow)

10 I/YR (interest per year)

**-33 684 PMT (regular annual payment over the period)**

In this case the investor only needs to invest an additional R33 684 annually to reach retirement goals as there is already a R1 000 000 that has been provided for retirement already.

**4.1.6 Calculating an annual contribution which has an annual escalation given the present value**

In certain scenarios, an investor might want to contribute a regular amount (PMT) but increase the regular contribution by an annual percentage for example at the inflation rate in order to take inflation into account. In such a case, an adjustment to the interest (I/YR) needs to be made to take into account the annual escalation. This adjusted I/YR is known as the resultant rate. It is calculated as:

Resultant rate= ((1+i)/ (1+e)) -1



An investor has been told by his adviser that he has a gap of R1 000 000 in his retirement plan that is if he contributes R1 000 000, he will retire comfortably. The investor does not have this lump sum now and instead would like to know how much he needs to contribute on annual basis if he will get a return of 10% for the next 20 years. He will increase his contribution by 3% every year.

**Solution**

Since the annual contribution is not fixed and increases every year, we need to calculate the resultant rate first. This will be:

Resultant rate= ((1+i)/ (1+e)) -1

= ((1+0.1)/ (1+0.03))-1

= (1.1/1.03) -1

= 0.06796

= 6.796%

We then use 6.796 as our I/YR in our formula:

Shift C All (Clears memory &TVM registers to Zero)

1 Shift P/YR (this is the number of compounding periods)

20 N (the number of years of the investment)

1 000 000 PV (Present value value)

0 PV (negative as it is an outflow)

I/YR 6.796 (interest per year)

**- PMT 86 990 (regular annual payment over the period)**

The initial annual contribution required is R86 992 escalating as 3% annually for the next 20 years.

**4.2 The investment return**

Suppose that an investor is considering investing in a security that offers a return of 11% per annum, do you think the investor would readily proceed with the investment? The answer to this question is that it depends on the return the investor requires. The return that the investor requires will depend on a number of factors such as the risk of the security, the inflation rate, fees and taxes and other factors. We explore the concept of return in this section.

**4.2.1 The Required rate of Return**

The required rate of return is the return that an investor will require for investing in a security. It can be calculated by using the following parameters:

* **The real risk-free rate:** The risk-free rate is the return on securities that are considered risk that is government Treasury bills. When adjusted for current inflation, it is known as the real risk-free rate of return. Any rational investor will require a return that is higher than the real risk-free rate to invest in a non-Treasury security to compensate for the risk of default. In other words, this is the minimum return that an investor will require for an investment in any security.
* **Expected inflation:** This is an additional consideration by the investor. Over and above the risk-free rate, the investor will require a return that compensates the loss of the purchasing power of money through inflation during the investment period.
* **Default risk premium:** Depending on the quality of the issuer, the investor will impose an additional premium for taking on the risk of default by the issuer of the security invested in. This is known as the default risk premium. The higher the risk of default, the higher the return the investor will require as compensation for the risk of default.
* **Liquidity premium:** Liquidity risk is the risk of failure to find a market to sell the security on time or the risk of selling a security at a significant capital loss due to lack of buyers. An investor will impose a liquidity premium for this risk that is, will require a higher return, the higher the chances of liquidity risk.
* **Maturity risk premium:** The maturity risk premium is imposed by the investor the longer, the investment horizon. A longer investment horizon exposes the investor to higher default risk as well as higher opportunity costs (funds are locked into the investment for a long time at the expense of other profitable investment opportunities). This means, all things being equal, investors will require a higher return longer term investments.

In summary, the required rate of return will then be calculated by using the following formula:

Required rate of return = real risk-free rate of return + expected inflation + default risk premium + liquidity risk premium + maturity risk premium.



An investor is considering investing in a 20-year Corporate Bond issued by ABC company. The current 180-day Treasury Bills interest rate is 7% whist inflation is currently 4%. The SARB forecast of inflation for the next 20 years is an average of 5%. ABC’s credit risk is AAA+ rated and due to the low default risk, the default risk premium is only 1%. The Bonds of ABC are highly liquid because of the high creditworthiness and thus the liquidity risk premium has been calculated by the investor to be 1.2%. In compensation for investing in the 20 year Bond, the investor requires an additional 1.5%.

**What is the investor’s required rate of return?**

The formula is as follows:

Required rate of return = real risk-free rate of return + expected inflation + default risk premium + liquidity risk premium + maturity risk premium.

However, the first step is to calculate the real risk-free rate. This given by subtracting the inflation rate from the 180-day Treasury bill (that is 7% -4% (current and not expected inflation). The real risk-free rate is therefore 3%.

Therefore, the required rate of return = Real risk-free rate (3%) + expected inflation (5%) + default risk premium (1%) + liquidity risk premium (1.2%) + maturity risk premium (1.5%)

= 11.7%

In other words, this is the minimum return that the investor will require to invest in the 20-year corporate bond.

**4.2.2 Expected Return**

The required rate of return is the return the investor requires for an investment given risk. However, this is quite different from the return an investor can expect. An investor’s expected return is the return an investor can expect given different scenarios that may play out. When calculating the expected return, the investor estimates the probability of different return scenarios based on the asset’s historical performance and future forecast. In other words, the expected return on an investment is the probability weighted average of estimated future outcomes. It is given by the following formula:

Expected Return = Sum of (probability of return x probability or return)



Let us suppose that an investor is looking at investing in the shares of ABC Limited, a listed entity. Upon analysing the historical returns of the shares, the investor has established that there is a 50% chance of a return of 25% if the economy booms, 30% chance of a 20% return if the economy performs as expected and a 20% chance of a -5% return if the economy experiences a recession. What would be the expected return of the investment given the above scenarios?

Let us put the probabilities and the possible returns in a tabular format in order to make this easier to understand:

|  |  |  |
| --- | --- | --- |
| **Economic outcome** | **Return Probability** | **Possible Return** |
| **Boom** | 50% | 25% |
| **Expected (Normal)** | 30% | 20% |
| **Recession** | 20% | `-5% |

The expected return would be: (0.5x0.25) + (0.3x0.2) + (0.2x (-0.5) = (0.1250) + (0.06) + (-.01)

= 0.1750

=17.50%.

**4.2.3 Holding period return**

The holding period return is applied when analysing the total return realized for investing in a certain asset in a given period. An example is an investment in a share where the investment generates capital gains as well as dividends. It is given by the following formula:

HPR = Investment value at end – Initial investment value + Dividends or income

Initial investment value



An investment has been held in ABC shares for the past three years. The initial price of the shares was R30, and the shares had appreciated to R40 at the end of three years. Dividends of a total of R5 were distributed during the three-year period. What is the holding period return for the investor?

HPR = Investment value at end – Initial investment value + Dividends or income

Initial investment value

40- 30 +5 = 50%

30

Converting the holding period return to an annual return gives what is known as the holding period yield. In the above case, the 50% was over a three-year period. How do we calculate the return over a year period?

Holding Period Yield = [1 + HPR] (1/n) -1, where t adjusts the HPR to an annual figure, where the HPR is more than a year, we divide 1 by the number of years. Where the HPR is less than a year say for example a quarter we raise the HPR by the relevant factor to get to 1 year.



What is the HPY for when the 3-year HPR is 50%?

Holding Period Yield = [1 + 0.5] (1/3) -1

Holding Period Yield = 1.1447 -1

Holding period Yield = 14.47%



What is the HPY when the 6-month HPR is 20%?

Holding Period Yield = [1 + 0.2] (2) -1

Holding Period Yield = 1.44 -1

Holding period Yield = 44%

**4.3 The investment risk**

In the pursuance of investment returns, investors are exposed to the risk that actual returns may deviate from expected returns. The possibility or actual variation of actual returns from expected returns is known as an investment risk.

**4.3.1 Forms of investment risk**

There are different forms of investment risk, and we summarize these below:

* Country risk: This is risk posed by political instability which can disrupt the economy of the country in which the investment has been placed. As a result, the expected returns of the investment are affected.
* Exchange rate/currency risk: This risk is derived from the impact of unexpected currency movements affecting the returns of assets denominated in foreign currency. The sudden and unexpected appreciation of the rand will result in lower returns for offshore investments held by South Africans in Rand terms.
* Interest rate: Unexpected movements in interest rates affects the values of assets in particular interest rate sensitive ones such as bonds. This results in deviation of actual returns from the expected.
* Inflation risk: A higher than anticipated inflation outcome erodes the purchasing power of invested funds resulting in lower real returns for investors.
* Business risk: The specific operating model of a company and other factors unique to the company exposes the investor to the risk these factors can cause the profitability levels of the company to be uncertain.
* Financial risk: Borrowing to finance operations by a company invested in introduces the investor to financial risk as result of debt obligations that the company has to repay.
* Reinvestment risk: This risk is unique to interest-bearing securities where falling interest rates results in maturing investments being reinvested at lower interest rates.
* Liquidity risk: It is possible for an investor to face unexpected difficulty in selling the security invested in at the going market price resulting in considerable loss. This may be caused by deterioration the creditworthiness of the issuer of the security in the case of interest-bearing investments and increased uncertainty of profitability and cash flows in the case of Equity.
* Systematic risk: This is risk that affects the entire market where securities are traded. For example, fears of an unexpected global slowdown in the economy affects the entire market.
* Unsystematic risk: There are factors that are specific to a company that causes uncertainty in expected returns. This is known as unsystematic risk. It follows that an investor can reduce this risk by investing in many different assets. The investor would no longer be exposed to factors affecting only one asset. This concept is known as diversification. Put in other words diversification eliminates unsystematic risk. For example, investing in an ETF that tracks the JSE ALSI effectively eliminates unsystematic risk. The only risk that remains for a well-diversified portfolio is systematic risk.

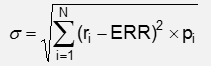
**4.3.2 Investment risk measurement**

Having outlined the facets of investment risk, how do we quantify risk in order to determine its magnitude? In other words, how do we determine how risky an asset is? The following are the risk measurement methods.

**4.3.2.1 Standard deviation**

Standard deviation measures the average deviation of an asset’s returns from the average return over a time series. An asset that historically has returns that fluctuate wildly from the average return has a higher standard deviation. Conversely, an asset whose returns are closer to the average return has a lower standard deviation.

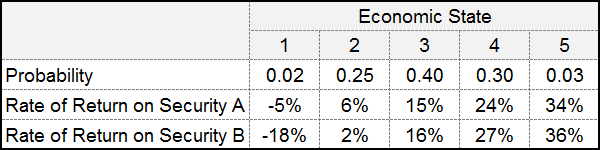
The formula for standard deviation is as follows:



Where ri is the *i*th value of the rate of return on an asset in a sample data set, ERR is the expected rate of return or sample mean, and N is the size of a sample.



A portfolio manager has to calculate the standard deviation of two securities. The available information is shown in the table below.

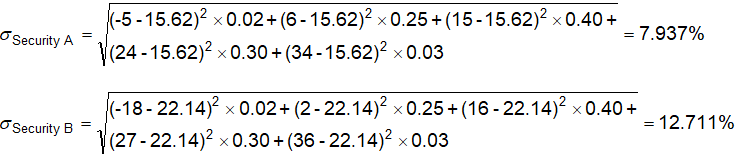


**Step 1**: Compute the expected rate of return.

ERR of Security A = (-5%×0.02) + (6%×0.25) + (15%×0.40) + (24%×0.30) + (34%×0.03) = 15.62%

ERR of Security B = (-18%×0.02) + (2%×0.25) + (16%×0.40) + (27%×0.30) + (36%×0.03) = 22.14%

**Step 2:** Follow the formula above.



Security A has a lower expected return and lower volatility measured by standard deviation. In contrast, Security B has a higher expected return but also a higher volatility of return.

**4.3.2.2 Sharpe ratio**

The standard deviation is an absolute measure of risk that is it tells us the level of volatility only. It however does not allow for relative comparison for the level of risk.

In above scenario Security A has a lower standard deviation compared to B but also has a lower expected return. It is difficult to tell if return on security B compensates the investor adequately for the higher standard deviation.

The Sharpe ratio is a risk measurement tool that is used to measure an asset’s excess risk adjusted return per unit of risk. The higher the Sharpe ratio, the greater the risk adjusted return per unit of risk.

The formula for the Sharpe ratio = Return of portfolio – Risk free rate of return

Standard deviation of portfolio



Consider two portfolios with the following statistics:

|  |  |  |
| --- | --- | --- |
| Portfolio Name | Portfolio Return | Portfolio standard deviation |
| Portfolio A | 20% | 7% |
| Portfolio B | 25% | 15% |

The risk-free rate of return is 5%.

Which portfolio offers the better excess return per unit or return as per the Sharpe Ratio?

**Solution**

Sharpe ratio for Portfolio A = Return of portfolio – Risk free rate of return

Standard deviation of portfolio

= 20-5

7

= 2.14%

Sharpe ratio for Portfolio A = Return of portfolio – Risk free rate of return

Standard deviation of portfolio

= 25-5

15

= 1.33%

Portfolio A is a more efficient portfolio. It gives a higher excess risk adjusted return to portfolio B.

**4.3.2.3 Coefficient of variation**

CV measures risk (as measured by standard deviation) per unit of return (as measured by the expected return). The higher the CV, the more the risk an investor is taking on to achieve a return. It is given by the following formula:

Coefficient of variation = Standard deviation

Expected return



|  |  |  |
| --- | --- | --- |
| Security Name | Expected Return | Standard deviation |
| Security Y | 10% | 15% |
| Security X | 12% | 13% |

CV for Security Y = 15/10 = 1.5

CV for Security Y = 13/12 = 1.08

Security Y has lower risk. It has the lower unit of risk per unit of return.

**4.3.2.4 Beta coefficient**

Beta measures the volatility of an asset or portfolio in relation to the volatility of the market. In other words, beta measures the magnitude of a security or portfolio’s response to movement in the market as a whole. A security or portfolio with a beta of one means that the security’s returns fluctuate at exactly the same rate as movements of the market. A beta greater than denotes greater risk of the security or portfolio in relation to the market as it means that the security’s returns fluctuate at a higher rate than the market. A beta less than 1 reflects a security or portfolio with less volatility compared to the market. Beta is an important component of the Capital Asset Pricing model (CAPM) as we shall see.

* Cov(Ri , RM) is the covariance of the asset i and the market
* Var (RM) is the variance of the market
* ρi,M is a correlation between the asset i and the market
* σi is the standard deviation of asset i
* σi is the standard deviation of the market index.

**4.3.2.5 Treynor Ratio**

The Treynor ratio measures excess risk adjusted return per unit of market risk as per denoted by Beta. Whereas the Sharpe ratio, considers total risk that is systematic and unsystematic risk as measured by standard deviation, Treynor ratio considers only the market as measured by Beta.

The Treynor ratio measure = Return of portfolio – Risk free rate of return

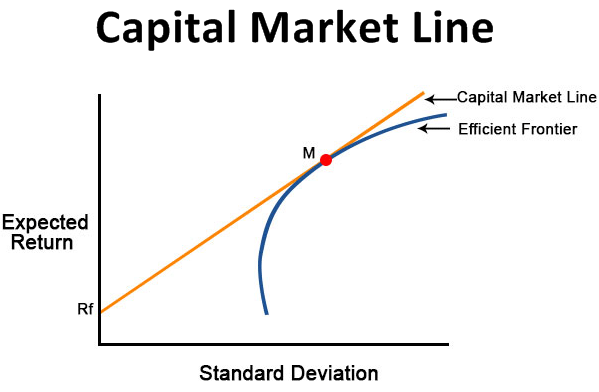
Portfolio Beta

**4.4 The Capital Asset pricing model (CAPM)**

William Sharpe developed his CAPM working on earlier work by Harry Markowitz. According to Sharpe, the only dominant factor that determines how a share performs is the market. Instead of selecting individual shares to maximize return, Sharpe argued that the investor had the following choices:

* The investor has a choice of investing entirely in the market portfolio (portfolio consisting of all listed shares) or the entire investment could be in a risk-free asset such as a Treasury bill and earn a risk-free rate of return.
* An investor who is fully invested can adjust the investment depending on their risk preference. An investor who wants to reduce exposure to market risk can sell a portion of the market portfolio and invest proceeds in the risk-free asset (lending). This would sacrifice the return but reduce the risk of the portfolio.
* An investor who is fully invested in the risk-free asset could borrow funds at the risk free rate and invest this in the market portfolio (borrowing).

This relationship is denoted by the Capital Market Line (CML), which is depicted and explained below:



* In the diagram, the efficient frontier depicts all efficient portfolios that is portfolios that maximize return given risk. Any portfolios below the curved line are inefficient as they give a lower return given risk. It would be irrational for an investor to choose a portfolio below this line. Any portfolios above the curved efficient frontier are desirable but unattainable.
* The Capital Market Line (CML) is a depiction of all portfolios that give the best risk return combination.
* The CML is desirable to a rational investor compared to the Efficient Frontier in the sense that it combines the risky assets with the risk-free asset.
* The Capital Market Line is the line drawn from the risk-free rate of return which is tangential to the efficient frontier. The point of tangency is the most efficient portfolio M.
* Moving up the CML will increase the risk of the portfolio (lending) and moving down will decrease the risk (borrowing). Subsequently, the [return expectation](https://www.wallstreetmojo.com/expected-return-formula/) will also increase or decrease respectively.
* The slope of the Capital Market Line (CML) is the [Sharpe Ratio](https://www.wallstreetmojo.com/sharpe-ratio/) of the market portfolio.

The formula for the Capital Market Line is as follows:

CML Equation

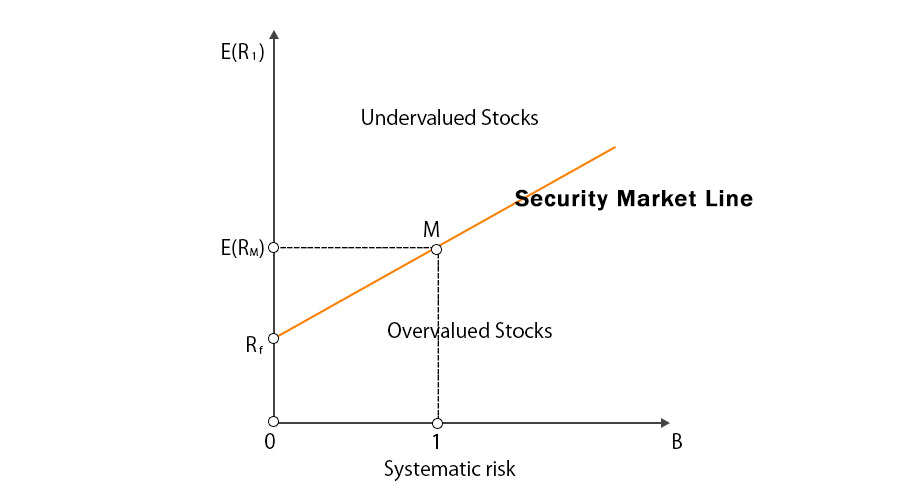
Where,

* Expected Return of Portfolio
* [Risk-Free Rate](https://www.wallstreetmojo.com/risk-free-rate/)
* [Standard Deviation of Portfolio](https://www.wallstreetmojo.com/portfolio-standard-deviation/)
* Expected Return of the Market
* Standard Deviation of Market.

The CML is used to derive the formula for the Capital Asset Pricing Model (CAPM). Each asset within the portfolio depicted by the CML will have its own risk/reward relationship based on how sensitive the asset is to market risk. Recall that the volatility of an asset’s returns to market risk is measured by Beta.

**4.4.1 The Security Market Line**

This is the graphical depiction of the Capital Asset Pricing model. It is underpinned by the CML that we have just discussed above. It portrays the expected returns of the market at varying levels of market risk. The SML is depicted below:



The slope of the SML is represented by the following Equation:

 E (Ri) = Rf + βi [E(RM) – Rf]

In the above security market line formula:

E (Ri) is the expected return on the security

Rf is the [risk-free rate and represents the y-intercept of the SML](https://www.wallstreetmojo.com/risk-free-rate/)

βi is a non-diversifiable or systematic risk. It is the most important factor in SML. We will discuss this in detail in this article.

E (RM) is expected return on market portfolio M.

* E (RM) – Rf is known as Market Risk Premium.

**Interpretation of the SML**

* SML is a good representation of investment opportunity cost which provides the combination of risk-free asset and the market portfolio.
* A security with zero beta or a zero beta portfolio has an expected return on the portfolio which is equal to the risk-free rate
* The slope of the Security Market Line is determined by market risk premium which is: (E(RM) – Rf). The higher the market risk premium steeper the slope and vice-versa
* All the assets which are correctly priced are represented on SML. This is because the assets which are above the SML are undervalued as they give the higher expected return for a given amount of risk and assets which are below the SML are overvalued as they have lower expected returns for the same amount of risk.

**The SML is the CAPM formula for pricing a security**

According to CAPM, the Expected return of a share is given by the following formula:

**E (Ri) = Rf + βi [E (RM) – Rf]**

Where:

E (Ri) is the expected return on the security

Rf is the [risk-free rate and represents the y-intercept of the SML](https://www.wallstreetmojo.com/risk-free-rate/)

βi is a non-diversifiable or systematic risk. It is the most important factor in SML. We will discuss this in detail in this article.

E (RM) is expected return on market portfolio M.



Let the risk-free rate be 7% and the expected market return is 15%. Consider two securities one with a beta coefficient of 1 and other with the beta coefficient of 1.5 with respect to the market index. Calculate the Expected returns using CAPM:

**Solution**

Expected return for Security A as per CAPM Equation is as per below

E (RA) = Rf + βi [E (RM) – Rf]

E (RA) = 7 + 1 [15 – 7]

E (RA) = 7 + (1 × 8) = 15%

Expected return for Security B:

E (RB) = Rf + βi [E (RM) – Rf]

E (RB) = 7 + 1.5 [15 – 7]

E (RB) = 7 + (1.5 × 8) = 19%

True to finance theory (the higher the risk the higher the return), Security B has a higher return as it has a higher risk (measured by beta) than Security B.

**Application and limitation of CAPM**

William Sharpe revolutionized finance literature with this concept but how practical is it in the real world? The following are key takeaways regarding CAPM.

* One of the major assumptions that Sharpe made was that the market portfolio is an efficient portfolio that is it at all times reflects all available historical and forward-looking information. In theory, it is very difficult to prove the existence of an efficient portfolio. Active fund management is based on the premise that one can build a portfolio that beats the market portfolio through asset selection. The few managers who manage to beat the market albeit inconsistently lend credence to the notion that the notion of market efficiency is difficult to prove in the real world.
* Research by Fama and French in 1992 did not find a relationship between beta and market returns as espoused in the CAPM model.
* The assumption of a rational investor made by CAPM is not supported by investor behavior in the practical world. Investors tend to act irrationally based on emotions as evidenced by selling assets in bear markets (and incurring losses) and buying markets when they are overvalued in bull markets.
* Nevertheless, despite its limitations, CAPM is a good starting point in understanding how assets are priced and provides a basis to explain why asset returns behave differently from the model.

**4.5 The Arbitrage pricing theory**

The major assumption made in the CAPM is that markets are efficient and that the market portfolio is the most efficient portfolio on the efficient frontier. As a result of this, the only factor affecting security returns is the market risk. In 1976, Ross dispelled this by arguing that each security’s return was a function of market risk as well as other asset specific factors. He also relaxed the assumption of rational investors and instead postulated that investors seek to maximize returns and are not necessarily risk averse. Ross’s theory is the arbitrage pricing theory which is given by the following formula:

E(R)i​=*E*(*R*)*z*​+(*E*(*I*)−*E*(*R*)*z*​)×*βn*​  
**where:** E(R)i​=Expected return on the asset

*Rz*​=Risk-free rate of return

*βn*=Sensitivity of the asset price to factor

*nEi*=Risk premium associated with factor*i*​  
According to the arbitrage pricing theory,

* A security earns the risk-free rate of return first,
* Additional return over and above the risk-free rate will be a function of asset specific and how the asset responds to the factor as measured by the factor specific beta.
* The number of factors affecting a security’s returns are unlimited.



An asset’s historical returns show that its returns are explained by the following economic variables. The sensitivity of the asset to the factors is given by Beta (*ß).* The market risk premium for each factor is denoted by as RP

Calculate the security’s returns using the Arbitrage Pricing Theory

* Gross domestic product (GDP) growth: *ß* = 0.5, RP = 5%
* Exchange rate appreciation: *ß* = 0.7, RP = 3%
* Commodity Prices: *ß* = -0.6, RP = 3%
* JSE ALSI index return: *ß* = 1.1, RP = 7%
* The risk-free rate is 2%

Using the APT formula, the expected return is calculated as:

* Expected return = 2% + (0.5 x 5%) + (0.7 x 3%) + (-0.6 x 3%) + (1.1 x 7%) =

= 2% + 2.5% + 2.10% - 1.80% + 7.7%

= 12.50%

**4.5.1 Application and limitation of Arbitrage Pricing Theory (APT)**

* One of the major challenges of APT is that it assumes an unlimited number of factors as affecting the return of a security. It becomes a complex methodology to calculate and derive which factors these are which makes it a challenge to use the model in practice.
* APT is based on historical data and requires a good database which can only be found in well-developed financial systems. Further, it assumes that future returns will replicate historical returns which is not always the case in the real world.

**4.6 Portfolio Management**

Portfolio management is the process of selecting, overseeing, and managing a group of investments in order to fulfil a Client’s investment mandate. It entails the identification of opportunities in the asset classes as guided by the investment mandate in order to maximize return at minimum risk. Before we look at portfolio management in detail, we discuss the concept of investment mandate which is the foundation upon which a portfolio management strategy is built upon.

**4.6.1 Portfolio mandate**

The portfolio mandate is the mission that the portfolio manager is instructed by the Client to achieve. It clearly spells out what the objective of the portfolio is as well the strategy that must be used in order to achieve the objective. The mandate will draw parameters regarding the risk the portfolio may take and the asset classes that can be invested in. Any strategy that falls outside the investment mandate is in violation of the objective of the portfolio. The following are examples of investment mandates and illustrate the impact that these have on the assets that can be included in a portfolio.

**4.6.1.1 Long term growth investment mandate**

In this case, the client’s long term goal is capital growth with little regard for income needs. The investment manage must give priority to long term growth. A portfolio with this mandate will focus on shares in its asset allocation as this is where long term growth will be achieved. The portfolio would have short term volatility, but this would not be a concern as the investment period is long enough to recover from short term negative fluctuations. Any income from dividends is automatically reinvested.

**4.6.1.2 An income investment mandate**

The primary investment goal in this case is income for the client. This is a mandate that a pensioner would typically have as the income from the investment would be used to fund living expenses. The emphasis is on income as opposed to capital growth. Assets that may form part of the portfolio will include money market instruments, shares of mature companies that have a high dividend yield, preference shares and REIT shares as these have an obligation to distribute a portion of their profits.

**4.6.1.3 A Balanced investment mandate**

This mandate entails a manager balancing capital growth with capital preservation. The aim is to generate an income but at the same time grow the capital to mitigate erosion of purchasing power by inflation. Typically, the portfolio will invest across asset classes that is in shares, bonds, money market and property. Regulation 28 compliant funds used for retirement planning fall within this investment mandate.

**4.6.1.4 Flexible/speculative investment mandate**

The portfolio manager is given the freedom to seek arbitrage opportunities in any asset class in order to maximize short term returns. The primary objective is not risk minimization but exploitation of mispricing of assets to make quick gains. This strategy is synonymous with high-net-worth individuals who can afford to take on unlimited risk as any financial loss does not have a huge bearing on net wealth.

**4.6.1.5 Other investment mandates**

Some investment mandates may limit the manager to specific particular factors such as:

* Geography: Some investors may want exposure to certain asset classes for example listed shares in developed markets or emerging markets.
* Market capitalization: Mandates can limit portfolio to assets of particular sized issuers for example small to mid-cap portfolios
* Asset orientation stocks: An example of this is investment mandates that pursue value strategies compared to growth strategies.

**4.6.2 Elements of portfolio management**

In pursuing the objective of portfolio management, portfolio managers piece together the following facets:

**4.6.2.1 Asset Allocation**

This is the decision on which assets to allocate funds to. Assets move or respond to market and other factors differently. Portfolio managers make a decision on which assets to allocate funds to base on research and forecast about future factors such as macroeconomic, industry specific and company specific factors. This results in the fund being overweight in assets that are forecasted to contribute more to portfolio returns with minimal risk and underweight those that are likely to underperform. According to William Sharpe, asset allocation is the most important driver of investment performance by mutual funds in the US whilst specific share selection accounts for only 10% of the performance. Asset allocation is broken down into three components:

* Strategic asset allocation: This is the asset allocation decision for the long term. The portfolio manager determines the long term mix of assets that will achieve the highest return at minimal risk taking into account the objectives of the investor.
* Dynamic asset allocation: As circumstances and macroeconomic and asset specific factors change, the portfolio manager may change the asset mix in response to the changing market conditions. This is known as dynamic asset allocation.
* Tactical asset allocation: This refers to active portfolio management strategies that seek to maximize portfolio performance after the evaluation of return possibilities across asset classes.

**4.6.2.2 Diversification**

It is a mammoth task to correctly predict the asset that will consistently outperform others within a certain asset class. As a result, diversifying the investment by investing in many assets within the same asset class will capture the returns of that specific asset class at the same time minimizing risk. Further real diversification is achieved by investing in different asset classes. This is effective when assets that do not have a perfect positive correlation are combined in a portfolio.

**4.6.2.3 A typical portfolio for a conservative investor**

Diversification can be used to mitigate risk in a portfolio for a conservative investor. A conservative investor’s primary investment goal is capital preservation with lower emphasis on growth. As a result, the portfolio is overweight Bonds and cash and underweight equity. A typical portfolio for a conservative investor would strategically allocate assets as follows:

**4.6.2.4 A typical portfolio for a moderate investor**

A moderate investment mandate entails a delicate balance between income and growth. The growth element would be catered for by interest component of bonds and cash and dividends whilst the growth aspect would be catered for by equities and the price sensitivity of Bonds. The asset allocation may look something like this:

**4.6.2.5 A typical portfolio for an aggressive investor**

The aggressive investor is looking for growth over the long term with little regard to short term volatility. As a result, a significant portion if not all the funds are allocated to growth producing equities. This is reflected in the below asset allocation:

**4.6.2.6 Rebalancing**

This is the process of restoring the asset mix to the weights originally established by the strategic asset allocation decision. Over time the performance of an asset class in the portfolio can result in a portfolio being overweight than originally intended. Rebalancing entails selling the assets that have caused the misalignment (and thus realising gains) and buying assets which are undervalued until the strategic asset allocation weights are achieved.

**4.7 Investment styles**

A decision an investment manager must make is what investment style it has to use in order to generate maximum return given risk for investors. The following are the investment styles that asset managers pursue:

**4.7.1 Active asset management**

Active fund managers are of the conviction that detailed research of the market can unearth opportunities that can exploited to generate greater returns for their clients. In other words, they believe that the market is inefficient and available information can be used to identify undervalued assets. Due to the rigorous research employed in an active strategy, the asset manager employs a team of investment professionals who have to be remunerated for their expertise. In addition, exploiting pricing opportunities means high trading activity. The combination of these two factors makes an active management style more costly compared to a passive strategy. Active Asset managers employ fundamental and technical analysis to identify investment opportunities.

**4.7.1.1 Fundamental analysis**

An analyst looks at the company’s fundamentals in order to determine the intrinsic value which is the value that the company should be priced at in light of the fundamentals. If the current price is less than the intrinsic value, this is a buying opportunity as the belief is that the share price will move to its intrinsic value in the long term. A share price that is above the intrinsic is overpriced and should be disposed of to lock in gains. In a bottom-up fundamental analysis, the analyst looks at the company’s fundamentals first which are earnings, assets, and liabilities among others in order to determine the profitability prospects and intrinsic value. Bottom-up analysis is based on the premise that it is the company fundamentals that matter most and not the broad economy or industry that the firm operates in. In top-down approach, the analysis focuses on macroeconomic fundamentals first before broadening the analysis to industry and firm specific factors.

**4.7.1.2 Technical analysis**

At the core of technical analysis is that all macroeconomic and firm specific factors have been priced and are reflected in the share price. What matters is an analysis of the trading price and volumes. Technical analysis entails the analysis of trading charts in order to identify opportunities when there are deviations from historical price movements. Common technical analysis strategies are simple moving averages techniques, support and resistance levels, trend lines and momentum-based indicators.

The jury is still out as to whether an active strategy is worth the extra cost as empirical evidence points out that only a few managers manage to outperform a passive investment strategy.

**4.7.2 Passive Management**

Proponents of the passive management strategy argue that the extra cost incurred for active asset management is not worth it as an investor can maximize return by holding an index that tracks the performance of a basket of assets. Passive asset management does not require extensive research and as such the cost of investing is low. Investors in passive management strategies invest in index tracking funds whose performance will mirror the returns of the index being tracked. Research points out that passive management has given long term returns that are higher than active management due to the reduced cost of investment and also, due to the fact that it is only a few active managers that have managed to consistently beat passive management strategies.

**4.7.3 Growth investment**

Growth investing focuses on investing in rapidly growing companies that are usually innovators in their field of operation. Due to the stage that they are in the product life cycle, these companies are poised for rapidly growing profits. Growth companies will typically have high earnings growth rate, high return on equity, high profit margins and low dividend yields. Growth strategies are ideal for investors with a long term growth investment mandate.

**4.7.4 Value investing**

In contrast to growth strategy, a value investment style focuses on investing in mature and steady companies with a higher dividend pay-out. An additional characteristic of these companies is that the share price is at a discount to fair market value as reflected in low price to earnings ratio (P/E) and low sales to earnings ratio.

**4.7.5 Small market capitalization investment strategy**

Here the asset manager focuses invests in companies with a small market capitalization (as measured by market price multiplied by the number of shares). The belief here is that small market capitalization shares are not the darling of the market and not researched on extensively. As a result of this, there is less trading activity which results in mispricing. Further, there is an opportunity for small cap firms to grow over time thus offering opportunity for greater return. However, the risk with small caps is higher as they are less resourced and there is potential for corporate governance lapses as they do not attract the best talent to lead them.

**4.7.6 Large capitalization strategy**

Risk averse equity market investors may take comfort in an investment style that focusses on mature blue chip companies which have large market capitalizations. These businesses have grown over time and are tried and tested and have high dividend yields as a result of operating in mature markets. They have little risk of insolvency and will offer returns at reduced risk compared to a small market cap strategy.

**4.8 Single Asset management compared to a Multimanager approach**

An investor has an option to choose a single investment manager to manage investments across investment styles, asset classes and geographical locations. Alternatively, an investor could use a multimanager approach where multiple asset managers are used in order to achieve an investment mandate. Multi managed funds are also referred to as fund of funds. There are many reasons why an investor would opt for a multimanager as discussed below:

* It is rare to find a single manager who is the best at everything. Some managers are specialists in value investing or in particular asset classes like Equity. Research shows that there is a huge disparity in the best and worst performing managers in a single asset class or investment style. In order to diversify fund manager risk, a multi management strategy blends the best performers in different segments of the market and across asset classes to maximize returns at the minimal risk.
* It is not always the case that a particular investment style consistently outperforms the market and benchmarks in different economic and trading conditions. For example, funds commodity and cyclical goods oriented funds could outperform other strategies in economic booms but underperform in recessionary periods. Multi management approach enables the investor to diversify risk of underperformance by investing in different asset classes and investment styles which mitigates risk of underperformance of funds focussed on a single approach.
* Typically, in a multi manager approach, an investment professional (the multi manager) does extensive research to identify the best managers in different market segments. This makes the daunting task of selecting the best asset manager a better experience for the investor.
* An argument for multi management is that choosing specialists in different segments of the market has the potential to provide greater returns for an investor as opposed to choosing a generalist asset manager.
* The multi management achieves greater diversification across different investment styles and asset classes and thus minimizing risk.

Having said this, one should also bear in mind the disadvantages of multi management which are summarised below;

* Multi management entails additional management costs to the different asset managers that are included in the portfolio. This may detract from the superior performance that the investor is chasing.
* Although diversification will reduce risk, it also dilutes the return of top performers. As a result, multi manager comes at a cost of sacrificed returns of top performers.
* Investors who would like to have more say in the asset allocation of their investment give up control over this as the asset selection is delegated to the fund managers of the underlying funds in a multi manager approach.



**Formative Activity 1**

Define the concept of time value of money (2)

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**Formative Activity 2**

An investor invests R1 000 000 for a year at an interest rate of 15% per annum compounded annually. What is the value of the investment at the end of the investment period? (2)

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**Formative Activity 3**

An investor invests R1 000 000 for a year at an interest rate of 15% per annum compounded quarterly. What is the value of the investment at the end of the investment period? (2)

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**Formative Activity 4**

An investor invests R1 000 000 for 2 years at an interest rate of 15% per annum compounded quarterly. What is the value of the investment at the end of the investment period? (2)

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**Formative Activity 5**

An investor expects to receive R1 300 000 after 2 years for an investment at an interest rate of 15% per annum compounded quarterly. What is the present value or lump sum the investor needs to invest today? (2)

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**Formative Activity 6**

An investor expects to receive R1 200 000 after 2 years for an investment at an interest rate that is compounded quarterly. If the present value of this investment is R1 000 00, what is the interest rate for this investment? (2)

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**Formative Activity 7**

An investor needs R1 500 000 in future from an investment at an interest rate of 15% that is compounded annually. If the investor has R1 000 000 to invest today, how long should he be invested in order to have the lump sum needed at the end of the investment period? (2)

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**Formative Activity 8**

A 40-year-old investor is planning to retire at the age of 60. He requires a lump sum of R1 500 000 in 20 years’ time in order to retire comfortably. If he has not made investment towards retirement as yet, what is the annual payment that needs to be made assuming an annual return of 15% compounded annually? (4)

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**Formative Activity 9**

An investor is contemplating on whether to invest a lump sum of R1 500 000 now to plug the gap in his retirement plan or investing on annual basis. If the invests on an annual basis, he would get a 15% return and would increase his contribution by 5% every year for the next 10 years. You are required to advise the investor on what this recurring annual contribution should be.

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**Formative Activity 10**

What is the difference between required rate of return and expected return? (4)

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**Formative Activity 11**

Two portfolios have the below standard deviation and expected returns. If the risk free rate of return is 5%, which portfolio would be the most efficient according to the Sharpe ratio? (3)

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**Formative Activity 12**

What is the difference between strategic and tactical asset allocation? (2 marks)

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**Formative Activity 13**

Why would an asset manager opt for a value or growth investment style? (4)

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# **LEARNING UNIT 5: FINANCIAL MARKETS: CAPITAL AND MONEY MARKETS**



**Learning Outcomes**

By the end of this learning unit and having completed all the formative assessment activities, you will be able to:

* Discuss the role that capital markets play in the economy
* Analyse the effect of macroeconomic variables on capitals markets and the effect of monetary and fiscal policy on capital markets
* Identify the role players in capital markets and explain their role
* Explain the concept of interest-bearing instruments and the features of a Bond instrument
* Analyse the impact of annuity rates on retirement income provision
* Discuss the role that equity markets play in the economy
* Analyse the effect of macroeconomic variables on equity markets and the effect of monetary and fiscal policy on Equity markets
* Identify the role players in equity markets and explain their role
* Describe the features of different equity instruments
* Discuss the nature of shares as an investment instrument and compare the asset class to other asset classes.

**INTRODUCTION**

The capital market is a marketplace where institutions and retail investors with funds to invest for the long term transact with organizations seeking capital to spend on their projects. Examples of organizations looking for capital on the capital market are corporates, government, municipalities, state owned enterprises and individuals. In this section, we discuss the importance of capital markets, the major role players in the market, the role of the primary and secondary capital markets as well as the risk return profile of the market.

**5.1 The case for Capital markets**

Capital markets play a very important role in the economy. Investors looking for long term returns provide the capital needed by institutions to achieve their strategic objectives. The most known capital markets are the stock market and the bond market. Through specialized financial institutions and mechanisms, these markets provide a mechanism through which assets with different risk and return profiles are priced and exchanged. The following points summarize the role of capital markets in the economy:

* Capital markets channel financial resources from institutions and individuals with excess resources (surplus funds available for investment) to institutions that are in need of funds (these are in deficit as they seek funds to achieve their goals). As a result, capital markets provide for efficiency in the economy by facilitating the allocation of resources to much needed sectors of the economy. In the absence of capital markets, it would be a complex exercise for investors to identify institutions looking capital.
* Stock and bond markets play a pivotal role in enabling corporates and governments fund new and expansion projects. The existence of the markets enables these role players to access funds in a cost effective and transparent manner as the markets match needs of those seeking capital to those looking for capital.
* Capital markets play a role in providing long term capital growth for investors and thus providing a cushion against inflation for investors. In other words, the possibility of earning an above inflation rate of return on the capital market enables the channeling of financial resources to productive sectors of the economy.
* The contractual savings intermediaries such as retirement funds, collective investment schemes and insurance companies are able to coordinate savings by fragmented individual savers and channel these funds to long term investments in the capital markets. This channeling of savings to long term investments plays a pivotal role in the growth of the economy and achievement of government goals.
* Capital markets enable developmental infrastructure and projects to be completed at minimal cost. This allows the government to provide basic amenities such as water, electricity, and healthcare.
* In addition to facilitating public-private partnerships that is where resources are pulled from the public to the private sector and enabling economic development, capital markets also provide a platform for an inflow of foreign capital the serves to augment domestic savings. This increases the capital base of the economy which reduces the shortage of capital from hampering developmental goals.
* It is no coincidence that countries with well-developed financial markets have strong economies. It has been empirically proven that there is a link between strong capital markets and strong economic growth.

**5.1.1 The nature of capital markets**

In general, a financial transaction between an investor (lender or shareholder) and the borrower that is for a period longer than 3 years is considered a capital market transaction. In fact, some capital market transactions such as an investment in the stock of a listed company have an infinite time horizon that is the investor can hold the asset for as long as one wishes, and the shares can be traded and exchanged infinitely. We discuss the key features of the capital market in this section:

**a) Risk**

Because of the long term nature of capital markets, the risk of an investor not getting the expected return is much higher. This is due to the fact that many unforeseen circumstances may affect the value of the underlying asset invested in. As a result of this uncertainty, capital market assets are sensitive to the minutest information that is perceived to have an effect on the long term economic prospects of the investment results in fluctuation of that asset’s value. The extent of the effect of unavailable information is determined by the efficiency of the markets.



The year 2020 commenced with great expectation for capital market investors buoyed by strong performance of developed world economies and markets in the previous year. However, an unforeseen sporadic spreading of the novel corona virus meant that by the 27th of February, the S&P 500 index had recorded a loss for 6 consecutive days, its worst loss in almost 9 years. The 4.4% loss was its worst single day loss since August 2011. This was largely unexpected and is an indication of the risk that capital markets present. In light of the perceived risk in capital markets, investors require a higher return compared to an investment of a short term nature e. g money market investments.

**b) Inflation, time horizon and returns**

The concept of time value of money states that the value of money at two different time horizons is different due to various factors. The first reason is that purchasing power of money diminishes over time due to the effect of inflation. Because of this, investors seek compensation for foregoing consumption now by investing. Due to the long term nature of a capital market investment, the risk of inflation is higher over a longer term and this in turn means that investors in capital markets will want to be compensated for being exposed to the risk of inflation.

Further, the investor incurs an opportunity cost by foregoing other investment options for a longer term. The opportunity cost of capital is higher for a capital market investment compared to a shorter term investment.

An additional component of risk that a capital market investor seeks to be compensated for is the risk of capital loss. Due to the long term nature of the investment, forecasting possible outcomes over a long term period is a mammoth task. The investor therefore seeks compensation for this risk by requiring a higher return to compensate for taking on this risk.

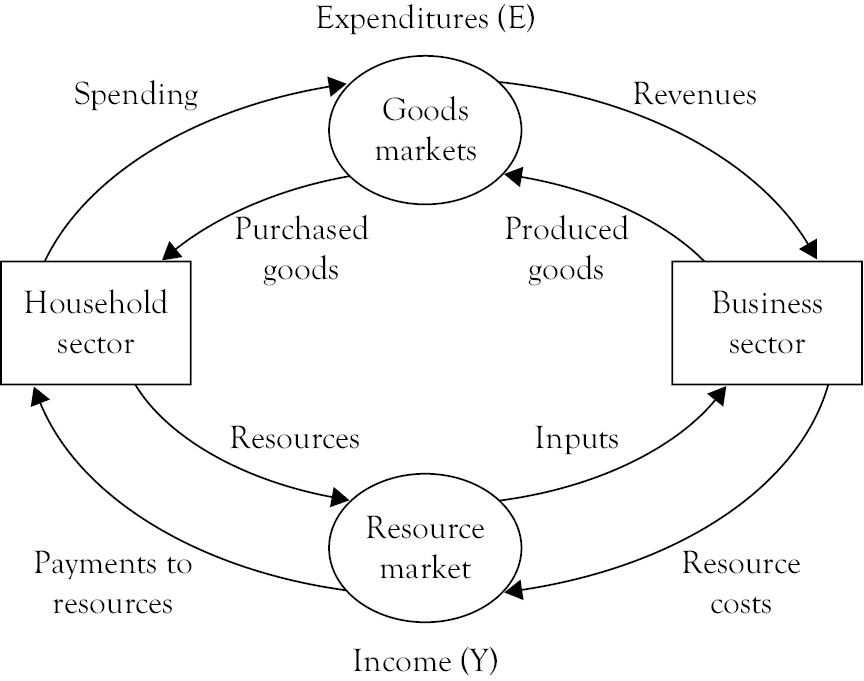
Perhaps one of the biggest risks that a capital market investor takes on is volatility risk. This is the risk of fluctuations in the investment value of the asset invested in. This risk is more pronounced over the short term and evens out over longer term periods. Volatility risk presents a risk of capital loss if the investor sells the assets at lower prices. On the positive side, volatility also presents an investor the opportunity to make a capital gain if assets are sold at a higher price.

The combination of the above factors entails an investor requiring a higher return on a capital market investment compared to a money market investment. The investor’s required rate of return is the return that the investor requires as compensation for taking on the above risks. Capital market investors have a higher required rate of return for taking on inflation, short term volatility, opportunity cost and risk of capital loss over the long term.

**5.1.2 Capital market environment**

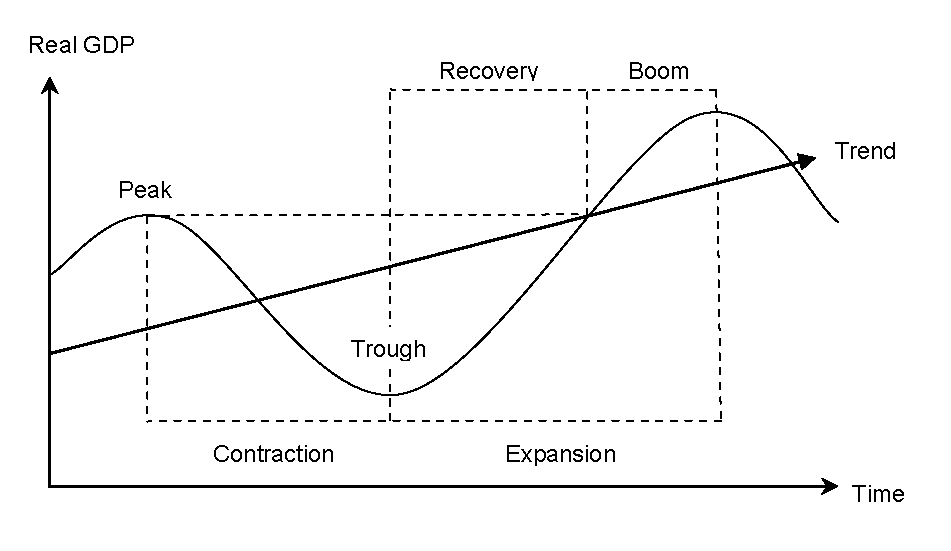
We have established that capital markets play the important role of channeling resources from surplus sectors to sectors that need the funds to grow the economy. Let us look at this concept broadly from an economic perspective.

Let us look at the circular flow of economic activity in order to understand the key role that the capital market plays in the economy. In the circular flow of economic activity diagram below, the role of capital markets is depicted by the arrows in the inner circle. The household sector represents individuals who pool together money through savings mechanisms (financial intermediaries) such as insurance companies, banks, retirement funds and medical aids. These financial resources are channeled to the resource market (capital markets) by the financial intermediaries and the business sector (including the government) tap into the financial resources to produce goods that are consumed in the goods market. Whilst the business sector will produce goods at a profit, the government will provide goods for socio economic benefit for example the provision of health care. These goods are then consumed by the household sector and the circular flow continues.



Source*:* <https://www.oreilly.com/>

An economic expansion occurs when there is a real growth in the total value of the goods produced in an economy. This is measured by the Gross Domestic Product which is an aggregate of all goods produced in an economy. However, long term economic growth does not occur in a long term linear fashion. The fluctuations around the long term average growth are known as the business cycle. The graph below depicts the business cycle:



The phases of the business cycle can be summarized as follows:

Contractionary phase:

* Falling GDP output
* Increasing unemployment
* High interest rates
* A falling currency
* Low Business confidence and earnings.

The problem with a contractionary phase is that if not addressed, it could lead to recession (two quarters of negative GDP growth) and spiral into low business confidence and high unemployment.

The government through the minister of finance can influence the capital market through fiscal policy to move an economy out of the contractionary phase to economic growth. An expansionary fiscal policy entails a government spending more on its projects in order to increase aggregate demand in the economy. If the increased spending is not financed by tax increases, it means the government has to borrow from the capital market. The South African Reserve Bank would issue government bonds in order to finance government projects. An issuance of government Bonds mops liquidity in the bond market that is investors subscribe to the new issues resulting in a shortage of funds in the market thus raising the interest rates in the Bond market. This is in turn leads to a greater flow of funds into the capital market.

On the monetary policy front, the South African reserve bank can exert its influence on the capital market through monetary policy. The SARB could lower the repo rate which in turn results in lower interest rates in the economy. This would reduce the cost of borrowing and increase household consumption and investment spending and thus kick-starting economic growth.

**Expansionary phase**

An economy experiences the following in the expansionary phase of the business cycle:

* Business sales and earnings rise.
* Higher demand for labour
* High spending by consumers and businesses.
* Low interest rate environment.
* Unemployment falls.
* Stronger currency.

The challenge that economies in the expansionary phase is that although unemployment is low and the economy is growing, the high demand in the economy fuels inflation. The government therefore needs to strike a balance between economic growth and inflation. In order to stem inflation, the government could choose through fiscal policy to reduce aggregate demand in the economy by increasing taxes and/or reducing government expenditure. In the capital market, the government would purchase its bonds in order to mop up liquidity and reduce credit creation. This would increase interest rates and reduce borrowing overall in the economy. An alternative would be to use monetary policy to rein in inflation. This would entail raising the repo rate and thus discouraging consumptive and investment expenditure. This would decrease aggregate economic activity and slow down inflation in the process.

**5.2 Role players in the Capital market**

The capital market has a primary market and a secondary market. The primary market is the market for new issuances of securities by the borrowers and subscription/investment by the suppliers of capital (investors). The secondary market of the capital provides a platform for exchange or existing securities between the holders (current investors) and those seeking to buy existing securities. The role of the secondary market is very critical as the existence of a platform to sell provides the much-needed liquidity that makes capital market securities an attractive investment. Let us now look at the role players in the capital market:

**5.2.1 Financial intermediaries and investors**

Institutions such as banks, insurance companies, retirement schemes, medical aid societies play the critical role of pooling savings by households and other entities and channeling these to the capital markets. These funds are then invested in the stock, Bond, and other assets in the capital markets in pursuit of attractive returns.

**5.2.2 Institutions seeking funding**

The institutions seeking funds to finance capital projects or working capital include the SARB, state-owned enterprises, large corporates, local government institutions and listed entities. These institutions use the capital markets as a source for funding and in the process play a significant role in the development of the economy.

**5.2.3 The regulatory Bodies**

An example of a regulatory body is the Johannesburg Stock Exchange. These institutions provide the platform for issuance of new securities and the trading of existing issues in a fair and transparent manner for the benefit of both investors and those seeking capital.

**5.3 Interest-bearing instruments: Bonds**

An interest-bearing investment is an investment into an asset which entails the investor lending money to the issuer of the security (borrower) in return for interest payments at an agreed rate or reference interest for a stated period of time. Interest-bearing securities are accessible to the investor in the money market for investment periods less than 3 years. Examples of money market instruments include treasury bills, negotiable certificates of deposits and bankers’ acceptances. The bond market provides an investor with an opportunity to invest in an interest-bearing instrument for a longer term that is in excess of a three-year investment horizon. Examples of bond instruments include treasury bonds. However, some interest-bearing assets such treasury bills are discount instruments that is instead of paying a regular interest, they pay interest at the end of the investment term. Let us discuss this in more detail below:

**5.3.1 The concept of discount and yield in relation to interest-bearing instruments**

A discount and yield instrument both pay interest to an investor in return for investing a sum of money. The sum invested is returned at the end of the investment period.

A discount instrument investor invests at a discount that is the interest rate that is to be paid over the investment period is subtracted from the face value (the amount the borrower will repay the investor). The difference between the interest to be paid and the par value is the purchase price that the investor pays upfront as the investment value. A very popular discount instrument in the money market is a Treasury bill. Let us look at an example to see how a Treasury bill is priced.



A 91 Day Treasury bill with a nominal value of R1 000 000 at a discount rate of 5% would have its purchase price calculated as follows:

**Step 1:**

Calculate the amount Discounted first

= Face value x term to maturity x discount rate

365 Days

= R1 000 000 x 91 x0.05

365

= R12 466

**Step 2:**

Calculate the purchase price.

Purchase Price = Face value – Amount Discounted

= R1 000 000 – R12 466

= R987 534

The buyer of the Treasury bill would pay R987 534 upfront to receive R1 000 000 in 91 days’ time. In other words, the investor is not paid any interest during the investment, but the accumulated interest is paid when the face value is returned to the investor.

The yield (actual return received) on buying and holding this Treasury bill is calculated as follows:

Yield = Discount amount x 365

Purchase amount Days to maturity

= 12 466 x 365

987 534 91

= 0.51 = 5.1%

**5.3.2 Bonds and Coupons**

A Bond is a fixed income security that consists of a series of fixed payments to the investor on specified dates and repayment of the principal at maturity date. Bonds have maturities ranging from 2 to 20 years and trade in the capital market. Issuers of bonds include governments and municipalities seeking capital to fund government programmes, state-owned enterprises such as Eskom and corporates listed on the JSE. Bonds are issued in the primary market and traded in the secondary market. Bonds are regarded as a conservative investment for investors seeking a return that is higher than money market rates at a risk that is less than investing in more volatile assets like listed shares. The interest payment is regular, and this provides liquidity to investors looking to get a steady stream of income from their investment. This is a major difference to some money market securities which we have discussed that are sold at a discount and only pay the par value at maturity.

Coupon bonds pay periodic interest payments (known as coupons) at agreed dates for example after every 6 months. The initial amount invested is paid on maturity date. A coupon bond that is designed like this and has no additional feature is known as a vanilla or straight bond. A variation to the vanilla or straight bond is the inflation-linked bonds whose coupons are calculated as follows:



Investor A invests an amount of R2 000 000 in a Treasury inflation linked Bond at 10% per annum. The coupon is paid annually. At the end of the first year, the Coupon is calculated as (10% of R2 000 000) = R200 000. Suppose that the inflation rate is 3% in the second year. At the end of the second year, the initial amount invested is adjusted for inflation as follows (R2 000 000 x 1.03) = R2 060 000. The coupon in year 2 would be (10% of R2 060 000) = R206 000. At maturity, the initial amount invested adjusted for inflation from start date of the investment is paid back to the bondholder.

The yield of a Bond is the annual coupon in relation to the prevailing market price of the interest-bearing interest.



Let us suppose that an investor A invests in a 10-year Bond with a par value of R2 000 000 and the coupon rate of the Bond is 10% payable bi-annually. The coupon payable every 6 months will be 10/2 =5% multiplied by R2 000 000 = R100 000 every 6 months. The investor will receive this coupon payment every 6 months and will be paid the initial amount invested at the end of 10 years.

Let us now suppose that the investor now wants to sell the bond to investor B and that the prevailing interest rate is 11% in the secondary market. The Bond still has 10 years to maturity. How much would Investor B pay Investor A for the Bond? Assume that the coupon payments occur at the end of 6 months. The price of the bond will be a function of:

* The coupon
* The prevailing interest rate in the market
* The term to maturity
* The par value payable at the end of the investment period

It is calculated as follows using a financial calculator (end mode):

PMT (Coupon) R100 000

I/YR (current market interest rate) 11%

P/YR (the no of payments per year) 2

N (term to maturity) 10

FV (maturity value) R2 000 000

PV (Market price of the bond) R1 880 496.18

Investor B would pay R1 880 496.18 for this Bond. You may be wondering why the market price is less than the maturity value of the bond. The reason for this is that Investor B has an option to invest in new bonds issued at a higher interest rate of 11% than invest into an existing bond that was issued at a coupon rate of 10%. Therefore, in order to make it attractive for the investor, the price of the bond must decrease (they naturally go down anywhere due to supply and demand relationship).

In the above example, what would happen if the current interest rate was at 9% whilst the coupon rate was 10%? Let us do the calculation:

PMT (Coupon) R100 000

I/YR (current market interest rate) 9%

P/YR (the no of payments per year) 2

N (term to maturity) 10

FV (maturity value) R2 000 000

PV (Market price of the bond) R2 130 079.36

In this case the bond market price is higher than the par value. This is because the coupon that the existing bond is paying is higher than prevailing interest rates and hence bonds currently in circulation offer an attractive yield and trade at a premium.

In general, when the market interest rate is higher than the coupon rate, bonds trade at a discount (below par value). Bonds trade at a premium (above the par value) when the coupon rate is higher than the market interest rate. The par value is equal the market value when the coupon rate is equal to the market interest rate.

In the above example, what would be the current yield of the bond (that is when the market price is R2 130 079.36). The yield of the bond is the annual coupon in relation the market price. In example above, the annual coupon was R200 000 (that is R100 000 payable every 6 months). The current yield would be Annual coupon/Market price = R200 000/R2 130 079.36 = 9.38%.

Another concept in investments in interest-bearing securities is the yield to maturity. The yield to maturity is the interest rate that makes the present value of cash flows that are still to be paid on the bond if it is held to maturity equal to the current price of the Bond.

In the above example, the price of the premium bond is R2 130 079.36, and its maturity value is R2 000 000. The yield to maturity would be the interest rate that discounts the coupons to be received for 10 years and the maturity value to be received in 10 years equal to the current market price of R2 130 079.36. This is calculated as follows using a financial calculator:

PMT (Coupon) R100 000

P/YR (the no of payments per year) 2

N (term to maturity) 10

FV (maturity value) R2 000 000

PV (Market price of the bond) -R2 130 079.36

I/YR (Yield to maturity) 9%

The yield to maturity of 9%.

**5.3.3 The different forms of bonds available for investors**

**5.3.3.1 Coupon Bonds**

Coupon bonds pay periodic interest payments (known as coupons) at agreed dates for example after every 6 months. The initial amount invested is paid on maturity date. A coupon bond that is designed like this and has no additional feature is known as a vanilla or straight bond.

**5.3.3.2 Convertible Bonds**

In order to make the bond more appealing to an investor, a bond can have a convertibility right. This option gives the holder of the Bond (the investor) the right to convert the bond into shares of the company that issued the bond. These types of bonds are issued by corporates as it is not possible to own the shares of the government.

**5.3.3.3 Callable Bonds and Bonds with Put Options**

A callable bond gives the issuer the right to buy the bond from the bondholder (the investor). This feature can be useful to the lender in a declining interest rate environment. The issuer would be able to purchase the bond immediately and re issue a new bond at lower interest payments.

A bond with a put option gives the bondholder the right to sell the bond to the issuer at a special put price. This option is useful to investors in an environment of rising interest rates. The bondholder is able to sell the bond immediately and invest in a recently issued bond that has higher coupon payments.

**5.3.3.4 Zero Coupon Bonds**

Zero coupon bonds are sold at a discount and do not pay regular coupons. At maturity, the issuer pays the par value to the investor.

**5.3.3.5 Inflation-Linked Bonds**

For all the bonds described above, the par value and the coupon payments are pre-determined and do not vary. The inflation-linked bond adjusts the initially invested amount that is the coupon rate is calculated on a fluctuating par value that is adjusted for inflation. In inflationary times, this type of bond provides investors a hedge against inflation.

**5.3.4 Bonds as an asset class**

An asset class is a group of assets whose value exhibit the same characteristics in terms of risk and return. We have established that bonds are an asset class for investors looking to invest for 2 years and longer in return of periodic coupon payments and payment of the initial amount invested on maturity date.

**5.4. The Risk and return profile of bonds compared to other asset classes**

Bonds carry a higher risk than money market investments firstly because of the longer life of bonds (which increases default risk). In addition, bonds exhibit unique risk in comparison to other asset classes as described below:

**5.4.1 Inflation risk**

This is the risk that inflation could go up and erode the value of fixed coupon payments for bonds that are not inflation linked. The value of a bond is calculated by discounting (bringing to present value) the value of all future coupon payments as well as the principal value that is paid at the end of the period. When the interest rates increase because of perceived inflation, the value of the bond falls as it is discounted at a higher interest rate.

**5.4.2 Credit risk**

When the creditworthiness of an issuer deteriorates, investors want a higher interest rate for investing in that bond to be compensated for increased risk of holding the bond. As explained above, higher interest rates result in the deterioration in value of the Bond issued by that company.

**5.4.3 Reinvestment Risk**

This is the risk that interest rates may be lower at the time that the bond is called by its issuer or at the time that a coupon is reinvested. If prevailing interest rates are lower, the proceeds from the callable bond are reinvested at a lower interest rate.

**5.4.4 Sovereign Risk**

Although investments in government securities is considered risk free, a country with high public debt may pose a risk to holders of bonds issued by that government. This reduces the creditworthiness of the government issued Bonds resulting in loss in value for bondholders.

**5.4.5 Liquidity Risk**

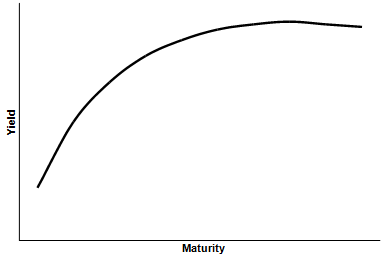
Bonds that are issued by reputable creditworthy issuers are highly liquid and can be traded at any time as they are sought after due to their increased security. If, however, the creditworthiness of the issuer deteriorates, it may become increasingly difficult to sell the bond at a good price in the secondary market resulting in losses for bondholders.

**5.4.6 Interest rate risk**

Bonds are sensitive to interest rates movements as the prevailing interest rates are used to calculate the present value of a bond. Bond prices fall when interest rates rise and vice versa.

**5.4.7 Yield curve risk**

The yield curve is a measure of the yield on bonds of different maturity profiles. The yield of a Bond is the interest rate that would make all future cash flows of the bond equal to the present value of the bond. A normal yield curve is upward sloping that is bonds that have a longer life should typically give a higher yield than shorter term bonds to compensate the investor for time value of money and perceived risk of investing in longer term bonds. A typical yield curve would look like the graph below



An equal change in the in the yield curve for all bonds with different maturities is measured by duration. If yields for 10-year bonds for example change at a rate that is different to 20-year bonds, there is a risk, and this is called the yield curve risk. It simply measures the risk that could affect the yields of bonds of particular maturities and not all bonds.

**5.4.8 Call Risk**

This risk pertains to bonds that have call options. When interest rates fall, there is increased risk that the issuer may recall the bond in order to take advantage of lower interest rates. To an investor this is a risk as the proceeds from the bond that has been called now needs to be invested at lower interest rates.

**5.5 Equity Markets**

Equity investors buy the right to ownership of a percentage of the company that in is being invested in. In return for this ownership, equity investors are rewarded when the entity that they have invested in as profitable in the form of dividends and capital gains. The investor in equity also assumes the risk of ownership that is capital loss in the event of poor performance of the company or total capital loss in the event of insolvency. The equity-holder assumes rights of ownership upon investment for example electing directors that will act on behalf of the shareholders, the right to attend annual general meetings and for certain types of equity ownership (ordinary shares) the right to vote on important matters pertaining to the running of the company.

The primary market of the equity market deals with new equity issues that is this is where companies issuing shares for the first time to the public would be listed. Liquidity is provided by the secondary market which provides a mechanism for the exchange of ownership of existing equity securities.

**5.5.1 The role of equity markets**

As discussed in the section on capital markets, we summarize the role of equity markets in this section:

* Equity markets channels financial resources from investors to entities that are seeking capital in order to achieve their strategic goals. In so doing, this leads to business expansion and thus creating employment and economic growth.
* The role of the Equity market is to provide for efficient resource allocation. They provide a platform for companies to present their strategic objectives and profitability, and this attracts potential investors looking for attractive returns. This process results in the most viable business projects being financed for the greater good of the economy as a whole.
* The secondary market provides the much-needed liquidity and transparency to investors and thus promoting investment by the public as they are assured of transparency and the availability of a market for the invested assets should they so wish to sell or buy listed assets.
* The equity market also serves the important role of providing important information regarding securities listed on the exchange. This assists in furthering market efficiency and in providing investors with much needed information to make informed decisions about their investments.

**5.5.2 The nature of equity markets**

Equity investments exhibit the following characteristics:

* An investment into a share gives the investor a right to share in the future economic fortunes of the company. An ordinary shareholder gets a right to receive a dividend when the company declares one.
* One of the rights of an ordinary shareholder is to vote on important matters regarding the company such as the compensation company leaders will get. Shareholders also gain when the price of their shares rise above the price at which they bought them for. This is referred to as a capital gain. The reverse is also true.
* When the value of a company’s shares goes down, investors realize a capital loss. The holding period return measures the return from holding a share over a period and is calculated as the capital gain/loss plus the dividend yield.
* Listed shares present more risk of capital loss compared to money market and bond investments but can deliver long term inflation beating capital growth. This presents an opportunity to risk taking investors who seek a return that is above the inflation rate. Investors that are risk averse or seek short term investment avenues should be wary and cautious when investing in the stock market.
* The secondary equity market provides the much-needed liquidity for investors. However, the liquidity of the listed shares is also a function of the quality of the issuer of the security. A company that the market has lost confidence could result in the holder of the shares having considerable difficulty in selling it at a profit. This may result in considerable capital losses for the investor and in extreme cases total capital loss.
* In the circular flow of economic activity, businesses seek inputs from the factor market in order to produce finished goods that households will consume. In addition to labour and entrepreneurial skills, one of the key inputs is capital. The suppliers of this capital to the factor market (stock market) are investors and the supply of their capital will be determined by the expected returns on the stock markets. A scarcity of capital on the stock market that is less investors will have the effect of delaying or abandonment of business projects leading to lower GDP growth and high unemployment.
* Inflation is the general and sustained rise of prices in an economy. Equity investors follow the inflation number very keenly as it has various impacts on stock market returns as follows:
* Value stocks perform better in times of high inflation. Value stocks can be defined as those companies that already have a strong cash flow and earnings but are valued at a discount by the market that is the current share price does not reflect the company’s strong cash flow and earnings. In periods of high inflation, companies are not able to pass the higher input costs to consumers and realize a decline in profit margins and cashflow. This effect is much less on value stocks as they already have strong cash flow and earnings to sustain the business. Additionally, when the discount model is used to value a company, companies with strong cashflows will have a higher valuation than those with lesser cash flow.
* Growth stocks tend to underperform in periods of high inflation. Growth stocks are stocks with little or no cashflow currently but expected to grow over time. When profit margins are squeezed because of inflation, growth companies find the operating environment tough. Further, the discount valuation model would result in a lower valuation for a company with little cash flow that is being discounted at a higher required rate or return (that will reflect the high inflation).
* Income generating stocks such as high dividend paying stocks tend to underperform during inflationary periods. This is because the purchasing power of the dividend is eroded by inflation and thus investors find these stocks unattractive and hence their share prices decline.
* Lastly, inflation reduces the real return of stock market returns regardless of the type of stock in question. Real returns are a lower when the nominal returns are adjusted for the effect of inflation.
* The interest rate is the cost of borrowing money for businesses and households. When interest rates rise, business input costs rise whilst consumer spending falls due to the higher cost of borrowing. This has the impact of depressing stock market performance.
* However, this effect is felt less by the financial sector which can now make higher profits by charging borrowers more for borrowed funds.
* As the interest rate is captured in the required rate of return, a high interest rate will mean a high required rate of return as well, therefore, in the valuation of shares using discounting models, the value of stocks would fall in a high interest rate regime.
* A commodity is a good that is uniform regardless of who produces it and is interchangeable with other goods of the same type for example sugar, gold, and oil. Commodities are used as inputs in the production of other goods and their prices have a huge impact on stock markets worldwide. A number of listed companies’ core business is the extraction of commodities form the ground for example Sasol and Anglo American.
* Low commodity prices or low expected future prices reduce the profitability of commodity producers, and this affects their performance. In contrast, high commodity prices drive up the stock price of listed commodity producers. In addition, high commodity prices positively affect the value of the rand as this means foreign buyers of commodity products are paying more and this demand results in the rand gaining strength.
* Market sentiment is perhaps the most important factor in the valuation of Equity market assets. Investors are always trying to forecast the future to determine the profitability of their investment position. In particular, global issues that threaten to derail economic growth tend to have a huge impact on emerging markets.



The outbreak of the coronavirus in China at the beginning of 2019 and its threat on global economic growth resulted in global markets crashing. This was further fuelled by the oil price war between Russia and Saudi Arabia that resulted in the Asian market plunging on 9 March 2020. The JSE was expected to follow suit on the 9th of March 2020. Market sentiment surrounding the oil price resulted in the price of oil falling by 9.25% amid speculation that the dispute between Russia and Saudi Arabia would result in instability of the oil price. As is the case when there is negative market sentiment globally, there is a sell off of emerging market assets as investors seek so called “safe havens” in developed economies. This resulted in the rand losing about 3.38% to R16.62 to the US Dollar as ta 9 March 2020. For stock markets in particular, negative sentiment towards the Russia and Saudi Arabia oil price war drove the major global stocks down with the London stock exchange shedding 8%, and the Frankfurt stock exchange losing 7% of its value. As global investors fled emerging markets that were deemed to be most exposed to the oil price war, the yields on the 30-year US Fed Bonds fell beneath 1% as market sentiment was that the US Fed would cut the Fed rate by 75 basis points in order to stimulate economic growth.

We see how connected market sentiment is to news relating to economic growth or recession and the impact this has on the value of the rand relative to that of global currencies.

**5.5.3 The impact of fiscal and monetary policy on equity markets**

In February of every year, the Minister of Finance spells out the government’s budget for the upcoming fiscal year. Equity markets await in anticipation of what the government’s fiscal policy is going to be in any given year and use this information to project the impact on the economy and the equity assets that they are invested in.



For a very long time, South Africa’s high debt to GDP ratio and the government’s ability to service its debt has been a concern to equity market investors. This has led to a potential rating downgrade by Moody’s agency sparking fears that this would lead to foreign investor exodus from South African Markets. It was not a surprise that the 2020/21 was keenly anticipated as investors wanted to know what government’s plans were to rein in State expenditure and avert the looming downgrade. Much to investors’ relief, the budget speech by finance Minister Tito Mboweni seemed to suggest that the government was making efforts to avert a downgrade. Instead of focussing on raising taxes, the budget actually brought some tax relief with the tax brackets being widened to take into account inflation adjusted salary increases and no increases in major taxes like VAT, estate, dividends, and capital gains tax. Instead, the government chose to focus on the expenditure side of its budget with an undertaking to reduce government expenditure by R156.1 billion over the next three years. On the basis of this news, the equity market priced this in, with the JSE retails sector jumping by 4% a rise which was the highest in 4 months. Shortly before the budget speech, the Rand had been 0.49% weaker against the US$ but rose by 0.79% to R15.09 to the US Dollar shortly after the budget speech. In addition, the yields on the 10-year government bonds rising 13 basis points to 8.70% which was the highest yield in about 7 months.

Similarly, monetary policy stance and changes have an impact on the stock market depending on whether or not this has already been priced into the market as well as to what the perceived impact on the economy and company profitability is. In July 2019, the SARB cut the repo rate by 25% unexpectedly. In response the JSE rallied for four consecutive days as investors digested the impact that this stimulation would have on the economy. Economists commented that the rate cut was a welcome boost to an economy that needed stimulus for both private consumption and higher profit margins for businesses due to lower borrowing costs.

**5.5.4 The different sectors of the JSE and the concept of indices**

As already discussed, the Johannesburg stock exchange provides a platform for investors looking for long term returns to invest in listed companies that are looking to exploit economic opportunities profitably. These companies operate in different sectors of the economy. In order to have an overview of the economic opportunities of listed shares, the JSE has grouped companies into different sectors based on the type of products that they produce, the target market and sector specific factors that affect a specific industry. The JSE if grouped into the following sectors:

* **SA Financials:** This sector includes all the companies in the financial services on the JSE. Examples of listed companies in this sector are FirstRand, Standard Bank and Redefine Properties. The overall performance of the financial services sector is tracked by the Financials index. The index is composed all companies in this sector and market capitalization weighted. We will discuss this in more detail below.
* **SA Resources:** All the companies that produce Industrial oil and gas and basic materials. Sasol Ltd, Exxaro Resources and Impala platinum Holdings Limited are some of the companies in this sector. The overall performance of the financial services sector is tracked by the Resources index. The index is composed all companies in this sector and market capitalization weighted.
* **SA industrials:** All the other companies not belonging to the financials and resources index. Netcare and Tiger Brands are some of the companies in the industrials sector. The industrial sector is further broken down into different components depending on the company’s core business for example Murray and Roberts will be in the industrials sector but when narrowed down to the company’s core business, it would be further divided into Construction and Materials. The overall performance of the financial services sector is tracked by the Industrials index. The index is composed all companies in this sector and market capitalization weighted. We will discuss this in more detail below.

The idea behind grouping listed companies in sectors is that although a company’s performance is a function of company specific factors such as good corporate governance and leadership, there are sector specific factors that have an impact on the performance of companies operating in a specific sector. Investors are then able to study trends in factors affecting specific sectors and make investment decisions based on this analysis.

An investment strategy that some investors use is the top-down approach. This entails looking at the general macro-economic environment and how it will affect markets in general. The next step is to look at each sector and make an analysis on how profitable the sector could be based on the macroeconomic and sector specific factors. A decision is then made to allocate funds to companies in that sector without specifically looking at company specific projections (except in extreme cases). For example, if the general consensus is that the SARB is embarking on a cycle of interest rate increases through the repo, it is most likely that financial companies would make more profits by lending at higher interest rates. It would then make sense when using a top-down approach to make an allocation to the financial sector.

**5.5.5 The concept of benchmarks and indices in investment management**

As at January 2020, the number of companies listed on the JSE was 354. If an investor wanted to track the overall performance of JSE listed companies, it would be a mammoth task given the number of companies that are listed. Given this complication, how do we measure the performance of the JSE or the largest 40 shares by market capitalization? If an investor wanted to invest in shares of companies in the financial sector, how does one gauge how the sector has been performing? Thankfully, there is a statistical tool called an index that an investor can use.

**5.5.5.1 What is an index and how is it constructed?**

An index is a statistical tool that measures the performance of the overall stock market or a particular sector of the stock market that shares the same characteristics. An index is calculated by ranking the relative value of each listed share in a certain category by its market capitalization. The market capitalization of a company is its outstanding free floating (tradeable shares) multiplied by its price on the particular day. Perhaps an example would give clarity on how an index works.



Let us assume that in the year 2000 on 1 January, a stock exchange decided to construct an index to track the performance of the listed shares on the exchange. Let us suppose only three companies are listed that is Company A, B and C and the following are the companies’ market capitalizations:

**Company Share price No of outstanding shares Market capitalization**

Company A R100 100 R10 000

Company B R200 100 R20 000

Company C R300 100 R30 000

**Total value of shares R60 000**

The base year is given an index of 100 that is the starting value of shares is the starting point. We can therefore say the value of the shares was R60 000 in base year 2000. Let us say in January 2001, the share prices had moved as follows:

**Company Share Price No of outstanding shares Market capitalization**

Company A R120 100 R12 000

Company B R180 100 R18 000

Company C R350 100 R35 000

**Total value of shares R65 000**

The value of the stock exchange index has moved from R60 000 to R65 000 over a space of 1 year this represents an 8.33% rise from January 2000. The index is now at 108.33 representing a rise in the market capitalization rate of 8.33%. Note that although the index moved up by 8.33%, Company B actually moved in the opposite direction. It actually lost 11.11% but the effect of this decline was offset by the 20% rise of company A and the 16.67% rise in Company C.

Let us suppose that in January 2002, the scenario looked like this:

**Company Share Price No of outstanding shares Market capitalization**

Company A R90 100 R9 000

Company B R160 100 R16 000

Company C R290 100 R29 000

**Total value of shares R54 000**

The market capitalization has declined from R60 000 in January 2000 to R54 000 in January 2002, and this represents a 16.9% decline from the 2000 level. This means the index would be at 83.1.

**5.5.5.2 Indices on the JSE**

Using the same methodology described above, the JSE has different indices for different sectors. Below are some of the important indices on the JSE:

* The JSE All share index: The ALSI index is comprised of the largest 164 listed companies which is 99% of the full market capitalization of the JSE
* FTSE/JSE Top40 index: Tracks the performance of the top 40 largest companies by market capitalization on the JSE. It was developed with a base value of 10 399.53 in June 21, 2002. It was at 37 073 as at 17 March 2020.
* Indi25 index: It is composed of the 25 largest industrial companies on the JSE
* Fini15 index: Comprised of the top 15 financial services companies listed on the JSE
* Resi10 index: Companies in this index are 10 of the largest in the resources sector
* The midcap index: This index tracks the performance of the 60 largest companies after the top 40 companies.

**5.5.5.3 The use of indices in portfolio management**

We have already established that the whole idea of constructing an index is to track the performance of all the shares or a particular sector on a stock exchange. This is important in the investment world for the following reasons:

* Indices can be used for index investing in a passive investment strategy. Proponents of passive investment believe that it is difficult to time the market and buy and hold shares at the right time. The argument is that active investment managers hardly beat the index that is the overall performance of the market and therefore investors could save on active management fees by simply investing in an index fund that tracks the performance of a given index. For example, an investor who sees growth in the resources sector could simply invest in an index fund that tracks the performance of the Resi 10 index instead of trying to analyse the prospects of each particular company and buying the shares at the right price.
* More importantly indices can be used as a benchmark. A benchmark is a reference that can be used to gauge the success or the underperformance of an investment strategy.



In our earlier 3 company example, we showed that the index had gained 8.33% to stand at 108.33 between January 2000 and January 2001. Let us suppose that an investor’s target was to outperform the index that is any performance above 8.33% would have been considered adequate. If the investor had invested all the funds in company B, the investor would have underperformed the index as company B’s share price declined by 11.11%. An investment in Company A would have outperformed the market (a 20% rise) and an investment in company C would also have outperformed the market (16.67%).

* Indices are an important tool in hedge funds and derivatives and risk management.

**5.5.6 Role players in the equity market**

It is obvious that the stock market is a meeting place between seekers of long term funds and investors. However, this definition is broad and hence a more detailed explanation of different players’ roles is necessary. The following are the main role players in the Equity market:

**5.5.6.1 Market Regulator**

The regulator of the equity market in South Africa is the Johannesburg Stock Exchange (JSE). The JSE regulates that conduct of market players through enforcing transparency using different mechanisms such as ethical obligations of members, rules on how shares are traded and also settles disputes between different role players. The JSE also protects investors through monitoring conduct of role players and thus prevents ethical issues like insider trading which would unfairly profit an investor through trading based on information that is not yet available to the public. Additionally, the JSE provides digital capabilities that enables trading and dissemination of important information such as performance of each listed company and the tracking of indices.

**5.5.6.2 Investors**

The equity market is a melting pot for different types of investors ranging from speculators such as short sellers looking for short term capital gains to investors looking for long term capital growth as well as those seeking a hedge against inflation. These investors can either be individuals or financial institutions seeking to invest deposits or contributions by members in order to match their liabilities or for profit. Examples of these institutions are public and private retirement funds, banks, asset management companies and medical aid schemes. Other financial institutions such as investment banks play the important role of underwriting share issuances that is, they guarantee that a certain percentage of shares issued by an issuer looking for funds will be subscribed. This gives companies looking for shareholder capital the confidence to incur the costs associated with raising capital.

**5.5.6.3 Brokers**

Brokers act as the middlemen between investors and those seeking capital. Brokers provide the essential service of analysing the prospects of profitability if an investor was to invest in a certain listed company or to sell shares and then make a recommendation and execute transactions on behalf of the investor. Brokers charge a fee for the service that they provide.

**5.5.6.4 Companies seeking investment funds**

Companies seeking investment funds can either be new entrants that is primary listing on a stock exchange through an initial public offering (IPO) or companies listed already but seeking additional capital to achieve strategic goals. Most often, these companies would have done an analysis on whether this would be the most effective method of financing compared to other forms of financing like raising debt (that is borrowing).

**5.5.7 The different types of equity instruments**

Three main forms of equity instruments are ordinary shares, preference shares and debentures. Let us look at the features of each below:

**5.5.7.1 Ordinary shares**

This is the most known form of equity ownership as it the most traded on most stock exchanges worldwide. An ordinary share has the following rights and obligations:

* An ordinary shareholder is entitled to a share of the profits of the company BUT this is after payment of creditors, preference shareholders and debenture holders. After these have all been paid, the directors of the company can choose to pay a portion of the profits through dividends or to plough back the profits into the business for various reasons like expansion through acquisition of other businesses.
* The return on an ordinary share is uncertain due to the fact that it is dependent on the profitability of the company and the hope of share price appreciation. In the event of operational difficulties or in worst case scenario insolvency, ordinary shareholders are paid last after creditors, preference and debenture holders have been paid. However, in the event of profitability, the return of the shareholder is unlimited and not fixed to a contractual obligation as in the case of a preference shareholder or creditor.
* Perhaps the biggest attraction of an ordinary share is the fact that the ownership bestows rights such as voting rights and the right to choose company directors to execute the mandate of investors. This in a way gives the shareholders the right to decide on the future of the company.

**5.5.7.2 Preference shares**

* As the name implies, preference shareholders get a preference in terms of dividend payments prior to ordinary shareholders being paid. An ordinary preference share will pay a dividend at a pre-determined rate and this payment takes precedence before ordinary dividends are paid. This feature provides more certainty of return compared to ordinary shareholders. However, before preference dividends are paid creditors still rank highest in terms of payment obligations and so the certainty of the preference share dividend is not fully guaranteed in the event of financial distress of the company.
* The investors who want to have a say in the management of the company as well as have voting rights, preference shares will not be ideal as they are devoid of this feature (unless if they are convertible preference or non-cumulative preference shares that give the option to convert to ordinary shares from a certain pre-determined date).
* Preference shares come in various forms and the most common ones are the following:

1. **Convertible preference shares:** These are preference shares that give the holder the option to convert the shares to ordinary shares after a pre-determined option date for an option price that the holder pays to the company. Prior to the conversion date, the preference shareholder is entitled to a preference dividend at an agreed rate after creditors have been paid.
2. **Cumulative or non-cumulative preference shares**: In the case of a cumulative preference share, any unpaid dividends in a particular year will result in that dividend accumulating and becoming payable in the following year before the payment of ordinary share dividends. Holders of cumulative shares have no voting rights at all. In contrast non-cumulative preference shares are paid a fixed rate of dividend and there is no obligation to pay arrear dividends in subsequent profitable years. To compensate for this disadvantage, non-cumulative preference shareholders have the right to vote regarding matters relating to company management.
3. **Redeemable, irredeemable, and non-redeemable preference shares:** Taken from the name redeemable preference shares can be redeemed by the issuing company that is the company has the right to buy back these shares at a future date from shareholders at a pre-determined price. This presents reinvestment risk to the investor. On the other hand, non-redeemable preference shares cannot be bought back by the issuing company until the end of the investment period. An additional variation is an irredeemable preference share that that can never be redeemed by the company during its life that is issued in perpetuity just like ordinary shares.
4. **Deferred preference shares:** This form of preference shares defers the payment of dividends until after a certain period or event has occurred for example after paying out certain obligations. An interesting version of the deferred preference share is one that gets paid after ordinary shareholders have been paid (thus defying the major distinguishing feature between ordinary shares and preference shares).
5. **Debentures:** A debenture holder gets paid interest at a fixed rate by the company that has issued the security. The main difference with a preference share is that it pays interest whereas the preference share pays a dividend. There is a difference in the tax treatment as dividends get taxed at a flat dividend withholding tax rate whilst interest will be taxed at marginal tax rate after taking into account the annual exemption. Further, debentures are secured by specific assets, and this provides protection in the event of insolvency. As a result, the return is lower compared to a preference share dividend as a result of the added security.

**5.6 The Money market**

The money market is a broad definition of liquid investments with maturities that are less than 12 months. This includes cash (your checking account at the bank), call and notice deposits, Bankers’ Acceptances (BAs), promissory Notes, Negotiable Certificates of Deposits (commonly known as NCDs). The money market exists to match the needs of entities looking for short term financing with investors looking for short term inflation beating returns with some degree of certainty given the creditworthiness of the borrowers on the money market.

A characteristic that is worth noting is that money market instruments are low risk investments with a return that is usually lesser than longer term securities. The primary market of the money market is where the initial money market instruments are issued, and the secondary market is where existing money market instruments are traded.

Money market investments are ideal in the following instances in comparison to other assets:

* When an investor’s investment horizon is short that is typically one year or less. Growth assets such as shares and property exhibit in the short term whereas money market investments have low risk of default and no capital loss risk.
* Where an investor requires certainty of return. Some instruments in the money market are risk free for example it is generally agreed that except in extreme cases, the government will not default on Treasury Bill Obligations.
* When an investor is uncomfortable with fluctuations in the value on investments. Such an investor is referred to as a risk averse investor.
* In a high interest rate environment where the return is high given the low risk.
* When an investor requires liquidity and would not want to disinvest at significant capital loss due to low liquidity.

**5.6.1 Role players in money market**

Issuers of money market securities include the SARB, Public investment corporation, Industrial Development Corporation, and other high net worth corporate bodies such as companies listed on the JSE.

Investors include private individuals such as pensioners and institutions such as money market unit trusts, banks, and medical aid societies. The motivation for a money market investment is short term inflation beating low risk investments. Institutional investors can be regarded as facilitators in the money market as they play the role of pooling the savings of individual investors and channelling these two entities looking for short term capital.

International investors seeking short term yields also invest in our money market especially during periods of low interest rates in other emerging markets.

**5.6.2 The Money market and the economic environment**

The SARB sets the tone in the money market through its influence on interest rates through the repo rate. The Repo rate is the rate at which the SARB as the lender of last resort lends money to banks in the money market. The primary mandate of the SARB is to keep inflation within a certain range whilst at the same time taking cognisance of long term economic growth. The below are a few scenarios of the relationship between the money market and the economy and the impact on investment returns:

* A higher than anticipated inflation figure has a negative impact on real returns for investors in money market instruments. The formula for calculating the real interest rate is Real interest rate = (nominal interest rate – inflation). Assuming that markets are efficient, the current short-term interest rates should reflect the investors’ expectations of inflation and the level of interest rates in future. If the inflation is higher than expected the income from cash and money market investments loses purchasing power.
* A lower than expected inflation figure is welcome news to investors in cash and money market instruments. It increases their real returns.
* Cash and money market investments are also affected by surprises in GDP.
* A positive GDP surprise occurs when the actual GDP growth is more than forecasted. A rising GDP is triggered by high demand in the economy, and this can ignite inflationary pressures. A higher than expected GDP growth could signal to the SARB that the repo rate may need to be increased to reduce inflation. This augurs well for cash and money market investors as this raises the level of interest rates in the economy.
* A negative GDP growth surprise occurs when the actual GDP growth is less than expected. This may move the SARB into cutting the repo rate to induce demand in the economy (provided that inflation is within a manageable range). A repo rate cut lowers the interest rates in the economy, and this is not ideal to money market investors.

**5.6.3 The impact of monetary policy on the money market**

An interest rate is the cost of borrowing money. The higher the cost of borrowing money (interest rate), the lower the amount borrowed and vice versa. The interest rates in the economy are influenced by the SARB. The SARB influences the supply of money in the economy through repurchase order system (repo rate), open market transactions and the reserve ratio requirement.

The following tools are at the SARB’s disposal to influence the money market:

**5.6.3.1 The Repo rate**

* The repurchase rate better known as the repo rate is the rate at which the SARB lends money to commercial banks. The SARB is called a lender of last resort in the sense that it lends money to banks that are in need of money. The SARB lends the money through what is called the repurchase order system.
* The repo rate is the interest rate that Banks pay to the SARB for borrowing money. An interest rate is the cost of money. Higher interest rates mean that it is costly to borrow money, and this discourages borrowing and consumption.
* When Banks borrow money from the SARB, they pass this cost of borrowing to the consumer. The minimum that an individual can borrow from a bank is the prime rate or slightly lower than this. The prime rate is calculated by adding to the repo rate a margin or profit for the bank.
* After borrowing from the SARB, Banks lend money to individuals and businesses in the economy. In order to make a profit they add a margin to the interest rate (repo rate).
* The prime rate as at 23 May 2019 was 10.25% whilst the repo rate was at 6.75%. This means that the Banks were making a margin of 3.5% for loans that they gave at prime rates.
* High net worth clients are given loans by commercial banks at the prime rate or less as they pose less default risk.
* Clients with a higher risk profile will access loans from banks at prime plus additional percentage points reflecting the higher perceived risk of default.
* It can be inferred from above that interest rates rise when the SARB raises its repo rate, borrowing falls and this reduces consumption in the economy which in turn reduces demand pull inflation.

**5.6.3.2 Open market transactions**

* The quantity of money in the economy is subject to the principles of supply and demand that we have already learnt.
* The SARB influences the supply of money and the level of interest rates through open market transactions.
* When the SARB requires the supply of money to decrease, it issues (sells) treasury bills and other government securities. Money market and bond participants who purchase these securities will be in fact taking money out of the market and this reduces the money supply in the economy. Because the supply of money is now less, the cost of borrowing which is the interest rate rises which further discourages borrowing for consumption and investment needs. This leads to lower inflation.
* If the goal is to increase the money supply and lower the interest rates, the SARB buys its own treasury bills and other securities from the market. This has the effect of increasing the total money supply in the economy and a reduction in interest rates. This leads to higher aggregate demand in the economy and an increase in inflation.

**5.6.3.3 Cash Reserve requirement**

* A tool that the reserve bank uses to influence the supply of money in the economy is the cash reserve requirement.
* The Banks Act of 1990 requires all commercial banks to keep a prescribed percentage of their total liabilities as cash.
* For example, in July 2016 this reserve requirement was 2.5%.
* If this requirement is raised by the SARB to say 3%, it would lead to banks extending less credit (as more money needs to be kept as cash at the reserve bank) to borrowers which would reduce money supply in the economy, raise interest rates and reduce inflation.
* Lowering the reserve requirement to say 1% would lead to higher credit creation as banks can now extend more loans as less money is tied up in the cash reserve account with the SARB.

**5.7 Types of money market instruments**

**5.7.1 Treasury bills**

* Treasury Bills are government issued in order to raise money for government programmes or as a way of implementing monetary policy.
* 91-day treasury bills have a maturity of 91 days that is the government through the SARB issue these to market participants and they mature in 91 days. The SARB also issues 182-day treasury bills.
* Treasury bills are considered risk-free as governments are not considered to carry default risk.



A government that has a huge public sector debt relative to its GDP may face increasing pressure to reduce its debt as it may become unsustainable to repay debt without resorting to extreme measures such as the printing of more money to repay its obligations. The notion of a risk-free government debt is theoretical. A case in point in recent history is Greece which got to a point of not being able to service its own debt.

* The Treasury bill interest rate is the benchmark used for calculation of the return of other money market instruments and other securities for example the risk-free rate is the benchmark for the Capital Asset Pricing Model in calculating the return on equities. The reason for this is that investors cannot expect a return on any other asset class that is less than the risk-free rate. In other words, they would need additional compensation for investing in more risky assets than the risk-free Treasury bill.
* Treasury bills are discount instruments that is they are issued at a discount and pay the full value (par value) on maturity.

**5.7.1.2 Calculating the Purchase Price and the yield of a Treasury bill**



A 91-day treasury bill with a nominal value of R1 000 000 at a discount rate of 5% would have its purchase price calculated as follows:

**Step 1:**

Calculate the amount discounted first

= Face value x term to maturity x discount rate

365 Days

= R1 000 000 x 91 x0.05

365

= R12 466

**Step 2:**

Calculate the purchase price.

Purchase price = Face value – Amount discounted

= R1 000 000 – R12 466

= R987 534

The buyer of the treasury bill would pay R987 533 upfront to receive R1 000 000 in 91 days’ time.

The yield (actual return received) on buying and holding this treasury bill is calculated as follows:

Yield = Discount amount x 365

Purchase amount Days to maturity

= 12 466 x 365

987 533 91

= 0.51 = 5.1%

* Treasury bills are popular with investors due to their high liquidity (they can be traded with ease) and less risk of default.

**5.7.2 Bankers’ Acceptances (BAs)**

* A bankers’ acceptance is a bill of exchange that entitles the holder of the instrument to a payment of the face value at maturity day by a bank. The maturity period varies between 30 to 180 days.
* BAs are sold at a discount similar to treasury bills. A holder of a BA can sell it on the secondary market at a discount (that is receives purchase price that is less than the face value). The buyer of the BA will receive the face value at maturity from the bank that guaranteed payment of the BA.



Prior to 2013, the SARB could issue and trade in BAs. This was however discontinued on 13 September 2013. BAs however still remain highly marketable and are used by corporates for short term financing needs.

**5.7.3 Call and notice deposits**

* Call deposits are interest-bearing accounts with banks that can be called at any time by the depositor. The interest rate earned is a function of the amount invested and is paid monthly but calculated on a daily basis.
* With a notice deposit, the investor needs to give notice of withdrawal in advance. The deposited funds earn interest based on the amount invested.

**5.7.4 Promissory Notes**

* A promissory note is a written promise by the issuer to pay another party a specified sum of money at an agreed date or on demand.
* The promissory note will contain the principal amount, interest rate, maturity date, date and place of issuance and the issuer’s signature.
* The promissory note is also a discount instrument and the holder at maturity is paid the face value.
* Promissory are an alternative way for companies to get financing from non-banking institutions.

**5.7.5 Negotiable certificates of deposits**

* An NCD is a receipt issued by a bank as acknowledgement that an investor has deposited funds with the bank. It offers a market related rate of return
* Instead of holding the NCD to maturity, the holder or bearer of the NCD can sell the NCD in the secondary market.

NCDs are highly liquid and negotiable and are a good alternative for an investor who is looking for higher yields as they offer market related returns



**Formative Activity 1**

Name the two major markets that together are referred to as capital markets (2)

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**Formative Activity 2**

The combination of the many factors entails an investor requiring a higher return on a capital market investment compared to a money market investment. Why is this case? (6)

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**Formative Activity 3**

Who are the three major role players in the capital markets? (3)

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**Formative Activity 4**

A 91-day treasury bill with a nominal value of R2 000 000 at a discount rate of 7%.Cacluate the discount and the actual amount that the investor needs to pay upfront to invest (3)

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**Formative 5**

Based on the answer in Formative activity 4, what would be the yield of the bond? (2)

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**Formative Activity 6**

State whether the following is true or false (3)

|  |  |
| --- | --- |
| Statement | True or false |
| When the market interest rate is higher than the coupon rate, bonds trade at a discount (below par value) |  |
| Bonds trade at a premium (above the par value) when the coupon rate is lower than the market interest rate |  |
| The par value is equal the market value when the coupon rate is equal to the market interest rate |  |

**Formative Activity 7**

Discuss the role that equity markets play in economic growth (3)

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**Formative Activity 8**

What is the role of indices in investment management? (3)

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**Formative Activity 9**

Give three features of ordinary shares that make them preferable over other forms of equity ownership like preference shares (3)

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**Formative Activity 10**

Give the different scenarios when a money market investment is ideal for an investor (5)

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# **LEARNING UNIT 6: COLLECTIVE INVESTMENT SCHEMES**



**Learning Outcomes**

By the end of this learning unit and having completed all the formative assessment activities, you will be able to:

* Discuss the concept of a collective investment scheme.
* Categorize a unit trust according to the underlying assets, geographical location or as per specialist category.
* Discuss the advantages and disadvantages of collective investment schemes
* Outline the merits of rand cost averaging
* Apply the concept of time value of money to an investment
* Discuss the governance and structure of a collective investment scheme
* Discuss the steps in the launching a new collective scheme
* Evaluate the performance of a collective investment scheme
* List the regular transactions and administrative processes in relation to a collective investment scheme.

**INTRODUCTION**

One of the main determinants of return is asset allocation. This term refers to the decision the investor makes regarding what portion to invest in shares, bonds, property, or money market. Equally important is the investment vehicle that the investor chooses. An investment vehicle is the method or avenue that the investor uses to invest in a particular asset class. A good example is investing in the money market through a money market linked product at your retail bank. Another avenue is to invest in shares directly. The choice of investment vehicle has an impact on the risk, liquidity, cost, return and other far-reaching implications such that it is very important to dedicate a section to one of the most popular investment vehicles in the investments industry. This vehicle is referred to as collective investment scheme.

**6.1 Definition of a collective investment scheme**

A collective investment scheme involves the pooling of funds from different investors with the same risk/return objective and investing the funds in any of the following asset classes: shares, bonds, money market or property or a combination of the different assets. Each investor is allocated units (also known as participatory interest) based on the value of the investor’s investment. Each unit represents the value of the assets of the fund. In other words, the price of each unit reflects the value of the assets in the fund invested in. Collective investment schemes distribute income to investors at pre-determined dates. The income is derived from interest income and dividend declarations from securities that are in the fund. Capital gains occur when the assets in the underlying fund appreciate in value, resulting in the unit prices/value increasing. Collective investment schemes are regulated by the Collective Investment Schemes Control Act of 1945 (CISCA) and this act regulates collective investment schemes in securities, schemes that invest in foreign securities, participating bonds schemes and collective investment schemes in property.

**6.1 How are Collective investment schemes classified?**

In order to allow for simplicity in choosing funds, allow for comparison of risk/return profiles of funds and asset classes as well as generating awareness of the investment universe by the general public, one of the leading professional bodies in South Africa - the Association for Savings and Investment South Africa (ASISA) - has developed a classification guideline which all its member must use. The first classification is based on where the assets that are invested in are domiciled. This is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **Classification** | ***Minimum*/maximum investable in South Africa** | ***Minimum*/Maximum investable Globally** | **Minimum/Maximum investable in Africa** |
| **South African Funds** | *Minimum 70%* | Maximum 25% | Maximum 5% |
| **Worldwide Funds** | No restriction | No restriction | No restriction |
| **Global Funds** | Maximum 15% | *Minimum 85%* | 0% |
| **Regional funds** | Maximum 20% | *Minimum 80% in a specific Country* | *Minimum 80% in a specific Country* |

The Second and third classification focuses on what the fund invests in. This is as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Classification | Subcategories | Investable universe | Minimum/Maximum |
| Equity | General portfolios | No restrictions | No restrictions |
|  | Large cap portfolios | Any JSE listed share with market capitalization greater or equal to the smallest constituent of the JSE Top 40 index or foreign index | Minimum 80% of Net Asset Value in investable universe.  100% of share repurchases must be in investable universe. |
|  | Mid and small cap portfolios | All shares with a market capitalization less than the smallest constituent of the JSE Top 40 or foreign index | Minimum 80% of Net Asset Value in investable universe.  100% of share repurchases must be in investable universe. |
|  | Resource portfolios | All shares in Oil, Gas and Basic materials sectors of the JSE or similar sector of an international stock exchange (excluding gold and other precious materials) | Minimum 80% of Net Asset Value in investable universe.  Maximum 10% of shares not in the investment universe. |
|  | Financial portfolios | All shares in the Financial Sector of the JSE or similar sector of an international stock exchange | Minimum 80% of Net Asset Value in investable universe.  Maximum 10% of shares not in the investment universe |
|  | Industrial portfolios | All shares in the Industrial Sector of the JSE or similar sector of an international stock exchange | Minimum 80% of Net Asset Value in investable universe.  Maximum 10% of shares not in the investment universe |
|  | Unclassified portfolios | To be used where no classification of a sector can be made for example gold or technology sector | No restrictions |
| Multi Asset | Low Equity | Shares and other asset classes | Minimum 0%/maximum 40% Equity |
|  | Medium Equity | Shares and other asset classes | Minimum 0%/maximum 60% Equity |
|  | High Equity | Shares and other asset classes | Minimum 0%/maximum 75% Equity |
|  | Flexible | All Asset Classes | No restrictions |
|  | Income | All Asset classes | Minimum 0%/Maximum 10% Equity |
| Interest-Bearing | Variable term | Money market, government, and corporate bonds | Unlimited modified duration |
|  | Short term | Money market, government, and corporate bonds | Maximum weighted duration of 2 years |
|  | Money market | Money market instruments as defined in CISCA | Money market instruments only |
| Real Estate | General | All shares falling in the Real Sector of the JSE or similar sector of an international stock exchange | Minimum 80% of Net Asset Value in investable universe.  Maximum 10% of shares not in the investment universe |

**6.2 Common terms used in the collective investment schemes industry**

* **Portfolio manager:** This is the investment specialist who is charged with making investment allocation decisions, security selection and portfolio trading activities to achieve the investment objectives of the fund. The fund manager is bound by the investment mandate of the fund and implements the strategy in order to fulfill the mandate.
* **Portfolio Benchmark:** This is the minimum level/acceptable level of performance that the fund is required to meet. The Benchmark chosen usually has a similar risk profile to the fund. As an example, most South African interest-bearing money market funds will use the Short Term Fixed Interest (STeFI) Benchmark. This benchmark is The Alexander Forbes Short Term Fixed Interest (STeFI) which measures the performance of money market instruments in the money market. If for example, the annual return of the money market as measured by STeFI was 7%, a performance by the fund of 7% would mean that the fund has matched its benchmark. A performance above the benchmark means outperformance and an underperformance is when the fund’s return is below the benchmark.
* **Units:** As already discussed, the portfolio invested in is divided into equal parts and these parts are known as units. Each unit reflects the value of all the underlying assets of the fund. A rise in the value of the underlying assets will result in higher Unit prices and vice versa.
* **Net Asset Value (NAV):** The Net Asset Value of a fund is used to calculate the value of a unit on a daily basis. This is done by using the day’s closing values of the assets held by the fund to calculate the price of the unit. For example, the opening unit price on a Wednesday morning is calculated by calculating the value of the assets held by the fund as close of trade on Tuesday and then adjusting the unit price to reflect this valuation.
* **Management Company:** The management company is the company that launches the scheme and coordinates its functions that is the administration, appointment of the portfolio manager/s and trustees and marketing the fund. Examples of management companies in the South African Industry are Allan Gray and Coronation fund managers.
* **Income Distributions:** Unit trusts that invest in interest-bearing instruments and equity receive interest and dividend payouts. The management company distributes these on pre-determined dates either annually, bi-annually or monthly (as in the case of money market funds). Investors have an option of having these distributions paid to them or reinvested. The unit price before the next distribution (cum div) will be higher than after the income distribution date (ex div).
* **Fund Classes:** In addition to the classification of funds that we have already looked at, the fund names will reflect the fee structure for different forms of investors. Examples are as follows:

|  |  |
| --- | --- |
| **Fund Class** | **Description** |
| R Class | Applies to funds in existence before June 1998 and no longer available to new investors |
| A Class | Created after April 2000 and available to new investors |
| B Class | For institutional and wholesale investors |

* **Fees:** The following fees are incurred by investors:

**1. Initial fees:** This fee varies per management company. Some management companies do not charge an initial fee. Those that charge cover marketing and administration costs from the initial fee, and this can range from 0 - 0.5% of the amount invested.

**2. Ongoing fund fees:** This fee is charged for the service provided by the management company and is charged against the interest and dividends received by the fund from the underlying assets. It is calculated daily, levied monthly and expressed as an annual percentage.

**3. Financial adviser fee:** For investors who chose to invest using the services of a financial adviser, a fee that is negotiable between the adviser and the client is payable. The adviser can charge an initial fee (up to a maximum of 3% of the initial amount invested) and/or an annual adviser fee (up to a maximum of 1% of the asset value expressed as an annual percentage but levied monthly).

**4. Annual Management Fee:** This fee is structured so as to incentivize the portfolio manager and the management company for meeting investment objectives. An example of an annual management fee structure can be as follows:

*The annual management fee is 1% subject to the following:*

*For any percentage point outperformance of the benchmark, the management company adds an additional 0.2% to the annual management fee. There is no limit to the fee for outperformance*

*For any percentage point underperformance of the benchmark, the management company subtracts 0.2% from the annual management fee with a minimum of 0% fee charged per any given month (that is any negative fees are carried over to the following month).*



Let us use the above example of management fees on a practical scenario. Suppose that the benchmark of a General Equity fund is the JSE all share (ALSI). Suppose that the monthly return in January 2020 of the General Equity index was 3% and the benchmark return was also 3%. Using the management fee structure above, the annual management fee would be 1% as the fund matched the benchmark return.

If the fund gave a return of 4% and the benchmark 3%, this would mean out performance of 1%. The annual management fee would then be 1 % ( for matching the benchmark) plus 20% of each percentage outperformance. In this case, the fund outperformed the index by 1% and therefore there would be an additional 0.2% added to annual management fee (20% of 1). Therefore, the annual management fee would be 1.2%.

On the other hand, if the fund gave a 2% performance figure compared to the 3% benchmark return, 20% of each percentage underperformance. The annual management fee would be 1% - 0.2% which 0.8% is.

**5. Total Expense Ratio (TER):** This is the annualized percentage of the fund’s assets that has been used to pay the fund’s expenses. The TER is already reflected in the Unit prices that is unit prices are published net of fees that are included in the TER. These fees are as follows:

Annual management fees

Administration costs

Custody fees

Trustee fees

Audit fees

Taxes.

**6. Transaction costs:** These are costs related to transactions that the fund executes in its day-to-day operations. Included in the transaction costs are:

Brokerage fees payable to stockbrokers

Securities Transfer Tax (STT)

STRATE

Investor protection levy

VAT



TER and transaction costs combined give what is known as the total investment charge (TIC). The TIC has already been deducted from published unit prices and returns.

* Fund Objective and Benchmark: This a description of what the fund seeks to achieve in terms of returns and the risk that the fund takes on in order to meet this objective. This is capped by the description of the benchmark used to measure the fund’s progress in achieving the objective.

**6.3 The Advantages of a collective investment scheme**

**(a) Diversification:** Collective investment schemes achieve diversification within the same asset class, across asset classes, different sectors of the economy and geographically. Diversification reduces the risk of capital loss as the investor is exposed to assets that have different specific (unsystematic risk). Provided that the assets in the portfolio have limited positive correlation, the investor will be shielded from enduring capital losses as some assets may gain to counteract the losses that may have been incurred by some of the assets in a portfolio. In other words, investing through a collective investment scheme reduces risk that would be incurred if an investor exposed capital to a specific asset. As already discussed, the portfolio that collective investment scheme investors are invested in is split into units that represent the total value of the assets in the portfolio.



Diversification reduces risk but does not eliminate risk totally. It is the asset specific risk (unsystematic risk) that is reduced in a collective investment scheme. Systematic or market risk cannot be eliminated by diversification only as it will affect all assets that are in the market.

**(b) The benefit of expert management of funds**

It is a fact that not all investors are well versed with financial markets and how they operate. This information asymmetry makes it difficult for most investors to study market trends and use available information to make correct investment calls. The collective investment scheme addresses this challenge by appointing seasoned professionals who study the markets and make investment decisions on behalf of the investors subject to the fund’s investment objective. This also reduces the extra transaction costs that an investor would bear in researching the market and asset

**(c) Accommodation of investors with small amounts**

Most often the hindrance to an investor participating in the financial markets is the inability to raise the minimum amounts required to trade. This requirement often crowds out investors with lower amounts to invest. Collective investment schemes enable such investors to invest at lower amounts by pooling together funds from many investors. In other words, it provides access to markets for investors who do not have the financial muscle to access the financial markets directly.

**(d) The benefit of sound governance**

Collective investment schemes have solid governance structures that benefit investors. Trustees of the fund ensure that the fund is run with transparency and the assets of the fund kept in safe custody. The funds are also subject to audit to ensure compliance and the protection of members ‘interest. This added layer of governance provides investors with comfort that their funds are managed in a transparent and lawful manner.

**(e) Liquidity**

One of the major advantages of a collective investment scheme is the ability of the investor to buy and sell units at any time at no significant additional costs. This eliminates liquidity risk where an investor invested in one or a few assets finds it difficult to sell the assets due to the deterioration in the marketability of the assets.

**6.4 The Disadvantages of investing in collective investment schemes**

**(a) Restrictions on investable universe**

Collective investment schemes are limited to listed assets that is shares, bonds, money market, listed property shares and derivatives. An investor looking to invest in other assets such as commodities like platinum would not be able to do so through a collective investment scheme.

**(b) Higher transaction costs**

Because a collective investment scheme can invest in many diverse assets, investors may incur more transaction costs due to the high turnover assets than would be possible in the investor invested directly into the market.

**(c) Legislation limits**

Due to legislation and classification of collective investment schemes, the fund manager or the investor may be hampered from investing in profitable investments. For example, a regulation 28 compliant fund would not be able to invest more than 30% offshore regardless of the attractiveness of the offshore market.

**(d) Transparency regarding cost structures**

Although there has been much improvement in the reporting of fees that investors pay, the collective investment schemes industry has been rapped for the lack of transparency of fee structures. This has led investors incurring costs that they would not have been aware of. The move by the industry to adopt a “clean pricing” model in fee structures and the adoption of effective annual cost (EAC) is a move to address this long-standing problem in the industry.

**6.4 The structure (elements) of a collective investment scheme**

There are mainly three main role players in a collective investment scheme set up namely the fund, the trustees, the administration company, and the Asset/portfolio manager. Their roles are as follows:

**(a) Fund**: The fund is made up of contributions by the investors and these contributions are invested in different in any or a combination of the different asset classes according to the fund’s objective.

**(b) Trustees:** The trustees are the custodian of the assets held by the fund. The trustees are independent from the fund and their role is to ensure that the investors’ funds are allocated in accordance with the trust deed which is drawn up at the inception of the fund. The fund’s assets are always held in the name of the trustees. The trustees ensure compliance by the fund to the trust deed of incorporation that spells out the objective of the fund, the measurement of performance as well as the charges that investors pay for administration and attainment of performance targets. The valuation of the assets of the fund and the manner in which the unit prices are determined are also defined in the trust deed of incorporation.

**(c) Administration company/Asset Manager**: This is the company that directs the day-to-day operations of the trust that is accepting new investments and executing trades in line with the mandate of the collective investment scheme. In most cases the administration company employs the investment specialists that analyze the market and assets and develop asset allocation strategies. In some cases, the management of the assets is outsourced to investments specialists that are not employed by the administration company. Third party portfolios/funds are funds where the management company has outsourced the investment expertise to an investment management company. The rationale for outsourcing is that the investment mandate of the fund may require a specialist investment manager in a certain whose unique skills fall outside the competencies of the administration company.



Let us suppose that ABC Asset Management Company is a firm that has traditionally offered collective investment scheme funds to investors seeking exposure to listed equities on the JSE. To date, all the administration and investment management has been handled by ABC’s administration and investment experts. Recently the firm has identified an opportunity where it could offer investors exposure to internationally listed equities. ABC is not convinced that they have the in-house expertise to manage international equities. They therefore look for an investment firm that will make the investment decisions such as allocation strategies and asset selection. ABC would therefore launch a new collective investment scheme targeting investors with appetite for international equities and manage the administration of the scheme. The asset management would be done by the outsourced firm. This would be referred to as a third-party portfolio.

**6.5 Legislation pertaining to Collective investment schemes**

**6.5.1 The role of the FSCA in the industry**

The governing act regulating the CIS industry is the Collective Investment Schemes Control Act, 2002(Act 45 of 2002) (CISCA). The act regulates the establishment and ongoing management of collective schemes in order to safeguard investor’s funds.

The FSCA is the body that regulates and ensures compliance with the act. First and foremost, any person carrying on the business of asset management (which includes collective investment schemes) must register with the FSCA as per the FAIS Act. In addition, the FSCA oversees the functions of the CIS industry in the following ways:

* Liaison with other regulatory and industry bodies such as the Association of Savings and Investment South Africa on regulatory and supervisory matters in the Industry.
* Conducting inspections through the inspectorate department on CIS where irregularities are suspected to have occurred and taking remedial action.
* Imposition of penalties and legal action for breach of the CISCA and /or FAIS Act
* Raising awareness amongst the public on the regulation of CIS.
* Registration, licensing and deregistration of collective investment schemes.
* The regulation of advice given to investors in relation to collective investment schemes.

**6.5.2 The role of Industry Bodies in the Industry: The Association of Investment and Savings South Africa (ASISA)**

ASISA is the main Industry body in the CIS Industry. It was borne in 2008 with the merging of four previously independent bodies in order to speak with one voice. The entities that merged to form ASISA are the Association of Collective investments (ACI), Investment Management Association of South Africa (IMASA), the Linked Service Providers Association (LISPA) and the Life Offices Association (LOA). ASISA is a voluntary body comprising the majority of players in the CIS industry and its goal it speaks with one voice on matters pertaining to the industry in order to remain relevant and viable in into the future in the interest of all stakeholders. ASISA also promotes financial literacy through its foundation in order to achieve greater financial capability and financial participation by the poor. All members of ASISA are required to abide by ASISA’s Ethics and standards for the mutual benefit of the industry and clients.

**6.6 Legislation and regulation of collective investment schemes**

**6.6.1 Legal Requirements that collective investment schemes should meet**

For the purposes of licensing and operating, collective investment schemes need to meet requirements that have been put in place to protect the interests of the investors. The FSCA overseas and regulates compliance with the following legal requirements:

* No unit trust management company can operate without registration by the FSCA. The management company should be a public company with at least R2 000 000 in non-distributable reserves and issued share capital and in addition the management of the unit trust management company should hold at least 10% of the units of the fund. This is to protect investors from insolvency of the unit trust management company and to align the interests of management and investors.
* A maximum of 20% can be invested in a single JSE Listed share with a limit of 35% for specialist funds. This is to ensure that the unit trust fulfills one of its important objectives, which is diversification.
* All net interest and dividends should be distributed in full to investors.
* The management company has an obligation to purchase units offered to it by investors for cash and in Rand currency. This is meant to guarantee liquidity for investors.
* A trust deed must be drawn up that sets up the terms of the investment as well as an FSCA appointed trustee being appointed. An additional requirement is for the trustee a capital adequacy level of at least a R1 000 000.
* The manner in which the unit trust advertises and discloses information is also spelt out. This is discussed in more detail below.

**6.6.2** **Advertisement, marketing, and information disclosure requirements for collective investment schemes**

Board Notice 92 of 2014 deals with the manner in which advertising, marketing and information disclosure must be lodged with the registrar and ultimately how it should be communicated to current and prospective clients. The aim of the notice is to achieve the following:

(a) Provide a legal framework within which managers of collective investment schemes may advertise and market their products in a manner which ensures that investors base their investment decisions on full, accurate and comprehensive information;

(b) Protect investors from deceptive, misleading, unfair or fraudulent conduct by managers through advertising and marketing material;

(c) Promote the fair treatment of investors;

(d) Encourage fair competition amongst managers;

(e) Promote the use of plain and understandable language by managers in respect of any information provided or displayed to investors;

(f) Ensure alignment with relevant international information disclosure standards and practices;

(g) Encourage investor understanding of the key features of a collective investment scheme through the manager's use of suitable disclosures for the intended target market; and

(h) Determine the manner in which managers must lodge advertising and marketing material

The advertising, marketing and disclosure of information requirements are split into the following parts:

* Definitions, objectives and application
* General rules for marketing and advertising
* Mandatory disclosure
* Performance disclosure
* Information disclosure
* General provisions.

In this section, we deal with the mandatory disclosure requirements. The learner is encouraged to read further on the various sections that the Board Notice deals with.

**6.6.3 Mandatory Disclosure requirements for collective investment schemes**

(1) A manager must include the following disclosures in all marketing material: -

* 1. Collective investment schemes are generally medium to long-term investments;
  2. The value of participatory interests or the investment may go down as well as up;
  3. Past performance is not necessarily a guide to future performance;
  4. Collective investment schemes are traded at ruling prices and can engage in borrowing and scrip lending;
  5. A schedule of fees and charges and maximum commissions is available on request from the manager;
  6. A detailed description of how performance fees are calculated and applied;
  7. A statement that the manager does not provide any guarantee either with respect to the capital or the return of a portfolio.

(2) In addition to the general disclosures in sub-paragraph (1), a manager must disclose, in respect of-

(a) an exchange traded fund registered as a collective investment scheme:

1. That the exchange traded fund is listed on an exchange and may therefor incur additional costs;
2. the difference between an exchange-traded fund and other collective investment scheme portfolios;
3. the index that the exchange traded fund tracks and how it will track the index;
4. where an investor can view the index and its performance as tracked by the exchange traded fund;
5. (v) the tracking error of the exchange traded fund;
6. (vi) where the index tracking portfolio engages in securities lending activities, information on such securities lending activities, the percentage of securities lent out, the names of all the counterparties related to these activities as well as the risks associated with counterparty exposure;

(b) A money market portfolio-

1. That a money market portfolio is not a bank deposit account;
2. (ii) Whether the price of a participatory interest is a marked-to-market value or targeted at a constant value;
3. (iii) That the total return to the investor is made up of interest received and any gain or loss made on any particular instrument; and that in most cases the return will merely have the effect of increasing or decreasing the daily yield, but that in the case of abnormal losses it can have the effect of reducing the capital value of the portfolio;
4. (iv) how the yield is calculated;
5. (v) that excessive withdrawals from the portfolio may place the portfolio under liquidity pressures; and that in such circumstances a process of ring-fencing of withdrawal instructions and managed pay-outs over time may be followed;

(c) a portfolio that derives its income primarily from interest-bearing instruments in accordance with section 100(2) of the Act, whether the yield is historic or current as well as the date of calculation of the yield;

(d) a fund of funds portfolio, that a fund of funds is a portfolio that invests in portfolios of collective investment schemes that levy their own charges, which could result in a higher fee structure for the fund of funds;

(e) a feeder fund, that a feeder fund is a portfolio that invests in a single portfolio of a collective investment scheme, which levies its own charges and which could result in a higher fee structure for the feeder fund; and

(f) a third-party-named portfolio, that the manager retains full legal responsibility for the third-party-named portfolio.

(3) Where foreign securities are included in a portfolio, the manager must, before entering into a transaction to purchase foreign securities, disclose to potential investors any material risk, such as-

(a) potential constraints on liquidity and the repatriation of funds;

(b) macroeconomic risks;

(c) political risks;

(d) foreign exchange risks;

(e) tax risks;

(f) settlement risks; and

(g) potential limitations on the availability of market information.

**6.6.4 Valuation of collective investment schemes**

**6.6.4.1 Pricing of collective investment scheme portfolios**

An important aspect of a CIS is the manner in which the units are valued. This determines the price at which units will be traded on any particular day. The first step in the pricing of a unit trust is the determination of its Net Asset Value (NAV). The NAV of a unit trust is determined by subtracting certain charges from the Assets of the fund. The charges to be subtracted from the Value of the assets are reflected in the total investment charge (TIC). The NAV is then divided by the total number of units issued. The formula is summarized below:

Price of Unit Trust = (Values of Assets – Total investment charge)/No of Units in the fund.



Let us spouse that ABC Asset Management’s South African General Equity CIS has assets worth R10 000 000, and the total investment charge is 1.25%. The total number of units issued is 500 000. What would be the price of the unit to a prospective investor?

The TIC can be calculated as 1.5% of R10 000 000 = R150 000

The Net Asset Value of the fund would be R10 000 000 – R150 000 = R9 850 000

The price of the Unit (NAV per unit) would then be (R9 850 000/500 000) = R19.70 The unit price will be quote in cents as 1970c per unit.

The calculation of the NAV can either be done on a historic pricing or future pricing model. Under a historic pricing model, the Net Asset Value of the fund is calculated using the closing market value of the assets of the previous trading day. This means that the prices at which the units trade on the following day are based on the closing market values of the previous day. In a future pricing model, the price at which transactions that occurred during the day is only determined at the end of the trading day. This means that the CIS calculates the closing value of assets on that particular day and applies these two transactions that occurred during the day.

**6.6.5 Publishing of collective investment schemes in financial media**

Major financial newspapers publish information related to unit trusts as per closing prices of the previous day’s trading. Newspapers publish Unit prices per asset manager and not per category as per ASISA classification. An example of published unit trusts in the Citizen Newspaper on Saturday 18 April 2020 is given below:

|  |  |  |  |
| --- | --- | --- | --- |
| Full Name | Initial fee | NAV | CPU |
| ABSA Fund Managers (RF)Pty Ltd - Balanced R | 2.3 | 409.08 | 8.7 |
| Allan Gray Unit Trust Management (RF) Pty Ltd – Balanced A | - | 9919.06 | 129.85 |
|  |  |  |  |

The above table can be interpreted as follows:

*The first column is the full name of the collective investment scheme management company and the particular Fund and fund class (gives an indication of the fee structure of the fund).*

*The second column is the initial fee if applicable. The initial fee is not part of the Total Investment charge (TIC).*

*The NAV column is the price of a unit in cents.*

*The CPU column shows the amount that has been distributed as income in the last 12 months*

Money market funds will reflect an additional column reflecting the yield of the fund. This is the annualized effective yield for the fund.



Suppose an investor has R20 000 to invest in ABSA Balanced fund R that is in the above table, how many units would the investor receive?

Each unit is worth 409.08 cents which is R4.09. This would mean the investor would get (R20 000/R4.09) = 4 889.98 units.

If the investor invested the same amount in the Allan Gray Balanced Fund A, the number of units bought would be (R20 000/R99.19) which would be 201.63 units.



It is important when comparing unit trusts to remember that the price of a unit does not necessarily mean that it has performed better than a unit trust with a lower price. The price of a unit trust is dependent on the number of units that the fund has been split into. For example, consider the following funds:

|  |  |  |  |
| --- | --- | --- | --- |
| Fund Name | Fund Value | No of units | Unit price (NAV) |
| ABC Balanced fund | R20 000 | 10 000 | R2 |
| DEF Balanced Fund | R20 000 | 5 000 | R4 |

The value of the underlying assets is the same but due to the different number of units, the NAV (prices) are different.

**6.6.6 How to choose a Unit Trust as an investor**

As at May 2018, there were 1261unit trusts on offer in South Africa. Faced with such an overwhelming investment universe, how does an investor decipher which unit trust to invest in? The ASISA classification of unit trusts is a good starting point to filter out options that will not suit the investor’s profile. An understanding of the ASISA classification will give an investor an indication of the minimum and maximum percentages of an asset class that a certain category of unit trust can hold. For example, an investor who is need of an income bearing portfolio and is risk averse would need to limit the investment universe to the multi asset – income category or the interest-bearing category. But let us suppose that the investor has determined the unit trust category that suits his/her profile, how does the investor determine the actual unit trust to invest in? Further, how does an existing investor determine if the portfolio has delivered on its mandate? The following techniques are at the investor’s disposal:

**(a) Comparison of the portfolio return to its benchmark**

A benchmark is the measure against which the portfolio’s return is measured. Most often the asset composition of the benchmark mirrors the risk/return profile of the assets that the unit trust holds. As an example, most equity funds in the ASISA unit trust category: South African Equity – General, use the market value weighted average return of funds in South African - Equity – General category. The fund’s cumulative and annual returns over different periods versus the benchmark return will give an indication of whether the fund is delivering on its mandate. A fund can underperform its benchmark in the short term, but long term underperformance of the benchmark require an investigation of the causes of underperformance. Another simple measure is to compare the fund’s return to inflation over different periods. An investment that perennially underperforms inflation should be a concern as the investor is losing purchasing power of the funds invested in.

**(b) An analysis of the fund’s risk given its benchmark**

An investor should analyze at what risk returns are being generated. It is not enough to just read into return numbers without looking at the risk underlying the investment. All things being equal, a rationale investor requires the highest risk adjusted return that is the highest return with the lowest risk. A number of techniques can be used by the investor to gauge the risk of an investment. Most funds will publish the maximum drawdown figures which are the highest and lowest percentage declines in the history of the fund. These give an indication of how severe the fund’s returns can fluctuate. In addition, the investor can use risk adjustment techniques to measure the risk of the fund. An example is the Sharpe ratio which measures the excess risk adjusted returns of the fund. A higher Sharpe ratio is desirable all things being equal.



Consider two funds in the South African – Equity – General category ABC fund and YXZ funds. The following information has been collected from the fund fact sheet:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Fund Name | Annual Return since inception | Benchmark return since inception | Maximum Drawdown % | Sharpe ratio % | Standard Deviation (in percentage) | % positive months | % negative months |
| ABC | 30 | 25 | -55 | 5 | 15 | 30 | 70 |
| XYZ | 26 | 25 | -20 | 10 | 10 | 60 | `40 |

An investor is looking to invest in a fund that has outperformed the benchmark but not at excessive risk. Given the profiles above, which the fund would be suitable for the investor? On the surface, fund ABC outperforms the benchmark and has delivered the highest return since inception. However, it looks like the fund takes on very significant risk compared to XYZ fund. It has realized the highest annualized decline of 55% compared to 20% for XYZ. Although past performance is not an indicator of future returns, this may be a source of worry for the investor. Further, fund ABC’s history of negative monthly returns shows that the percentage of months in which returns were negative is 70% compared to 40% for XYZ. Fund XYZ deviates 15% from the average compared to 10% for XYZ (as measured by standard deviation) and the risk adjusted excess return (as measured by the Sharpe ratio) is lower at 5% compared to 10%.

The investor would be able to beat the benchmark at a lower risk in fund XYZ and this fund would suit his/her objective of minimizing risk.

**(c) Fee analysis**

Although unit prices are reported net of fees, it is critical for the investor to interrogate the fees that are being charged as these have an impact on the return. Investors need to be wary of a TER or Effective Annual Cost (the sum of investment management, Advice, Administration and other costs) that is uncharacteristically higher compared to peer funds(funds within the same category).

**(d) Attribution analysis**

An investor can further analyze a manager’s strength by zooming in on the source or cause of a portfolio’s outperformance or underperformance. An explanation of why the portfolio’s performance as different from the benchmark return can be achieved by the following:

* Was the source of outperformance due to the decision to actively manage the portfolio compared to pursuing a passive investment approach? In other words, did the decision to actively manage the portfolio rather than tracking an index contribute to the performance of the portfolio?
* A second technique is to check if the performance was as a result of the manager’s market anticipation that is correct prediction of future market movements.
* Thirdly, an analysis can be made on the manager’s ability to select assets and make buy, sell, hold investment decisions as the right time. This is an analysis of the manager’s asset selection. A look at the fund’s top 10 holdings can provide a clue in this regard.
* The source of the portfolio’s performance can also be attributed to a manager’s asset selection. This analysis is very important particularly Multi Asset portfolios where the manager has discretion to invest across multiple asset classes.

**6.7 Lump sum investments versus phasing in or regular fixed investments**

A regular question the financial adviser will get is whether or not it is wiser to invest as opposed to investing a fixed regular amount or phasing in the investment over a period of time. The answer is that it all depends on the direction that markets will take. Some experts argue that it does not really matter how the money is invested in the long term. However, some argue that in periods of market declines (bear markets), a regular fixed investment results in an investor buying more units compared to a lump sum investment. This concept is known as rand cost averaging. Let us look at an example to see how this principle works.



Let u suppose that an investor has R50 000 to invest either as a lump sum or as monthly contributions over 5 months of R10 000 each. At the date the decision is made, the unit price is a R100 each. Let us suppose that there is a bear market (asset prices are declining and the price of the unit also decline) in the next 5 months. Let us look at the positions of two investors: Investor A invests a lump sum and Investor B invests a fixed amount of R10 000 over the next 5 months. The table below shows their position after 5 months

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Month 1 R100) | Month 2 Unit price = R95 | Month 3 Unit price = R90 | Month 4 Unit price= R85 | Month 5 Unit price = R80 | Total Units after 5 months | Total investment value at R80 per unit price |
| Investor A Units (R50 000 lump sum) | 500 | 0 | 0 | 0 | 0 | 500 | R42 500.00 |
| Investor B (R10 000 monthly) | 100 | 105.26 | 111.11 | 117.65 | 125 | 559.02 | R44 721.60 |

In a declining market, the fixed amount Investor B benefits from averaging out the cost of the units as the investment amount is higher than the investor who invested.

What if there was a bull market? The scenario would be as below:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Month 1 R100) | Month 2 Unit price = R105 | Month 3 Unit price = R110 | Month 4 Unit price= R115 | Month 5 Unit price = R120 | Total Units after 5 months | Total investment value at R120 unit price |
| Investor A Units (R50 000 lump sum) | 500 | 0 | 0 | 0 | 0 | 500 | R60 000 |
| Investor B (R10 000 monthly) | 100 | 95.23 | 90.91 | 86.96 | 83.33 | 456.43 | R54 771.60 |

In a rising market, lump sum investments provide a higher return as the average cost of the units is rising over time.

In a nutshell, there is no right or wrong answer in the debate about rand cost averaging. It really depends on the forecast or prediction on the course the market is going to take.



**Formative Activity 1**

Which forms of investments fall under the ambit of Collective Investment Schemes Control Act of 1945(CISCA)? (4)

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**Formative Activity 2**

Will a risk averse investor with a short term investment horizon be well served by investing in worldwide fund as per ASISA definition? (3)

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**Formative Activity 3**

Which components of the cost of investing in collective investment scheme are included in the funds’ Total Expense Ratio (TER)? (6) What is the difference between the TER and Total Investment Charge (TIC)? (1)

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**Formative Activity 4**

Collective investment schemes are touted as having several advantages for an investor. Please provide some of the advantages in summary (5)

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**Formative Activity 5**

What is the role of the trustee in a collective investment scheme set up? (2)

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**Formative Activity 6**

XYZ Asset Management has a unit trust in the Multi Asset – Low Equity category. At the end of 2019, the value of assets invested in were R15 000 000 and the total investment charge is 1.25%. The total number of units issued is 1 000 000. What would be the price of the unit to a prospective investor? (4)

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**Formative Activity 7**

You have been asked by an investor to advise on how to select a suitable unit trust. Please advise the client on the important aspects to look out for in a unit trust (4)

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# **LEARNING UNIT 7: ALTERNATIVE INVESTMENTS**



**Learning Outcomes**

By the end of this learning unit and having completed all the formative assessment activities, you will be able to:

* Discuss what is meant by alternative assets and their role in investment management
* Discuss the risk return profile of hedge funds and their role in investment management
* Discuss the risk return profile of private equity and its role in investment management
* Discuss the risk return profile of derivatives and their role in investment management
* Discuss the risk return profile of commodities and tangible assets and their role in investment management
* Discuss the risk return profile of real estate and their role in investment management.

**INTRODUCTION**

Alternative assets are assets that do not fall into the traditional asset categories that is equity, listed property, bonds and cash investments. Private equity, hedge funds, derivatives, commodities and intangible assets and real estate are defined as alternative assets. Alternative assets are more complex in nature and have less transparency due to less stringent regulation and carry a higher degree of risk compared to conventional assets. Despite the higher risk, there is an increasing flow of funds into alternative assets as they offer higher potential returns. They also have a low correlation with returns from traditional assets and thus offer a diversification opportunity to investors. We look at the different alternative asset options for investors in this section.

**7.1 Hedge Funds**

A hedge fund is a pooled investment that shields the investors in a portfolio of assets from market volatility and at the same time generate returns in different market conditions. In South Africa, there two types of hedge funds namely the Retail Investor Hedge Fund (RIHF) which any investor can invest in and the Qualified Investor Hedge Fund (QIHF) which is designed for sophisticated mainly institutional investors with considerable knowledge on financial market dynamics. The latter has less stringent regulations for investor protection as it is focused on professional investors with in-depth market knowledge. Hedge funds exist to manage downside risk for portfolios and at the same time generate above average returns for investors. Additionally, the low correlation with traditional asset returns provides an opportunity to diversify risk.

**7.1.1 Legislation of Hedge Funds**

Because they are a pooled investment such as a Collective investment scheme, hedge funds are regulated by the Collective Investment Schemes Control Act (CISCA). A hedge fund needs to register with the FSCA first before it can solicit for investments from the public. Hedge funds for the purposes of registration are defined as a CIS whose strategy can lead to losses greater that its aggregate market value and these strategies encompass leverage or net short positions amongst others. The FSCA focusses regulation on hedge funds to minimize losses as there have a complex structure, carry credit counter party risk, are less transparent and less liquid in nature. As a result of this, they are a high risk investment but have a potential of very high returns. The following are elements of hedge funds that the FSCA focusses on in terms of regulation:

* **Management of Liquidity risk:** Hedge funds have greater liquidity risk than a traditional CIS. The fund must at all times demonstrate its ability to repurchase units from investors who want to exit the investment. An RIHF is obliged to repurchase units at 30-day calendar notice and within 90 days for a QIHF.
* **Management of counterparty credit risk:** Due to the high risk of default risk, a hedge fund is restricted to 30% exposure of its market value to a counterparty for over the counter (OTC) derivatives except if the counterparty is a bank in which case, it can have 100% exposure (this is informed by the strict capital adequacy requirements that banks have to meet).
* **Regulation on leverage:** Leveraging is defined as the use of derivatives, short positions and borrowing capital which increases exposure beyond the capital invested. QIHF have more leeway in certain limits on the exposure they may have whilst RIHFs are limited to 200% of capital employed or 20% of value at risk where applicable (VaR).
* **Asset Class limitations:** The FSCA restricts the assets that a RIHF can invest in securities, participatory interests in other hedge funds and OTC derivatives as long as these do not impact on the liquidity obligations of the fund. Further securities that require physical delivery of commodities, investments in physical property and private equity are not permitted. QIHFs have no prescription on the assets that they can invest in (except that a fund of funds cannot invest in another fund of funds), but they must do so prudently with due regard to liquidity obligations.
* **Valuation of Hedge fund portfolios:** Both RIHFs and QIHFs must be valued in line with the manner in which the different assets in the portfolio are managed. The valuation must be validated by the Trustee in the case of a RIHF and an independent administrator (in the absence of an appointed Trustee) in the case of a QIHF.
* **Disclosure requirements:** In order to increase transparency, hedge funds are required to disclose their strategies, fees, TERs, level of leverage and asset allocation and other important information to current and potential investors to enable them to make informed decisions.

**7.1.2 Hedge fund strategies**

**7.1.2.1 Long/Short directional strategy**

The fund goes long(buys) the shares of a company that is predicted to outperform (company A) and goes short on the shares of a company that is predicted to underperform (company B) for the same value. To go short means the company enters into a contract to sell the shares of company B at a predetermined price.



Hedge fund XYZ employs a long/short position to hedge against market uncertainty. It decides to take buy shares of company A for R200 000 and short sells the shares of Company B for R200 000 in 3 months’ time. In three months, the shares of A have gone up by 30% whilst Company B’s price has gone up by 25%. Has the fund made a gain or loss in this scenario?

Solution:

The Below table summarizes the investor’s position after 3 months:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Company | Position | Value at inception | Value after 3 months | Gain/Loss |
| A | Buys | R200 000 | R260 000 | R60 000 |
| B | Short sells | R200 000 | R250 000 | (R50 000) |
| **Net position** |  |  |  | **R10 000 Gain** |

The fund would have to sell the shares of A and make R60 000 gain. It would have to sell the shares of B at R200 000(contract price) for shares that are valued at R250 000 which would be a loss of R50 000. The net position of the fund would be a R10 000 gain.

What if there was a bear market and Company A lost 20% of its value and Company B lost 30%. Would the fund have made a loss or gain?

Below is the investor’s position under in this scenario:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Company | Position | Value at inception | Value after 3 months | Gain/Loss |
| A | Buys | R200 000 | R160 000 | (R40 000) |
| B | Short sells | R200 000 | R140 000 | R60 000 |
| **Net position** |  |  |  | **R20 000 Gain** |



The above strategy is also called a market neutral long/short position as the long position is fully hedged. The returns in this strategy will depend purely on the fund manager’s asset selection capabilities.

In contrast, a net long position means the manager’s long position is not fully hedged that is the short position is not equivalent to the value of the long position.

**7.1.2.2 Merger Arbitrage**

This strategy entails the fund manager buying the shares of the target company and short selling the shares of the acquiring company at a ratio equivalent to the price that the acquiring company is paying to acquire the target. The shares of the target company will be trading at a different price to the post-merger price, and this provides an arbitrage opportunity for the hedge fund.

**7.1.2.3 Convertible Arbitrage**

The hedge fund explores arbitrage opportunities by going long convertible bonds that convert into ordinary shares and shorts shares of the same value. A delta neutral position is sought where the bond and stock price movements offset each other.

**7.1.2.4 Event-Driven Arbitrage**

An event driven strategy involves anticipating corporate events such as liquidation or insolvency of a firm and taking a position to benefit if the event occurs. A good example is for the fund to buy the senior debt of a distressed company before liquidation and hoping to get paid out in the event of liquidation.

**7.1.2.5 Credit Structure Arbitrage**

In this scenario, hedge fund managers capitalize on the difference between the relative values of senior and junior debt to make arbitrage profits. Another strategy is to trade in the securities of equivalent credit quality from different issuers or different tranches of mortgage-backed securities and collateralized debt obligations. Credit arbitrage pays off in narrow credit spread environments but can incur huge losses when credit spreads increase in different economic conditions.

**7.1.2.6 Fixed income Arbitrage**

Fixed income arbitrage strategies exploit price differences in the government bond yield curve. Where there is an expectation of a rise in long term interest rates (and a fall in the price of long dated bonds) for example, the hedge fund manager would short sell long term bonds and take a long position in shorter dated government bonds.

**7.1.2.7 Short only Arbitrage**

The premise of a short only strategy is that the market will always have overvalued securities and all it takes is to identify overvalued securities and short sell them and, in the process, make arbitrage profits.

**7.2 Private equity as an alternative investment**

Private equity investment funds invest in private companies that are not listed on public company stock exchanges or buy listed companies and subsequently delist them. The funds for investment are pooled from both institutional and retail investors. Limited partners in a private equity set up, own the bulk of the shares but have limited liability whilst general partners own an insignificant portion but are tasked with the day to day running of the fund. Private Equity funds typically target distressed companies that have a potential to be turned around and are typically long term investments. The benefits of private equity are as follows:

* For investee companies, private equity may provide a more cost-effective funding model compared to bank loans or through listing.
* Private equity provides a funding opportunity to startup companies with brilliant ideas who traditionally would find it hard to access financing due to no track record.
* The returns to investors can be typically high but it also carries significant risk.

The drawbacks of private equity can make private equity a risky investment as discussed below:

* There is no ready market to buy the shares of private companies. As such it carries significant liquidity risk.
* The pricing of private equity transactions does not have the same transparency as publicly listed entities. This increases the uncertainty and risk of the investment

**7.2.1 Private equity strategies**

Private equity fund managers employ different strategies to acquire firms with potential profitability. The most common strategies are as follows:

**7.2.1.1 Leveraged buyout (LBO)**

This is one of the most popular strategies for acquiring private equity stakes. The strategy here involves the private equity firm raising funds to acquire the target through a combination of equity contributions by the private equity partners and the raising of debt by a financial sponsor. Typically, the private equity company approaches a financial sponsor to finance the acquisition of the target company and has to demonstrate that the company to be acquired can be profitable to meet its debt obligations. The debt-to-equity ratio in an LBO ranges from 60% - 90%. The limited partners benefit from a non-recourse loan (no personal liability) to finance the acquisition whilst the financial sponsor benefits if the acquired firm is profitable as it would have contributed the bulk of the acquisition funds. As soon as the target has been acquired, the private equity firm embarks on strategic reorganization of the acquired firm and this may include changes in the management structure, reduction of workforce and/or the sale of assets. At some point in time, the private equity firm will exit the investment when the value of the acquired company exceeds its value at acquisition. The financial sponsor would be paid off from the proceeds of the sale with the private equity firm pocketing capital gains after all costs have been settled. An LBO can be profitable if structured properly and things go according to plan but can be risky if the turnaround strategy does not work where the leverage magnifies the losses.

**7.2.1.2 Mezzanine financing**

Small companies may not have the track record and muscle to access finance at attractive interest rates from financial institutions. One way that a company in this scenario can raise capital is through the use of mezzanine capital from a private equity firm. This term refers to a form of financing through subordinated debt or preference shares. This debt is junior to other forms of senior debt in the company’s capital structure and only rank higher to ordinary shares. In return for the lower ranking of the debt, mezzanine capital debt holders will require a higher return on the debt compared to senior debt holders.

**7.2.1.3 Growth financing**

Mature companies which have a profit-making track record may sometimes find themselves with a short term liquidity crunch where they are not able to fund new expansions and acquisitions. Due to lack of capacity at that point in time, such companies may find it a challenge to raise debt in a cost-effective manner. A way to around this is to rope in a minority equity partner that will provide equity finance for minority shareholding in the company as mature companies often prefer not to relinquish control of the company. The benefit to the current shareholders is a reduction in the debt-to-equity ratio as well as the spreading of the risk of the new venture to additional shareholders.

**7.2.1.4 Venture capital**

This is the financing of new innovative ideas by startup companies that need significant financing in order to bring their ideas to life. The financing can take place at different stages of the start up’s life cycle ranging from the launch to late stage. A start up faces the unenviable task of raising capital with proven track record to back it up and this makes access to debt markets virtually impossible. Faced with these obstacles, the startup may rope in a venture capitalist whose required rate of return will be high given the risk involved in investing in a start up with no proven track record. In the past few years, venture capital transactions have focused on the fast-growing industries of technology, healthcare and biotechnology.

**7.3 Derivatives as an asset class**

A derivative is an asset whose value is derived from the value of an underlying asset. The underlying assets are most often shares or indexes of shares, bonds or bond indexes, interest rates, currencies, and commodities. Derivatives are traded over the counter (OTC) or on public exchanges. The latter are more regulated than over the counter derivatives.

Derivatives are used to mitigate risk by hedging positions in an underlying asset, to make speculative gains or to provide gearing (leverage) to a portfolio. The following are the common forms of derivatives:

**7.3.1 Futures**

Futures are standardized contracts between two parties where one agrees to purchase and the other to sell and an asset at predetermined price at a future date. Futures are traded on exchanges and the underlying asset can range from commodities to stocks and fixed income instruments. They are primarily used to hedge price uncertainty or for speculative reasons by investors.



Let us suppose that company XYZ uses crude oil in its production process and is worried that the price of oil may rise in a year’s time. Let us suppose as well that the price of the oil is currently US$30 per barrel. The company could hedge the risk of escalating oil prices by buying (going long) a futures contract where it will buy oil in a year’s time for say US$35. The party that shorts the contract will be under obligation to deliver the oil at the agreed price. If in a year’s time the oil price goes up to US$40 per barrel, XYZ Company would have made a profitable hedge. However, if the oil price drops to say US$25, XYZ is still under obligation to buy the oil at US$35 and the hedge would not have been profitable.

**7.3.2 Forward contracts**

Forward contracts are similar to futures contracts with the major difference being that they are not standardized and not traded on exchanges like futures. As a result of lack oversight by exchange regulators, they carry counterparty risk where one party to the contract might fail to honour the contract.

**7.3.3 Swaps**

A swap is a derivative where one cash flow is exchanged for another. It is often used to hedge risk that a party to the swap is exposed to. Most common swaps are based on currency cash flows and interest-bearing instruments.



Let us suppose that company XYZ has borrowed R1 000 000 at a floating/variable interest rate from the bank (this means that the interest rate will change as interest rates change). Suppose as well that the current variable interest rate on the loan is 5%. XYZ is concerned that interest rates may go up which would increase its interest expense. In order to hedge this risk, it enters into a swap contract with company ABC to pay to ABC a fixed interest of 5% of R1 000 000 which is R50 000 for the term of the loan. In return, ABC would pay a variable rate based on R1 000 000.

If the interest rate goes up to 6%, XYZ would pay R50 000 to ABC and receive R60 000 from ABC to pay its debt obligation of R60 000. In this case, XYZ has effectively converted its variable interest debt to fixed interest.

**7.3.4 Options**

An option is an agreement between two parties which gives the buyer of the option the option to buy or sell an underlying asset at a predetermined future date at an agreed price (called the strike price). The buyer has the option but is under no obligation to meet his/her side of the contract. Because of this, the buyer pays the seller a price called the option cost.

A **put** option gives the buyer of the option the right to sell an underlying asset to the option seller at a predetermined strike price at a predetermined date. The buyer of the option pays an option price to the seller at the date that the option is sold.



Let us suppose that investor A owns 1 000 shares of company ABC. Investor A believes that the market may decline and that the shares of ABC could be below R60 at the time that he wants to sell in a year’s time. He buys a put option from an option seller that gives him the option to sell the shares for R60 in a year time at an option price of R1 000.

If the shares of ABC are valued at R50, investor A will exercise his option and sell them for R60 and make R10 per share. His gain would be R10 000 but after taking into account the option price, he would have made a net gain of R9 000.

If the shares of ABC are valued at R70 on the exercise date, it would not make sense to sell at the exercise price of R60. The put option would not exercise and the loss would be limited to R1 000 exercise price paid to the option seller.

A **call** option gives the buyer of the option the right to buy an underlying asset from the option seller at a predetermined strike price at a predetermined date. The buyer of the option pays an option price to the seller at the date that the option is sold.



Let us suppose that investor A forecasts a bull market. He decides to buy a call option for 1 000 shares of company ABC at an exercise price of R60 in a year’s time. The option price is R1 000.

If the shares of ABC are valued at R70 at expiration, investor A will exercise his option and buy them for R60 and make R10 per share. His gain would be R10 000 but after taking into account the option price, he would have made a net gain of R9 000.

If the shares of ABC are valued at R50 on the exercise date, it would not make sense to buy the shares at the exercise price of R60. The put option would not exercise and the loss would be limited to R1 000 exercise price paid to the option seller.

**7.4 Commodities as an asset class**

A commodity is a good that is used as an input in the production of other goods and services and basically bears the same characteristics regardless of the producer of the commodity. Examples of commodities are grain products like maize and wheat, gold, oil and natural gas. Traditional commodities are traded through derivative products such as futures and forwards and these derivatives are mainly used by producers and sellers of commodities as a hedge against uncertainty in the future prices. Speculators who have no intention at all to deliver or take delivery of the commodity are active participants in the commodity market as they seek to make speculative gains form uncertain future prices of commodities.

An investment in commodities, can provide value to the investor in the following ways:

* In inflationary periods, commodities are seen as a hedge against inflation. This is because a rise in prices generally across the economy means the rise of commodities which are used as input in the production process. Additionally, the prices of commodity producing companies usually rise in periods of inflation.
* Commodity prices typically have a negative correlation with traditional asset classes. This makes them a good tool in diversification of portfolio risk.

However, the risks of investing in commodities are very high given the fact that they are mainly traded through derivatives which introduces gearing into the investment which can result in huge losses if the anticipated market movements do not occur.

**7.5 Real Estate as an asset class**

Real estate is land including the natural resources on it and/or buildings on the land. Real estate is thus a tangible investment and can be broken down into the following categories:

* Commercial property: Houses commercial activity that is the provision of goods and services and includes office buildings and warehouses amongst others.
* Residential property: Used for residential purposes
* Industrial property: Property used for the production of goods and services such as factories and mines.

One can invest in property directly or through publicly traded securities such as Real Estate Investment Trusts (REITs) or mortgage-backed securities that give the investor a right to debt repayments from mortgage holders. The advantage of investing in real estate are as follows:

* They offer a steady stream of income in the form of rental payments to the investor.
* The investor can gain from capital appreciation in the long term when the property is eventually sold.
* It offers diversification opportunity from traditional asset class returns thus mitigating risk.

However, the investor should be wary of the following pitfalls of real estate:

* It is essentially an illiquid investment and finding the right buyer for the investment can prove to be a challenge.
* The investment is largely influenced by factors beyond the investor’s control such as changes in land use and local developments.
* Direct property investment is out of reach for the small investor unless if the investor is eligible to borrow from financial institutions. The finance costs can be quite high especially in a high interest environment.
* Direct property investments may entail high maintenance costs as well as a devotion of the investor’s time in actively managing. This may not be an attractive option for an investor who does not have the time.

When one buys a piece of commercial or residential real estate, there are notable advantages and disadvantages that should be examined before a commitment is made.

The advantages are as follows:

**a) Sweat equity:** One of the best things about owning real estate is that the value of the asset is at least partially controllable by the owner. In other words, an owner can repair a roof, put on a fresh coat of paint, or otherwise beautify a house or building.

**b) Diversification:** A real estate asset can be an ideal way to truly diversify a portfolio that is otherwise filled with stocks, bonds and a smattering of gold and silver.

**c) Not tied to securities markets:** Compared to the securities markets, real estate is generally untied to what the major world markets do. Stocks, bonds, and precious metals go their own way and have their own cycles, but real estate assets are for the most part isolated from the ups and downs of the stock markets.

The disadvantages are as follows:

**a) Costly to acquire:** For reasons of cost and availability, it can be difficult to buy several real estate assets that have diversity amongst themselves. Because the average cost of just a single piece of real estate is much higher than the cost of a group of stocks.

**b) Management and Maintenance Costs:** Whether an investor hires a management company to take care of day-to-day administration of property or not, there is a significant cost to maintaining a property and dealing with tenants.

**c) Measurement of results:** Because every real estate asset is, to some extent anyway, unique, it’s nearly impossible to measure performance on a regular basis.

**8.5.1 Listed property**

Listed property refers to companies listed on a stock exchange whose primary business is to develop and manage property of various types. Investors in listed property have a choice of exposure to residential, commercial and office property. The following are the characteristics of listed property investment:

* As opposed to investment in property directly, the investor benefits from owning property without the hassle of active management of the property portfolio as required when one invests directly.
* Listed property is a highly liquid investment that is tradeable on the secondary market, and this eliminates the liquidity concerns that investors who invest directly in property have.
* Returns from listed property investments are two pronged. There is potential for capital gains when share prices rise and on the other hand the investor benefits from income distributions from the listed company. This makes the investment attractive to investors looking for an income that is higher than money market returns but at the same time provides capital growth to cushion the investor from inflation. The income distribution by listed property is more reliable than dividend distributions by other listed companies as it is underpinned by rental income. This makes listed property investments less risky than equity. Additionally, the combination of income distributions and capital gains adds a diversification effect that reduces the risk of investing in listed property. In this regard, listed property combines the characteristics of equity and bonds. This explains why it is listed as a separate asset class when categorizing the different options for investors.

Investments in listed property are suitable for investors with a medium to high risk tolerance requiring to balance long term growth and income.

* An additional protection for investors in REITs is the requirement for them to pay 75% of distributable profits to shareholders. This makes the income distribution more certain than the dividend distribution from other listed companies.



**Formative Activity 1**

There are two types of hedge funds in South Africa. Which ones are these and what is the difference between the two? (4)

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**Formative Activity 2**

What are the regulatory requirements in place in order to manage liquidity and counter party risk for hedge funds? (4)

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**Formative Activity 3**

Convertible, event-driven and credit structure arbitrage are some of the strategies used by hedge fund managers to generate returns. Briefly describe each of these strategies (6)

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**Formative Activity 4**

Private equity has grown as an asset class over the past few years in South Africa. What has made this asset class an attractive source of financing for unlisted corporates? (4)

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**Formative Activity 5**

What is the similarity and the major difference between forward and futures contracts? (4)

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**Formative Activity 6**

Describe the features of a put option (3)

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1. See Old Mutual’s Long Term Perspectives 2021 (page 13). Available at: https://eu-assets.contentstack.com/v3/assets/bltf97ab615862b2667/blt9d4e29f905f19461/607817b089bc2147726be495/Long-term\_Perspectives\_2021\_-\_Low\_Res.pdf [↑](#footnote-ref-1)
2. Zeman, Ned. 1990. Death odds. *Newsweek*, September 24, 116(13): 10 [↑](#footnote-ref-2)
3. The penchant to carry on with a behaviour or an activity as a result of previously invested resources [↑](#footnote-ref-3)