# UNIT STANDARD 7468

#### Unit Standard Title

Use mathematics to investigate and monitor the financial aspects of personal, business, national and international issues

#### NQF Level

4

#### Credits

6

#### Purpose

This unit standard will be useful to people who aim to achieve recognition at some level in Further Education and Training or to meet the Fundamental requirement of a wide range of qualifications registered on the National Qualifications Framework.

The qualifying learner will be able to:

* Use mathematics to plan and control financial instruments including insurance and assurance, unit trusts, stock exchange dealings, options, futures and bonds
* Use simple and compound interest to make sense of and define a variety of situations including mortgage loans, hire purchase, present values, annuities and sinking funds
* Investigate various aspects of costs and revenue including marginal costs, marginal revenue and optimisation of profit
* Use mathematics to debate aspects of the national and global economy, including tax, productivity and the equitable distribution of resources

#### Learning assumed to be in place

There is open access to this unit standard. Learners should be competent in Communication and Mathematical Literacy at NQF Level 3.

#### Unit standard range

This unit standard covers:

* insurance and assurance, unit trusts, stock exchange dealings, options, futures and bonds.
* mortgage loans, hire purchase, present values, annuities and sinking funds.
* Aspects of costs and revenue include: marginal costs, marginal revenue and optimisation of profit
* exchange rates, imports, exports, comparative effectiveness of currency in relation to remuneration, monetary policy and the control of inflation.

#### Specific Outcomes and Assessment Criteria

**Specific outcome 1**: Use mathematics to plan and control financial instruments.

* Assessment Criterion 1: Plans are sufficient to ensure effective control of financial instruments.
* Assessment Criterion 2: Calculations are carried out using computational tools efficiently and correctly and solutions obtained are verified in terms of the context
* Assessment Criterion 3: Measures used for control purposes are appropriate to the need and are in line with control plans.

**Specific Outcome 2**: Use simple and compound interest to make sense of and define a variety of situations.

* Assessment Criterion 1: The differences between simple and compound interest are described in terms of their common applications and effects
* Assessment Criterion 2: .Methods of calculation and approximations are appropriate to the problem types
* Assessment Criterion 3: Computational tools are used efficiently and correctly and solutions obtained are verified in terms of the context or problem

**Specific outcome 3:** Investigate various aspects of costs and revenue.

* Assessment Criterion 1: Values are calculated correctly
* Assessment Criterion 2: Mathematical tools and systems are used effectively to determine and describe the relationships between the various aspects of cost and revenue.
* Assessment Criterion 3: Terminology is used in the correct context
* Assessment Criterion 4: Reasonable methods are described for the control of costs and optimisation of profits in relation to given data

**Specific outcome 4:** Use mathematics to debate aspects of the national and global economy.

* Assessment Criterion 1: Values are calculated correctly
* Assessment Criterion 2: Mathematical tools and systems are used effectively to determine and describe the relationships between the various aspects of cost and revenue.
* Assessment Criterion 3: Debating points are based on well-reasoned arguments and are supported by mathematical information.

#### Unit Standard Essential Embedded Knowledge

* Budgets
* Terminology and definitions associated with financial situations
* Estimation and approximation
* Compound increase and decrease.

#### Critical Cross-field Outcomes (CCFO)

* Learners can identify and solve a variety of numerical and financial problems using critical and creative thinking.
* Learners can gather, organise, evaluate and interpret financial information to plan and make provision for monitoring budgets and other financial situations
* Learners can use everyday language and mathematical language to describe relationships, processes and problem solving methods.

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| Programme Structure And Strategy 7468 |
| **UNIT STANDARD 7468 Level 4** |
| **Credits 6: notional hours 60, classroom training 18 hours, workplace hours 42** |
| **Programme Outcomes** | **Page2** | **Outcomes**  | **Time Allocation** | **Delivery strategy** | **EEK** | **CCFO** | **Formative Assessment** | **Summative Assessm: total time 42 hours****Questionnaire****Workplace assignments** |
| INTRODUCTION | 10 |   | Introductory activities: 60 minutes | Discussion  |  |  |  |  |
| Programme Overview | 10 |   |   |   |   |   |
| Personal objectives and expectations | 11 |   |   |   |   |   |
| **UNIT STANDARD 7468** | 93 | SO1 |   |   |   |   |
| **Section 1: PLAN AND CONTROL FINANCIAL INSTRUMENTS** | 95 |   | 128 minutes | Discussion & slide show |   |   |   |  |
| Financial independence | 96 | AC1 |   |   |   |   |  QuestionnaireWorkplace:Assist your manager to develop a budget for your department  |
| Budgeting | 100 | AC2 |   |   |   |   |
| The Debt Trap | 105 | AC3 |   |   |   |   |
| Formative Assessment 1 | 106 |   | 30 minutes |   |   | Individual acitivty: Budgeting |

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| Savings And Investments | 107 |   |   |  |   |   |   |  QuestionnaireWorkplace: Find out from a bank how the interest on fixed deposits has increased/decreased over the past 18 months. You invested an amount of R15000 18 months ago. Calculate what your annual income would have been then. Calculate what your annual income would be now. By how much has your annual income increased/decreased? Would you agree with me if I state that higher interest rates benefit pensioners? Motivate your answer |
| Property | 113 |   |   |   |   |   |  QuestionnaireWorkplace:  Interest rates have increased over the past year. Find out what the prime rate is that is charged by banks. Calculate the size of the home loan you can afford at the current prime interest rate. What will the size of the loan be and how much will your monthly repayments be? |
| Formative Assessment 2 | 117 |   | 30 minutes |   | Collecting | Individual activity: Repayment of loans |
| Buying a car | 118 |   |   |   | Communicating |   |  Questionnaire |
| What Is The Purpose Of Insurance? | 119 |   |   |   |   |   |  Questionnaire |
| Shares | 120 |   |   |   |   |   |  Questionnaire |

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| **Section 2: SIMPLE AND COMPOUND INTEREST** | 122 | SO2 | 128 minutes | Discussion & slide show |   |   |   |   |
| Interest | 123 | AC1 |   |   |   |   |  Questionnaire |
| Formative Assessment 3 | 123 |   | 30 minutes |   |   | Individual activity: Interest |   QuestionnaireWorkplace: for all the above,also see assignments for previous section where interest and depreciation is calculated |
| Formative Assessment 4 | 126 |   | 30 minutes |   |   | Individual activity: Investment |
| Formative Assessment 5 | 127 |   | 30 minutes | N/A |   | Individual activity: Investment |
| Effective and Nominal Interest Rates | 128 | AC2 |   |   |   |   |
| Depreciation And Appreciation | 129 | AC3 |   |   |   |   |

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| **Section 3: COSTS AND REVENUE** | 131 | SO3 |   | Discussion & slide show |   |   |   |  Analyse the income and expenditure of your department for the past year. Increase the income by 10% and each expenditure item by 7%. Write down your results. Make at least two suggestions on how to reduce expensesBy how much did the wages increase? How much extra income must be generated to pay this increase? Make suggestions how to increase the income of your department.Compare the previous two year’s income and expenses for your department. Make a summary of the variances and investigate the results of the variancesYour employer has offered an increase of 6% but the union demands and increase of 10%. Calculate how much income you will lose if the employees in your company went on strike for 14 days and the rule of no work no pay appliesYou have to calculate the impact that an increase of 10cents on the petrol price has on the expenses of the organisation |
| What Is A Business? | 132 | AC1, 2 |   |   |   |   |
| Costs | 133 | AC3, 4 |   |   |   |   |
| Formative Assessment 6 | 135 |   | 30 minutes |   |   | Individual activity: Profitability |
| Formative Assessment 7 | 144 |   | 30 minutes |   | Identifying | Individual activity: Questionnaire |
| Formative Assessment 8 | 145 |   | 30 minutes |   |   | Individual activity: Explain terms  |

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| **Section 4: NATIONAL AND GLOBAL ECONOMY** | 147 | SO4 | 128 minutes | Discussion & slide show |   | Gather, organise, evaluate and interpret  |   |   |
| What is Inflation? | 148 | AC1 |   |   |   |   |  QuestionnaireWorkplace: see previous activities  |
| Formative Assessment 9 | 151 |   | 30 minutes |   |   | Individual activity: Rule of 72  |
| Taxes | 152 | AC2 |   | N/A |   |   |  QuestionnaireWorkplace:  Government should use taxes to pay for infrastructure, welfare, etc. If government were to increase the social benefits paid to children by R20 and there are, for example 3,845,684 children receiving this allowance, how much extra would the allowances cost? If the allowance paid is R210 per child, what would the total allowances cost the country? Where would government get the money from?Of the number of children receiving allowances from government, 15% are fraudulent claims. Calculate the number of fraudulent claims. Calculate the cost to the country of these fraudulent claims. Make a suggestion on where government should spend this money if it was possible to get it back from the fraudsters. |
| National And Provincial Budgets | 155 | AC3 |   |   | Everyday lang-uage and mathematical language |   |
| Formative Assessment 10 | 157 |   | 30 minutes |   |  | Individual activity: Government money |
| National Economic Planning | 157 |   |   |   |   |   |
| Formative Assessment 11 | 159 |   | 30 minutes |   |   | Group activity: Discussion |
| Foreign Exchange | 160 |   |   |   |   |   |
| Formative Assessment 12 | 162 |   |   |   |   | Individual activity: Foreign exchange |
| Formative Assessment 13 | 163 |   | 30 minutes |   |   | Individual activity: Foreign exchange |
| Formative Assessment 14 | 164 |   | 30 minutes |   |   | Individual activity: Foreign exchange |

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| **Revision**  |  |  | **60 minutes** |   |   |   |   |   |
| **Summative questionnaire** |  |  | **90 minutes** |   |   |   |   |   |
| **Notional Hours** |  |  | **18** |   |   |   |   | **42** |

# PLAN AND CONTROL FINANCIAL INSTRUMENTS

#### Specific outcome

Use mathematics to plan and control financial instruments

#### Assessment criteria

* Plans are sufficient to ensure effective control of financial instruments.
* Calculations are carried out using computational tools efficiently and correctly and solutions obtained are verified in terms of the context
* Measures used for control purposes are appropriate to the need and are in line with control plans.

## Financial independence

* Why will only 8% of people become financially independent one day?
* Why will the other 92% fail?

These questions are continually asked and, more often than not, it's the person who's more likely to become financially independent one day, or who already is, that is asking these questions. Some people will never become financially independent. That's a fact of life. Others might have a brief flurry of wealth, either through sheer good luck or an inheritance.

Thereafter the chances of them losing that wealth is real. "An ignorant fool and his money are soon parted." Today that statement is as true as it will ever be.

How often do you hear about people who win a large sum of money on the horses or at the gambling tables? But look these people up five years later and, unfortunately, very few will have anything to show for their windfall.

**Are they unlucky, bad with money and investments, or what?**

To answer your question, let's consider 100 teenagers aged 15 and think about where they will be in 50 years, i.e. aged 65.

* 38 will be dead
* 62 will be alive
* Of those 62 that are alive, 38 will be dead broke
* 16 will still be working
* 7 will be retired on a liveable income
* 1 will be wealthy

**Of those 100 people only 8% will reach financial independence.**

### Five Reasons Why 92% Fail

#### Lack of Knowledge

The first problem financial losers have is a lack of knowledge - usually coupled with a lack of desire to gain that knowledge. This often stems from low self-esteem and a feeling that, due to their lack of ability, or because they were not born to a wealthy family, there is no chance for them anyway.

There is another large body of people who simply do not care. If you put a full-page advertisement in the paper saying that the richest man in the world will be giving out the secret of wealth in front of the City Hall at midnight, they could not be bothered getting out of bed.

Most people simply don't know where to go for advice. So for want of better advice, they usually turn to their friends in the pub or their colleagues.

It is likely that none of these people have ever been financially successful themselves, so they have little chance of giving the right advice.

Another problem with financial advice is that most people giving it have a vested interest and this makes the chances of receiving UNBIASED advice less likely.

#### Lack of Foresight

We all need money to live on, but it can only come from three sources:

* From our own work.
* From our money working for us.
* From government pensions or charity.

If you do not want to be dependent on the government or charity, you will either have to carry on working or get your money working for you.

Unless you are fortunate enough to be left a legacy, the only money you will ever have working for you is that which you save and invest from your current income.

That is why the main element of financial planning is to siphon off part of all current income and invest it where it can multiply in tax-favoured growth investments such as pension funds, retirement annuities or provident funds. Financial losers can never see the need to do this.

#### "Must have it Now" Mentality

The **major** secret of becoming financially independent is to live within your means and this is like dieting, it **sounds** easy, but is **very hard** in practice.

Why is this so? Because from the day we are born everything around us conditions us to want it **now.** As soon as a baby cries, Mum or Dad are standing there with the bottle.

Children can't wait for Christmas or a birthday to come, so that they can unwrap those exciting presents. In adult life the human instinct is still there, but the temptations are even greater.

In almost every section of the media, the advertising screams to us:

*"Don't wait - buy today - charge it up - put it on lay-by"*, which all gets back to one theme –

HAVE IT NOW - PAY FOR IT LATER.

One of the tricks of becoming financially independent is to be able to read the meanings between the lines: Let's translate the above.

**Buy Now what you can’t afford, in the hope *that you can pay for it later.***

#### Borrowing for things that depreciate

It is in the area of **"Spending and Borrowing Priorities"** that we really notice the difference between financial losers and financial winners. The winners have their money in savings accounts, or shares, or property and the like.

If we look at the financial losers' position we find very little savings, loads of expensive furniture being paid off, wardrobes full of clothes and plenty of hire purchase accounts for motor vehicles and assorted appliances.

They have acquired most of their possessions by paying them off at very high interest rates. Thus they have paid **much more for them than their initial cost**.

Goods acquired in this way have very little resale value – the end result is a lot of money spent on items of **no lasting value**.

**Let's look at two case studies:**

Thabo and Aletta are paying rent of R866 per month and decide to buy a smart new motor car for R36 000. They let the motor dealer arrange a loan on the car for them through a finance company. They are told that the interest rate is 19% FLAT. They don't know what that means, so assume it is REDUCING interest. In fact the TRUE RATE IS JUST UNDER 31%. Their monthly payments are R1320 per month for four years. In addition they have to pay R866 per month for rent. Their monthly payments total R2 186. At the end of four years, they have spent R104 928 in rent and car payments and own a second-hand car worth

R20 000, if they are lucky.

Now consider Mandla and Jackie who buy a R110 000 house with a R100 000 loan. If they voluntarily pay R2 186 monthly off the loan (that is no more than the other couple are paying) the bond will be down to R36 902 at the end of four years. Obviously these figures change depending on the rate of interest payable on the bond. If the house gains value at 12% per annum, it will be worth R157 336 at the end of that time.

You can now vividly see how varied spending and borrowing priorities can make such a difference to the start that two different couples can give themselves. Their incomes are the same and their monthly payments are the same. Yet, at the end of four years, Mandla and Jackie are very well off and the other couple have NOTHING to show for four years' work.

#### No Plan and No Goals

It is surprising how few people have a plan for living. Most people have a plan for dying - a will - but have never bothered to plan their lives to achieve financial independence. It would not be an exaggeration to observe that the majority of people live from day to day much of the time. This does not mean that they don't wish for things - people do this all the time, saying "I wish I had a better job" or "I wish I could afford to live in a bigger house". Wishing is fine, but it is only turned into concrete fact by planning, determination and effort.

Those who have achieved financial comfort will agree that the results of establishing a plan for living are extremely powerful. Not only do you know exactly where you want to go, but you start getting there fast. Your job has a purpose beyond keeping you clothed and fed. You and your partner develop a more harmonious relationship because you have common goals. If you have children they will benefit both materially and emotionally. Your career will take off like a rocket, or else you will find yourself switching to a job and career more to your liking. All of these things will go on regardless of economic circumstances, because you will have what the psychologists call "inner direction".

Once you have thought hard about your goals and prioritised them, you should write them down in a place where you can refer to them frequently. It is important that you do so on at least a daily basis.

If mentally you are thinking constantly about what you want to achieve, then you are pouring energy into that goal, and it will soon become a reality. Through daily referrals your desire for the goal will also be strengthened, which will enable you to achieve it that much more quickly.

If you are serious about becoming well off financially, you will need to master the art of setting goals. If you can do that (and it is not difficult), your success is guaranteed.

##### Make sure your goals are S M A R T

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| **S** | SPECIFIC |
| **M** | MEASURABLE |
| **A** | ACHIEVABLE |
| **R** | REALISTIC |
| **T** | TIME FRAME |

### Good Money Managers and Bad Money Managers

**Which One Are You?**

|  |  |
| --- | --- |
| Good Money Manager | **Bad Money Manager** |
| Saves something out of everything he earns | Spends all of his earnings |
| Waits and saves up for things that depreciate | Must have it now and will borrow to get it |
| Has a definite goal | Has no goals or plans |
| Works to an individual plan | Blindly follows the crowd |
| Mixes with successful money managers | Mixes with people with similar problems |
| Knows that budgeting is a “must” | Hopes next increase will solve all problems |
| Seeks professional advice | Believes that he does not need advice |
| Is keen to learn | Has no interest in gaining financial knowledge |
| Invests in items that gain in value | Spends on items that lose value |

### Only You Can Make The Difference

Becoming wealthy, is it just a pipe dream? Or is it something afforded to only the chosen few who have some special talent or who enjoy luck? The answer, fortunately, is a clear NO! All the delights of wealth are open to any person, even if one earns an average income or less.

This is so for one simple reason: "As long as you have an income, of whatever level, you have the opportunity to build capital".

Other than the fact that you need an income, of whatever size, all that must now be added is a little planning, some willingness to learn and explore new information and a modest amount of determination.

Any person, on an average salary or less, can achieve financial independence, by defining his or her objectives (goals) and establishing a basic programme of saving and investment.

## Budgeting

What is a Budget?



It has been said that becoming financially well off is not a matter of earning more money, but a matter of using the money you have in a better way. The only way to make the best use of your income is to draw up a money plan. The correct term for it is "budget".

*Budgeting is the prior estimation of your income and expenditure*, enabling you to *pre-plan* your spending with the object of ensuring that you have enough money to pay for your needs as they arise.

The opposite of budgeting is to spend your salary on anything and everything that takes your fancy, only to discover halfway through the month that you have spent it all and have nothing left with which to buy urgent necessities or meet unforeseen expenses.

### Calculate Your Earnings



To calculate your monthly income, draw up a schedule like that illustrated in Schedule A. Fill in your income. This should be simple to work out, it should only be a matter of looking at your last pay slip. If you are married or "share" income, add your partner's income. If you are paid on a weekly basis rather than monthly, multiply your income by four to get your total monthly income. If you are paid fortnightly, multiply your income by two.

This figure is your nett monthly income, and could include things such as overtime, travel allowances, accommodation costs, car or house allowance, etc. Unless you have other income from interest, dividends, rent, etc. this is all you have to live on for the month. The secret of financial success is planning what to do with it.

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| **Monthly Income (Schedule A)** |
| Husband |  |
| Wife |  |
| Other |  |
| Total Income (Net) |  |

### Types of Expenditure

#### Fixed Essential Expenditure

This is expenditure that occurs every month, and the amount cannot be varied by you, e.g. rent, insurances, rates, car registration and telephone rental.

#### Variable Essential Expenditure

These are things that will be hard to do without, but you can vary how much you spend on them by changing the pattern of your lifestyle, e.g. telephone calls, petrol consumption, shopping habits and electricity usage.

#### Discretionary Expenditure

These are things you would like to have but could cut down on or even cut out, if things got very tough, e.g. cigarettes, outings, holidays, gifts and newspapers.

### Drawing up a Budget

For your monthly expenses, draw up a schedule like that illustrated in Schedule B (make photocopies of your basic schedule, to save time in subsequent months).

* In the estimate column, under the heading **fixed expenditure**, list all your expenses.
* Under the heading **variable and discretionary expenditure**, give approximate amounts.
* Add up the various items and insert a sub-total at the bottom of the estimate column.
* Then add ± 5% of the subtotal for **unforeseen costs**, like a heavier than usual petrol bill.
* The resultant total represents an **estimate** of your anticipated expenses for the coming month.
* In the next column, for **actual** expenditure, keep a tally of your actual expenses incurred.
* By writing in exactly when payments are due in the date paid column, you can control your finances even better.

It will be difficult to state **exactly** what you spent on each and every item, such as entertainment, snacks, etc. without keeping books of account for every cent you give out. However, by noting those items on which you *know* the costs incurred, you will probably be able to spot the area(s) in respect of which you have overspent or under-provided.

Use the values inserted in this "actual expenditure" column as your guide for estimating the next months' costs - and so on.

The point of keeping a budget in this form, is that it enables you to provide for each month's expenses, based more or less on the previous month's records. Thereby you are able to avoid ***under-providing* on the one hand, or *overspending* on the other.**

The time taken to fill in your schedule need not be more than a few minutes per month. The effort involved is certainly worthwhile compared with the financial trouble it keeps you out of!

### Budget Example

Arrange the following budget items in the applicable category as set out below in schedule B.

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| telephonetravel costscigarettesschool feesrates & taxesfuneral policies | savingsalcoholhire purchasegroceriesshort-term insurancestokvel | petrollife insuranceentertainmentclothingcell phone | bond or rentretirement annuityvehicle paymentsunforeseen costswater & electricity |

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| **Monthly Expenses** |
| **Expenditure** | **Estimate** | **Actual** | **Date Paid** |
| **Fixed****Expenditure** |  |  |  |
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| **Variable Expenditure** |  |  |  |
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| **Discretionary Expenditure** |  |  |  |
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| **Sub Total** |  |  |  |
|  |  |  |  |
| **Total Expenditure** |  |  |  |

### Where To Cut Back On Spending

Let's look at each area of spending in turn, because the only way to better our financial position is to earn more or spend less. Remember that cutting back on spending is the same as getting an increase.

#### Savings

The importance of saving cannot be over-emphasised. It is the most important item in the budget. If your budget does not include savings you will never grow a money tree.



#### Contingencies

These are the 101 things that crop up that we never foresee - car repairs, house repairs, emergency trips to sick relations, and so on. The amount to be put away depends on your income, but if nothing is provided, the whole budget will be blown when the first emergency arises.

#### Fixed Essential Spending

These expenses cannot be reduced without major adjustments to your way of life. Certainly you could reduce school fees by changing schools, reduce bond payments or rent by moving and eliminate your line rental for your telephone by having the phone cut off. But, generally, these items don't change much.

The best way to meet these is to divide the total annual amount by the number of pay packets, and have that amount put into a special savings account each pay day by your employer.

In the early stages you may strike a period where the bills all come together and exceed the amount in the account. Borrow the shortfall from your bank and pay it back from your next salary. As time goes by the account will stabilise so that you will not have the same problem. In fact, it is a good idea to add a small sum to the regular deductions to provide some extra protection against emergencies.

A handy tip is to not reduce your bond repayment when interest rates decrease. This way you are paying extra on your bond, without actually feeling it in your pocket, and you are also shielding yourself against an increase in interest rates.

#### Variable Essential and Discretionary Spending

It is here that people get into trouble. These are areas where large savings can almost certainly be made and there are plenty of books on budgeting available

for the person who wants to get serious about the subject. What happens is that without a budget everybody tends to overspend in the variable areas. Then there is not enough left over for the fixed expenses and nothing at all for savings.

**The correct way is to take savings out of the pay packet first, then fixed expenses and then variable expenses last of all.**  Perhaps you are saying: "By the time I have put aside 10% for savings, and banked enough to cover my fixed expenditure, there is not enough left over for all the variable expenses". If that is the case, and it probably is, you will have to analyse your variable expenditure and cut back on it. If you don't, you will continue living beyond your means and continue experiencing the pain which doing that brings.

### Reasons For Budgeting

The major reasons for budgeting for your expenses and savings are:

* to avoid getting into a situation in which you find that you have spent more than you can afford, and
* to exercise a measure of discipline over your spending, enabling you to save part of your salary, and accumulate a capital base on which to build the prosperity that you desire for yourself and your family.
* to save money for emergencies
* to save for large items, e.g. furniture, etc.
* to ensure that you can achieve your financial goals

When you come to think about it, isn't this the **only way** for an intelligent person like yourself to set about providing the financial base for his or her life?

## The Debt Trap

"Debt is a humiliation by day and a worry by night"

No one really knows what an affordable level of debt should be, either as total debt, as a percentage of income, or debt repayments as a percentage of income.

**But if you find you are having to borrow more and more each month to maintain your standard of living, you are getting into the danger zone. If you are borrowing money to pay interest on your debt you are in the trouble zone.**

Here are some basic steps to get you out of debt.

* Get rid of your debt, before you try to save or invest.
* Don't hide away from your debt. It will only get worse if you ignore it.
* Work out a budget. List your assets, debts, monthly necessities and extravagances. Strict budgeting cannot only help you get out of debt, but it also helps to prevent debt building up.
* Work out how much you can afford to pay. Talk to the people, to whom you owe the money and restructure the terms of your debt, if possible, to make it affordable. A bank does not want to take you to court, or even worse, get you declared bankrupt. The bank would rather negotiate a new plan.
* Consider where and how you owe money. Different types of debt vary in cost. For example borrowing against your home loan is considerably cheaper than borrowing on your credit card.
* Accept that you will have to make sacrifices as well as possibly have to lower your standard of living (at least for a while).
* Cut out extravagances and stick to your debt reduction plan.
* Finally, do not run up any new debt. Avoid buying anything on credit.

## Savings And Investments

Savings means putting money aside on a regular basis or in lump sums when we are able to do so. Savings therefore is the "collection" or accumulation of capital. The interest rate which we earn on our savings accounts will probably be lower than the inflation rate, which results in our money losing its value slowly.

**On the other hand, investment is the long-term application of our collected or accumulated money, provided it is invested wisely, that grows faster than the inflation rate. It is only through this means that we can increase the real value of our assets.**

"But why then don't we simply invest our money right from the start?" you may ask. The answer is that investment normally involves "tying up" our money in some form where we cannot get at it as readily as if it were in a savings account. While our money is "tied up" for example, in fixed property or shares, it might temporarily drop in value, which means that for a period we will lose money if we withdraw our investment. It may even drop permanently if we made a bad investment.

So, a golden rule to remember is that the most important consideration before investing your money is to appreciate that you dare not invest money that you might need to meet every day living expenses over the next couple of months or years.

For example, if you know that you have to meet a certain expense in nine or twelve months' time, you should place the money with which you plan to do it into a savings account at the highest possible interest rate. Do not consider investing it, for example, in shares on the stock exchange hoping that it will grow rapidly in that period. You might succeed in making a big profit, but you might not - and you will find yourself in a very unpleasant situation when the time comes to pay your debts, and the money with which you had planned to pay them has dropped in value by 25%.

The fact that it might have increased by 40% or 60% a year later won't help you explain to your creditors when they come with a court order to seize your belongings because you were unable to pay your debts on time.

To summarise, **you should only consider investing when you have enough money to meet all your everyday expenses**, have enough insurance to cover you against illness, theft, injury and other possible costs, and have a nest egg put aside to meet unexpected emergencies.

The money which you have in excess of the above, and which will not affect your life adversely if you cannot get it for the next couple of years, is the money which you can safely consider investing.

### What is a well-balanced spread of investments?

Generally speaking, this would entail a spread of investments ranging from **property** to **stock** **market-linked** investments (such as **shares**, **unit trusts**, **endowment policies** and even **retirement annuities**) as well as a certain proportion of **cash** and **fixed-interest** investments.

The asset allocation of an investor aged 35 is likely to be very different from an investor aged 65. As a rough rule of thumb, the younger the investor, the greater the emphasis on **capital growth** than on income.

An investor aged 65 will have a greater need for **income** (as this person is likely to be retired) than a younger person. But the need for capital growth does not fall away entirely at the age of 65 or even later.

Retirement is often a race between inflation and death with inflation winning this race in many instances. People are living longer all the time and therefore they need to strive for capital growth even after retirement.

#### Avenues of Investment

In South Africa the investment world can roughly be divided into three broad categories:

* traditional investments with banks and the Post Office
* equity investments, mainly the Johannesburg Stock Exchange
* the property market, which can be divided into residential, commercial and industrial property

These three broad categories constitute the broad bulk of investments made by South Africans.

#### Alternative investments

All other types of investments are considered to be "alternative investments" like rare coins, paintings, artwork, stamps, exotic cars and other items.

What makes the difference?

The mainstream investment areas are largely well-developed and operate within sound legal structures, offering a great deal of protection to the investing public. By far the bulk of the investing public's money tends to flow into these three types of investments.

Alternative investments tend to attract significantly less money from the investing public but, in some cases, can offer better returns than those obtained in the traditional markets.

The alternative markets tend to be less regulated and are often the target for unscrupulous racketeers. Before you invest your hard-earned money into alternative fields, make sure you know what you are doing.

### Retirement Annuities

A Retirement Annuity is an investment geared towards retirement and was originally introduced to encourage self-employed people to make provision for their old age.

While Retirement Annuities are ideally suited for self-employed people, they can also be used by salaried people to supplement other retirement provisions they are making.

The advantages of retirement annuities

* RA contributions are tax deductible from income up to a certain limit. In addition, the payouts on RA's are also tax efficient at retirement.
* Contributions to RA's are normally a disciplined way of saving. While contributions can be stopped at any time, the money stays locked until age 55 at the earliest.
* Life cover can be added onto your RA which could provide your dependants with an income should you die before you retire.
* The same applies to disability. Should you become disabled before you reach 55, RA benefits will be payable.
* An important benefit, that is often overlooked, is that RA funds are totally protected against creditors, even in the case of insolvency.

**This is comforting to self-employed people who have a higher rate of insolvencies than salaried people. Should their business or practice fail for whatever reason, sometimes for reasons beyond their control, their RA's will not fall into the hands of creditors.**

#### The cost of delaying a retirement annuity

Retirement Annuities and their tax concessions have become a very important reality in retirement and tax planning.

Many people purchase retirement annuities to obtain tax relief on their contributions and, forgetting the primary purpose of the retirement annuity - to provide a retirement income - remain unaware of the effect a delay of even one year can have on that income.

On a R100 a month contribution, a delay of one year for a 40 year old person could cost approximately R145 000. A delay of five years could cost over R500 000.

|  |
| --- |
| **R100 Per Month Retirement Annuity** |
| **Age** | **Delay**Years | **Value of****Fund (R)** | **Cost of****Delay (R)** |
| 404142434445 | Nil12345 | 876 076731 287609 350506 788420 628348 323 | Nil144 789266 726369 288455 448527 753 |

### The Money Market

The money market may be a good option to go for:

* If you are looking for a low-risk, easily accessible investment
* Because it offers better returns than normal savings account
* Because it does not carry as much risk as shares and unit trusts
* Because your capital amount is guaranteed

You can invest in either a **money market unit trust account** (through insurance companies) or a **money market deposit account** (through banks).

The money market deposit account:

* A money market deposit account works like a bank account
* You have instant access to your money, either through an ATM over the counter
* You also have the convenience of debit order or stoop order transactions on this account
* On average you need to invest a lump sum of between R5000 and R20 000, or make contributions of R500 to R1000 per month
* Interest rates over the past year have been between 6 and 10%.

It takes slightly longer to access your money in a **unit trust account** and you do not have the option of doing transactions.

### Unit Trusts

There's no doubting that Unit Trusts - otherwise known as mutual funds or growth funds - have been an excellent investment, particularly for the average investor who does not have a large amount of money to invest or the time and the expertise to "play" the stock market.

For the smaller investor, particularly one with limited knowledge of the stock market and limited capital, there is no better way to invest in the stock market. By means of either a single lump sum investment or a regular investment, it is possible to participate in the inflation-beating returns that have been offered by most unit trusts over the past 25 years.

But despite the upswing in the popularity of unit trusts, many investors are still in the dark about what exactly unit trusts are.

#### How do unit trusts work?

A unit trust is a kind of club for investing in the Johannesburg Securities Exchange. It's a club for anyone that can join for as little as R100 per month. Your money buys units in a particular fund, which is open-ended.

Units are created every time you invest money in a Unit Trust. The value of the unit is determined by the underlying value of all the assets of the particular fund, divided by the number of unit trust holders. The value of the units is calculated on a daily basis, depending on the level of share prices.

**As an investor in unit trusts, you pay your money over to the Unit Trust management company, a body of professional fund managers who buy shares on your behalf. The same way that you "create" units every time you invest in a particular fund, units are "destroyed" every time you sell your units. By law the fund management has to buy your units back and if they don't have enough cash on hand, they have to sell some of their shares in the market to pay you back.**

This is one of the advantages of unit trusts as opposed to other types of investments; you get your money back within days.

#### What kind of unit trusts are there?

* The General Equity funds are invested across a broad spectrum of shares on the JSE, to get a very broad spread of investments. To date, these funds have outperformed the other types of funds over a long period of time.
* Specialist Funds on the other hand, tend to concentrate their investment activities in certain areas of the market, mostly gold, mining and mining financial shares. The performance of the specialist funds tends to be more volatile than the general market, and hence more risky.
* Income Funds, the smallest category of unit trusts by far, invests money into fixed-interest bearing securities like government bonds, municipal stocks and money market instruments.

|  |  |
| --- | --- |
| **Advantages of Unit Trusts** | **Disadvantages of Unit Trusts** |
| Historically the overall returns have consistently beaten the inflation rate | Many investors are tempted to take profits every time the stock market booms. This can undermine the long term investment objectives |
| Income distributions have risen faster than the inflation rate | You can suffer a loss if the stock market declines just after you bought your units |
| Can be linked to an endowment policy, mortgage bond or retirement annuity | Costs are higher than a direct investment in the stock market |
| Is a very liquid investment: you get your money back within days | Unit trusts are governed by regulations that can inhibit long-term growth |
| Is a very visible investment: you can track the performance of your investment on a daily basis | The investment returns on unit trusts are not guaranteed |
| A wide spread of investments with a small amount of money |  |
| For as little as R100 you can invest in the top 20 blue-chip shares on the JSE |  |

### Pension Funds vs Provident Funds

**Any difference?**

**Pension and Provident Funds are largely the same thing: both exist to provide an income for people when they become too old to work. Pension and Provident Fund investments are generally entrusted to professional investment managers approved by the Registrar of Pension Funds.**

This form of retirement income is accumulated while the person is still working. Every month an amount is paid into the fund (usually a percentage of the worker's salary) along with a similar amount contributed by the employer. The managers of the fund invest the monthly contributions to make them grow. When the workers reach retirement age, their money is paid from the fund. This is the basic operation of pension funds as well as provident funds.

Why then has an argument developed about their respective merits? Here are the three main differences:

#### Payments of benefits on retirement

With a provident fund, all the accumulated money may be taken in cash at retirement. With a pension fund, a third of the value may be taken in cash, and two thirds are left to provide for a monthly pension. Workers who work until retirement are better off with a pension fund. One reason is that pension funds pay less when workers leave their jobs - so more money is left in the fund to pay when people retire.

#### Payment of benefits on leaving a job

**In a recent survey of 360 pension funds and 130 provident funds, Sanlam has found that provident funds make much better payments to workers who leave their jobs before retirement.**

So workers who resign before they reach retirement are generally better off with a provident fund. Provident funds pay higher interest on members' contributions when they leave, and most provident funds also pay out the employer's contributions.

Pension funds mostly keep employer's contributions for retirement payments.

#### Tax Relief

Workers belonging to a pension fund get to pay less tax. Their pension fund contributions are deducted from their pay before tax is calculated, up to a generous maximum. But contributions to provident funds are not tax-deductible.

**The reason for the tax benefit is simple - the Government wants to encourage people to provide for their old age. If people do not have their own pensions, tax payers must provide the cash to pay state pensions. And as pension funds provide particularly for monthly pensions (as opposed to providentfunds providing only a cash sum), contributions to pension funds are not taxed.**

## Property

### Buy property as soon as possible

When one buys a property, the first couple of years are usually a bit of a struggle, but somehow one gets through it. Slowly, two things become apparent - one's salary increases so the monthly payments start to get easier and secondly the property is growing in value.

What else do you know that has such a consistent upward growth pattern? The prospect of a property increasing in price three fold in the next ten years does not seem so impossible.

What are the factors that make a property increase in value? There are two major factors. Firstly, the supply of land is not elastic. For example, when all the land is developed on a mountain side, there is no more vacant land left there. A good example in Cape Town is the exclusive areas like Clifton and Camps Bay where the prices of houses and stands very rarely come down, even in recessionary times, because of scarcity of properties.

The second factor is that new constructions are at today's prices. The building industry is a major indicator for so many others. Building is a very labour intensive industry and whenever there is a pay rise the extra costs filter through into every sector.

The two factors mentioned are your guarantee that as long as salaries and prices in general are going up, property will go along with them. It is the perfect hedge against inflation.

#### Calculate your price range

Having decided to buy a property, your first task is to calculate the price range that you can afford. There is nothing as frustrating as becoming excited about a property in the R100 000 range, and then discovering you can only buy one in the R80 000 range.

Borrowing money for a property is a sure way to wealth if a few simple principles are adhered to. The size of loan that you may qualify for will depend on your deposit, your savings record, your income and other loan commitments you might have.

It is also important to consider the legal and borrowing costs involved in financing a home. These include valuation fees, transfer duties, fees for the lender's attorney, mortgage insurance and bond registration fees.

These costs can vary greatly between lenders, so shop around for the best prices. It is also important to watch borrowing costs very carefully. Banks do not all charge the same interest rates.

How to calculate the price range you can afford:

Banks and demand a sizeable deposit from prospective home owners. Under normal circumstances the size of the deposit ranges from 10% to 20% of the purchase price. Another factor that will be taken into account is your ability to meet monthly loan repayments. As a general rule around 30% of gross family income is nowadays allowed for total loan repayments.

The following formula can be used to calculate your price range. Use the factor table to calculate your price range.

**FORMULA** (Remember 30% of total income = repayment)

Bond repayment = Bond amount x Factor

 \_\_\_\_\_\_

 1000

Bond amount = Repayment x 1000

 \_\_\_\_\_\_

 Factor

 interest rate (%)

NB: FACTOR

 term (number of years)

**Bond Repayment (Factor Table)**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Term Years** | **1** | **2** | **3** | **5** | **10** | **15** | **20** | **25** | **30** |
| **Interest Rates** |
| 10.00 | 87.91 | 46.14 | 32.27 | 21.25 | 13.21 | 10.75 | 09.65 | 09.09 | 08.77 |
| 10.25 | 88.03 | 46.26 | 32.38 | 21.37 | 13.35 | 10.90 | 09.82 | 09.26 | 08.96 |
| 10.50 | 88.15 | 46.38 | 32.50 | 21.49 | 13.49 | 11.05 | 09.98 | 09.44 | 09.15 |
| 10.75 | 88.26 | 46.49 | 32.62 | 21.62 | 13.63 | 11.21 | 10.15 | 09.62 | 09.33 |
| 11.00 | 88.38 | 46.61 | 32.74 | 21.74 | 13.77 | 11.37 | 10.32 | 09.80 | 09.52 |
| 11.25 | 88.50 | 46.72 | 32.86 | 21.87 | 13.92 | 11.52 | 10.49 | 09.98 | 09.71 |
| 11.50 | 88.61 | 46.84 | 32.98 | 21.99 | 14.06 | 11.68 | 10.66 | 10.16 | 09.90 |
| 11.75 | 88.73 | 46.96 | 33.09 | 22.12 | 14.20 | 11.84 | 10.84 | 10.35 | 10.09 |
| 12.00 | 88.85 | 47.07 | 33.21 | 22.24 | 14.35 | 12.00 | 11.01 | 10.53 | 10.29 |
| 12.25 | 88.96 | 47.19 | 33.33 | 22.37 | 14.49 | 12.16 | 11.18 | 10.72 | 10.48 |
| 12.50 | 89.08 | 47.31 | 33.45 | 22.50 | 14.64 | 12.32 | 11.36 | 10.90 | 10.67 |
| 12.75 | 89.20 | 47.42 | 33.57 | 22.62 | 14.78 | 12.49 | 11.54 | 11.09 | 10.87 |
| 13.00 | 89.32 | 47.54 | 33.69 | 22.75 | 14.93 | 12.65 | 11.71 | 11.28 | 11.06 |
| 13.25 | 89.43 | 47.66 | 33.81 | 22.88 | 15.08 | 12.81 | 11.89 | 11.47 | 11.26 |
| 13.50 | 89.55 | 47.78 | 33.93 | 23.01 | 15.23 | 12.98 | 12.07 | 11.66 | 11.45 |
| 13.75 | 89.67 | 47.89 | 34.06 | 23.14 | 15.38 | 1315 | 12.25 | 11.85 | 11.65 |
| 14.00 | 89.79 | 48.01 | 34.18 | 23.27 | 15.53 | 13.32 | 12.43 | 12.04 | 11.85 |
| 14.25 | 89.90 | 48.13 | 34.30 | 23.40 | 15.68 | 13.48 | 12.62 | 12.23 | 12.05 |
| 14.50 | 90.02 | 48.25 | 34.42 | 23.53 | 15.82 | 13.65 | 12.80 | 12.42 | 12.24 |
| 14.75 | 90.14 | 48.37 | 34.54 | 23.66 | 15.98 | 13.82 | 12.98 | 12.61 | 12.44 |
| 15.00 | 90.26 | 48.49 | 34.66 | 23.79 | 16.13 | 13.99 | 13.17 | 12.81 | 12.64 |
| 15.25 | 90.38 | 48.61 | 34.79 | 23.92 | 16.29 | 14.17 | 13.35 | 13.00 | 12.84 |
| 15.50 | 90.49 | 48.72 | 34.91 | 24.05 | 16.44 | 14.23 | 13.54 | 13.20 | 13.05 |
| 15.75 | 90.61 | 48.84 | 35.03 | 24.19 | 16.60 | 14.51 | 13.73 | 13.39 | 13.25 |
| 16.00 | 90.73 | 48.96 | 35.16 | 24.32 | 16.75 | 14.69 | 13.91 | 13.59 | 13.45 |
| 16.25 | 90.85 | 49.08 | 35.28 | 24.45 | 16.91 | 14.86 | 14.10 | 13.79 | 13.65 |
| 16.50 | 90.97 | 49.20 | 35.40 | 24.58 | 17.06 | 15.04 | 14.29 | 13.98 | 13.85 |
| 16.75 | 91.09 | 49.32 | 35.53 | 24.72 | 17.22 | 15.21 | 14.48 | 14.18 | 14.05 |
| 17.00 | 91.20 | 49.44 | 35.65 | 24.85 | 17.38 | 15.39 | 14.67 | 14.38 | 14.26 |
| 17.25 | 91.32 | 49.56 | 35.78 | 24.99 | 17.54 | 15.57 | 14.86 | 14.58 | 14.46 |
| 17.50 | 91.44 | 49.68 | 35.90 | 25.12 | 17.70 | 15.75 | 15.05 | 14.78 | 14.66 |
| 17.75 | 91.56 | 49.80 | 36.03 | 25.26 | 17.86 | 15.92 | 15.25 | 14.97 | 14.87 |
| 18.00 | 91.68 | 49.92 | 36.15 | 25.39 | 18.02 | 16.10 | 15.43 | 15.17 | 15.07 |
| 18.25 | 91.80 | 50.04 | 36.28 | 25.53 | 18.18 | 16.28 | 15.63 | 15.37 | 15.28 |
| 18.50 | 91.92 | 50.17 | 36.40 | 25.67 | 18.34 | 16.47 | 15.82 | 15.57 | 15.48 |
| 18.75 | 92.04 | 50.29 | 36.53 | 25.80 | 18.50 | 16.65 | 16.01 | 15.78 | 15.68 |
| 19.00 | 92.16 | 50.41 | 36.66 | 25.94 | 18.67 | 16.83 | 16.21 | 15.97 | 15.89 |
| 19.25 | 92.29 | 50.53 | 36.78 | 26.08 | 18.83 | 17.01 | 16.40 | 16.18 | 16.09 |
| 19.50 | 92.40 | 50.65 | 36.91 | 26.22 | 19.00 | 17.19 | 16.60 | 16.38 | 16.30 |
| 19.75 | 92.51 | 50.77 | 37.04 | 26.35 | 19.16 | 17.38 | 16.79 | 16.58 | 16.50 |
| 20.00 | 92.63 | 50.90 | 37.16 | 26.49 | 19.33 | 17.56 | 16.99 | 16.78 | 16.71 |

To calculate **MONTHLY REPAYMENT:**

The formula is: Factor x loan amount = Monthly repayment

 1 000

**Example:**

The bank has granted you a R250 000 loan over 20 years at 11.5% interest.

The factor is 10.66

Therefore, your monthly repayment is: 250 000 x 10.66 = R2 665

 1 000

To calculate **LOAN AMOUNT:**

The formula is: Monthly repayment x 1 000 divided by the factor = Loan amount

**Example:**

You can afford a monthly repayment of R3 600. If the bank grants you a loan over 20 years at 11.25%, what size bond would you qualify for?

The factor is 10.49

Therefore, the size bond you qualify for is: 3 600 x 1 000

 10.49

 =R343 183.98

**Example**

Bond of R45 000 @ 18% over 20 years

Bond of (R45 000 ÷ 1000) x 15.43\*

= R694.35 monthly repayment

**Example Two**

Bond of R63 000 @ 19% over 10 years

Bond of (R63 000 ÷ 1000) x 18,67\*\*

= R1176.21 monthly repayment



### Repaying Your Loan Earlier

If you find that your monthly repayments are reduced, as described above, and you are able to maintain your payments at the higher rate which you have become accustomed to, it will be to your advantage to do just that.

**To begin, you will gradually get ahead of your schedule of repayments, which means that if you find yourself short of cash, and are forced to miss a couple of payments, you won't be in trouble with your bank.**

Another advantage is that by reducing your outstanding balance more rapidly, the amount of interest charged each month will also be reduced - which in turn will cause your loan reduction to accelerate still faster.

In other words, you will pay off your loan faster. The big gain comes in the vast amount of interest which you will thereby save over the years.

For example, over a period of 20 years at an interest rate of 15%, you will end up paying more than R300 000 on a R100 000 loan. However, by paying 10% more per month you will reduce the term of your repayments by 7 years and end up paying R225 000 instead of

R300 000. This is a saving of R75 000 and you can live "rent free" after 13 years.

The rapid reduction of your loan is a great form of investment and, what's more, it is totally tax-free!

Paying Your Bond Earlier in The Month

Paying your bond earlier each month can also save you interest payments in the long run.

**Most banks calculate the interest payable on your outstanding mortgage bond on a daily basis, and this amount is then charged to your account on a monthly basis.**

Paying your monthly bond repayments a few days earlier than the scheduled payment date saves you money, because the calculated interest payable will be lower. For example, if the monthly bond repayment on a R150 000 mortgage repayable over 20 years at 20% was paid four days earlier each month, it would mean an interest saving of R17 360 over the life of the loan and the home loan would be repaid six months earlier.

Paying your monthly repayments a week earlier would result in a total

interest saving of R30 400 and the bond would be repaid 10 months earlier.

### Paying in a Lump Sum

**Paying a lump sum into a home loan will reduce not only the total interest payable over the life of the loan, but also the period of the loan.**

The more you pay into your bond, the more dramatic the effect. For example, if you invest a R1000 lump sum during the first month of a R150 000 mortgage bond (repayable over 20 years at a variable interest rate of 20%), you will save a staggering R51 800 in interest on the loan. In addition the loan will be repaid 17 months sooner.

A lump sum of R1500 paid in the first month would reduce the interest by R77 750 and the loan would be repaid 24 months earlier.

## Buying a car

Apart from buying a home, a vehicle is the biggest purchase made by most of us. Ironically, often the mere fact that young people buy a vehicle is enough to delay them purchasing a home of their own for several years. If they pay cash they are likely to use up any money held for a deposit for a home. If they borrow to buy the vehicle the monthly payment normally takes their monthly expenditure to a level where they can no longer qualify for a loan from a bank.

The total cost of any item includes not only the direct costs of purchasing and operating but also the "opportunity cost". In simple terms, if you have R10 000 in the bank and take it out to buy a vehicle, the opportunity cost is the loss of the interest your money won't earn any longer.

It can take three or four years to pay off a motor vehicle loan, and during this time the price of housing is going up while the value of the vehicle is dropping in real terms. That is one of the costs of owning a vehicle that very few people ever think about. Unfortunately in a country like ours with vast distances and poor public transport, vehicle ownership is often something we cannot forego.

Firstly you have to save up some money as a deposit on a vehicle. The rest has to be financed. You go to a bank or a finance house. If you qualify, the bank or finance house will grant you, in principle, a specific credit facility that meets your requirements, subject to the suitability of the vehicle. They will need proof of employment, salary, and personal details to process your loan. You can also arrange finance via the Internet. One of the first things you need to consider is if the vehicle is going to be used for travelling to and from work, or for business purposes as well. This is important as the business user and/or car allowance receiver can finance the car with no deposit and over a longer period of time than the private user.

### The Instalment Sale Option (Hire Purchase)

* Periods of up to 60 months are available
* VAT is payable in full at the start of the contract
* Ownership passes automatically to the individual on payment of the last instalment
* Minimum of 10% deposit is required by law (this could be in the form of a trade-in)
* There are no VAT implications at the end of the agreement

The monthly instalments on your vehicle is not the only cost you must take into account when budgeting for the purchase of a vehicle. The real cost of running a vehicle includes petrol, oil, maintenance, replacement of tyres and washing/cleaning of the vehicle. So before you buy any vehicle, read up on the real cost of running one. Figures are published regularly in various motoring magazines and in booklets obtainable from motoring organisations such as the Automobile Association (AA).

When you read these figures, it may come as an awful shock to discover that even a small vehicle like a Toyota Corolla (1300cc), costs 44,7 c per kilometre if driven just 30 000 kilometres per year. This is equal to R257,99 per WEEK!

These sorts of costs take a very large proportion of the average person's income. In many cases people would be far better off using public transport. It can be accepted that most of you are going to buy a vehicle so it is vital that you look at ways to keep your costs down. Remember, every cent you spend on consumables is one less for saving.

## What Is The Purpose Of Insurance?

* Protection against the consequences of major financial loss (in the case of retrenchment, disability or even death).
* **Protection against damage or loss of property (house, car, etc).**
* Security and peace of mind.

### What Is An Insurance Policy?

An insurance policy is a written contract between two parties, which secures compensation for loss, damage or injury on payment of a premium, and which sets out the rights and obligations of both parties.

### Short-term insurance

**Short-term** insurance includes insurance covers for property (**home owner's insurance**), where you will be covered for accidental damage, fire and natural disasters. The bank will insist on this type of cover if you have a bond on your property.

Then there is **household insurance** where the things that are kept inside the house, such as furniture, carpets, etc. are insured against theft, damage or natural disasters.

The third form of short-term insurance is **motor vehicle insurance** where your vehicle is insured against theft, fire and third party claims. Comprehensive insurance would include all of the above. The bank would insist on comprehensive insurance cover if they are financing your acquisition of the vehicle.

**Medical insurance** is cover for medical costs, such as doctor's bills and medicines, but more specifically covers emergency medical procedures, hospitalisation, etc. This is often used to supplement a medical aid. Medical expenses are becoming an increasingly important financial issue for families. Planning health care coverage for you and your family (especially as you grow older), is a very important part of sound financial management.

### Long-term insurance

The most well known form of long-term insurance is life insurance. Here the life of the person in whose name the policy is, is insured. In the event of his or her death, a sum of money is paid out to the beneficiary or beneficiaries. Life insurance can be linked to an endowment policy, in which case it would pay out a lump sum (just like an endowment policy), if the insured is still alive at a certain stipulated age.

Pension, Provident Funds and Retirement Annuities are also a form of long-term insurance/investments.

### How And When Do I Claim From My Insurance?

Depending on which insurance company you are using for your insurance, you would claim in the event of theft, damage or injury and are normally required to pay an up-front amount or excess.

**The procedure is generally similar in most companies. You would have to provide proof of the theft or damage by supplying the insurance company with a copy of your statement made to the police. In the case of injury, a doctor's certificate will also have to be provided.**

If you have made no claims for a certain period of time, you will be eligible for a no-claim bonus which could mean that you will pay a lower premium.

It is important to shop around for the best rates on insurance. At the same time, you have to establish the reputability of the insurance company you are considering.

## Shares

In a public company, members of the public buy shares at a fixed value per share. Shares are normally bought in batches of 100. The people who buy shares are called **shareholders**.

If the business accepts a purchase offer, the purchaser must be issued with a **share certificate** with his name and full particulars of how many shares were bought. This share certificate becomes an **asset** to the buyer.

When the shareholder wishes to sell his shares, he contacts a share broker who tries to find another buyer at the JSE (Johannesburg Stock Exchange). Once the sale is confirmed, the company cancels the old certificate and issues a new one in the name of the new buyer.

In a private company, the shares are not bought and sold freely, as in a public company. Other shareholders have to approve the person who wants to buy into the business. One can only buy shares in a private company if you are invited to do so.

Shares are a high risk investment. The value of shares are determined by the perceived value of the business. If the business is doing well, the share prices will go up and the value of your investments will increase.

**If the business is not doing well, the share price will go down and the value of your investment will decrease.**

**Let us use an IT company, as an example**:

Before 2000, their shares were selling at R45

Then there was a drop in the value of shares in IT companies worldwide. Their shares dropped to R2,00 per share.

In 2006 their shares had recovered a little and were selling at R12 per share.

* If you owned 1000 shares in this company in 1999, the value of your investment would have been

1000 shares X R45 = R45 000,00

* In 2001, at R2,00 per share, the value of your investment would have been:

1000 shares X R2 = R2 000,00.

**You would have lost R43 000 of the value of your investment**.

* On the other hand, if you did not own any shares before 2000 and watched the share prices of IT companies drop to R2,00 and then decided that IT is here to stay and chances are that the price will recover. You then bought 1000 shares @ each, you would have invested R2000 in 2001.
* In 2006, your investment would be worth :

1000 X R12,00 = R12 000,00

A very good investment. The value of your investment increased 12 times!

The stock exchange can be very lucrative if you invest at the right time and sell at the right time.

# SIMPLE AND COMPOUND INTEREST

#### Specific outcome

Use simple and compound interest to make sense of and define a variety of situations.

#### Assessment criteria

* The differences between simple and compound interest are described in terms of their common applications and effects.
* Methods of calculation are appropriate to the problem types.  Represent complex numbers in terms of real and imaginary parts.
* Computational tools are used efficiently and correctly and solutions obtained are verified in terms of the context or problem.
* Solutions to calculations are used effectively to define the changes over a period of time.

## Interest

Interest is the cost of money - it is money which is paid for the privilege to use the money. Interest is a very important aspect in every day life and business. Whether you buy a house, car or use a credit card, or invest for retirement or invest in business, the fluctuation in interest rates will influence you. It is vital to be able to understand and manage interest to your benefit.

**Interest rates** are based on the supply and demand of money. When the supply is good, the money gets cheaper (interest rates are lower); when the supply is poor, the money gets more expensive (interest rates are higher).

Interest can change at any time. If too many people want to borrow money, or if the Reserve Bank decides that there is too much money in circulation, then interest rates go up.

If too few people are borrowing money, interest rates usually go down. It works in the same way as the supply and demand for goods. When the interest rate goes up, the money borrowed becomes more expensive, repayment amount increases proportionally and it may take longer to repay the loan.

Only those who are judged **creditworthy** by the bank or the money lender will be given a loan. Banks want **security** to protect their money in case the business does not succeed.

hey will request things like the bond on a property, personal and/or business assets, any guaranteed sum of money which they can take over like fixed savings and insurance policies.

If you were to take out a loan or buy on credit, and were to repay your debts in the time given, and at the required interest rate, you would be considered to be worthy of more credit.

If you do not do this, you lose your **creditworthiness**. The person, bank or business who loaned you the money or extended your credit is entitled to take your assets after a judgement of the court. If you have assets that can cover your debt, for example a house or a car, these assets can be used as security against a further debt.

### Simple interest

The calculation of interest may be ‘simple’ or ‘compound’. **Simple interest** is the application of a percentage rate to the principal sum for the period in question

### Compound interest

**Compound interest** is interest on the principal sum, plus the accruing (added) interest, as expressed in the equation. Compound interest means “interest on interest”.

Where ***i*** is the actual interest, ***p*** is the principal sum (sum borrowed), ***t*** is the time or period of the loan in years and *r* is the percentage rate of interest.



For interest compounded annually, or



For interest compounded *q* times per year.

Interest on bank accounts is ‘simple’ interest but is compounded in the case of a deposit account to the extent that interest is allowed on interest previously credited to the account. The ‘rests’ between interest dates are critical. Clearly, the compounding effect of interest allowed yearly in arrears is not as good as the compounding on interest allowed, say, quarterly.

In the case of an overdrawn current account, interest is calculated from the actual date when a customer’s cheque is paid (not from the date on the cheque), and from the actual date when money is credited to the account (usually at the computer centre.

As the rate of interest on borrowing rises, more and more investments that previously looked profitable start to loo unprofitable. The demand for borrowing for investment purposes, therefore, is lower at higher rates of interest. If the interest rate goes up, people will spend less because is costs more to spend if they have to borrow the money.

At compound interest, an amount **doubles** itself:

|  |  |  |
| --- | --- | --- |
| At 7 percent in | 10 years | 89 days |
| At 6 percent in | 11 years | 327 days |
| At 5 percent in | 14 years | 75 days |

At simple interest, an amount doubles itself:

|  |  |  |
| --- | --- | --- |
| At 7 percent in | 14 years | 104 days |
| At 6 percent in | 14 years  | 239 days |
| At 5 percent in | 20 years | - |

**Example: Compound interest**

A man invests R5 000 in a company at 13% interest per year for 3 years. He decides not to use any of the interest he earns until the end of the investment period. How much will he have earned after 3 years

**Solution:**

|  |  |
| --- | --- |
| Amount at the beginning of the 1st year | R5 000 |
| Interest(13% of R5 000) | R650 |
| Amount at the beginning of the 2nd year | R5650 |
| Interest (13% of R5 650) | R734.50 |
| Amount at the beginning of the 3rd year | R6 384.50 |
| Interest (13% of R6 384.50 | R829.99 |
| Amount at the end of the 3rd year | R7 214.49 |

**Example**: **Calculating compound interest using the formula**

Calculate the compound interest on an investment of R200 000 which is invested for a period of 2 years at 10% interest per year.

**Solution Procedure with calculator:**

****

200000 **X (** 1 **+** 10**÷**100 **) yx** 2 - 200000= 42000

- *200 000*

**Remember:** Interest = Final amount – Initial amount

**The interest paid for the privilege to use R200 000 for 2 years at 10%, is**

**R44 038.01**

**Example**: **Compound interest compounded a number of times per year**

Which of the following two investments are the most lucrative?

1. R500 invested for 10 years at 14% compound interest per year, calculated by semester.
2. R500 invested for 10 years at 13.8% compound interest per year, calculated quarterly.

**Solution:**

Here the interest is compounded twice a year thus q = 2

****

b. Quarterly means that the interest is compounded 4 times per year, q = 4



The second investment is the most lucrative. It is not necessary to calculate what the actual interest earned is here since the initial investment is the same in a and b.

## Effective and Nominal Interest Rates

The annual rate at which many loans are quoted is the **nominal interest rate**. One may, for an example, make an investment that pays interest at a nominal interest rate of 10% annually.

The **effective interest rate** adjusts the nominal interest rate based on the number of times the interest is compounded and the number of days assumed to be in a year.

Financial managers and investors must be careful when comparing different interest rates. They have to seek the cheapest financing available. Therefore the effective rate should be used when evaluating costs and returns. Often the interest rates charged by banks and other financial institutions on savings accounts are effective interest rates. Home and commercial loans state the nominal rate. If the interest charged is only compounded annually (like in the previous example), then the effective rate is equal to the nominal rate. The more regularly the interest is compounded in a year, the higher the effective interest rate will be.

Before you take out a loan from a bank for a home or a car, it is vitally important that you determine what interest rates they will be charging you, and how much additional money you will be paying for your home/car.

**Example 1**

A financial manager is evaluating two loans and the effective interest rate charged. Second National Bank (SNB) quotes a nominal interest rate of 16,5% compounded semi-annually. Third National Bank (TNB) quotes a nominal rate of 16,4% compounded daily.

Which of the two loans should the financial manager select in order to obtain the lowest effective interest rate cost?

SNB:

Effective interest rate = (1 + 0,165)2 – 1 = 0,17181 = 17,18%

 2

TNB:

Effective interest rate = (1 + 0,164)365 – 1 = 0,17817 = 17,81%

 365

Based on the objective of obtaining the lowest effective cost of financing, the loan offered by Second National Bank should be used.

The following deductions can be made from this example:

* Originally one might have thought that TNB are offering a better interest rate (16,4%), but after working it out, SNB’s 16,5% is a better rate in the long run.
* It is important that we ensure that even though the rate offered by the bank may seem lower, it actually is not.

### Real rate of interest

The **real rate of interest** is the **percentage increase** in purchasing power that the borrower pays to the lender for the privilege of borrowing. It indicates the increased ability to purchase goods and services that the lender earns.

### Nominal rate of interest

The **nominal rate** of interest is the percentage by which the money the borrower pays back exceeds the money he borrowed, making no adjustment for any fall in the purchasing power of this money that results from inflation. The nominal rate is arrived at by adding the expected rate of inflation to the real rate of interest. Expected inflation is added to compensate the lender for the loss in purchasing power that he is expected to suffer as a result of inflation.

## Depreciation And Appreciation

### Depreciation

Depreciation is the decrease in monetary value of your assets e.g. a car.

Depreciation is a reduction in accounting earnings which are intended to reflect the reduction in value of an asset. In other words, the car, furniture, clothes, cell phones and computer equipment you buy decrease in value every year, meaning they are worth less than you paid for them. Depreciation occurs when your assets, including the buying power of your money, loses value.

#### Example

Solly bought a new car 5 years ago, it cost him R35 000. He has decided that he would like to buy a bigger car so that he can do deliveries. Solly took the car to the dealership, and they offered him R15 000 for his car.

Solly is angry! He knows he has lost R20 000 because he bought the car for R35 000 and now can only sell it for R15 000!

#### Deductions made from this example:

* A car is not an asset, it depreciates in value.
* A few causes of depreciation are:
* High mileage
* Poor maintenance
* Accidents that have been repaired
* Newer, better models of the same cars coming out
* High demand of cars
* Solly in effect has lost R20 000 and all the interest that he paid to the bank for the car.
* Solly’s car depreciated with R4 000 per annum: R20 000 / 5 = R4 000

### Appreciation

Appreciation, on the other hand is when assets, including the buying power of your money, increases in value. Property such as houses and flats are seen as assets that increase in value.

Interest is sometimes seen as a method of protecting your money against losing buying power due to inflation, provided you let the interest accumulate and don’t use it.

#### Example

Mpho bought a home 5 years ago, she paid R56 000 for her house. As her family has grown and she requires two more rooms, Mpho has decided to buy a new house.

Mpho contacted her bank and has requested that a property evaluator comes round to evaluate her house, before she tries to sell it. The evaluator let Mpho know that her house is now valued at R78 000.

#### Deductions made from this example

* Mpho’s house has appreciated in value by R22 000:

R78 000 – R56 000 = R22 000

* Mpho’s house has increased in monetary value by R4 400 per annum

R22 000 / 5 = R4 400

* Mpho has made R22 000 after 5 years
* Mpho can sell her house and use the R22 000 to put down a deposit on a bigger house.
* Property usually appreciates in value.

## COSTS AND REVENUE

#### Specific outcome

Investigate various aspects of costs and revenue

#### Assessment criteria

* Calculate values correctly.
* Use mathematical tools and systems effectively to determine and describe the relationships between the various aspects of cost and revenue
* Use terminology in the correct context.
* Describe reasonable methods for the control of costs and optimisation of profits in relation to given data.

### What Is A Business?

Our purpose in business is to create wealth, to make money. For this to be possible, we must please our customers and enjoy the confidence of our shareholders and employees. We must make good profits, so that, after providing for taxes and dividend (and in present circumstances, financing inflation), there is enough money available to keep our factories and equipment modern and enable us to grow in strength and maintain or improve our market position. We endeavour to provide good, satisfying employment for our people. Creating wealth and building a better company is our contribution to a better standard of living.

*The Corporate Report*

A business is an organisation/undertaking in which the owner/partners sell goods or render services to customers in order to gain a profit.

Business exist:

* because a gap in the market is identified
* to meet needs and wants of potential customers
* to make a **profit** and create **wealth**

Business contributes tremendously to the wealth creation process in our land. Wealth is created through the processing of resources into products and services, which are sold to customers who have a need for the product or service.

For example, a contractor builds houses (a process) using bricks, sand and cement (resources), and these houses are sold to people who have a need for houses (market).

Businesses also create job opportunities, which is very important for the economic state of any country.

### Costs

Costs are payments that have to be made while a business is in operation. The business must know the costs to determine how much money is needed to run a business, how much money is needed through income from sales, how much the business should charge for the products/services, the budget, and the estimated cash flow.

Costs will be influenced by:

* whether the business sells one product or many;
* whether the business offers one service or a number of services;
* whether the business pays staff hourly, weekly and/or monthly;
* whether the business actually produces goods or only sells them; and
* what is regarded as fixed or variable costs in the business.

#### Fixed Costs (Indirect Costs)

Fixed costs are the proportion of a business expenditure which does not change in direct proportion to the quantity that is manufactured, bought or sold. No matter how many products are manufactured, the fixed costs remain the same.

COSTS

 UNITS

FIXED COSTS

VARIABLE COSTS

TOTAL COSTS

Fixed costs for a business are similar to your fixed expenses that you calculated during the previous section.

Fixed costs are sometimes referred to as overhead costs or indirect costs, and can include rent, water and lights, advertising, transportation, telephone, printing, postage, interest on loan repayments, depreciation, repairs and maintenance, wages and salaries, and the like.

Fixed costs are calculated by dividing the total fixed cost by the number of units produced. The fixed cost will decrease if the number of units produced increases.

#### Variable Costs (Direct Costs)

Variable costs make up the proportion of the business expenditure that changes in direct relation to the number of products manufactured, bought or sold. This is similar to your variable expenses as calculated in the previous section.

Variable costs are also referred to as manufacturing costs, and can include raw materials, petrol, cost of goods purchased for release, commission.

Variable cost is determined by dividing the total variable cost by the number of products, and by how much of each is produced.

#### Total Costs

The fixed and variable costs may be different for different types of businesses, and depending on the type of product or service offered.

**Total costs are the sum total of variable and fixed costs.**

### Cost Saving Within A Business

Budgets need to be compiled in order to determine the profitability (whether or not the company will make a profit) of the business. These budgets have to be adhered to, to ensure that the company does not run at a loss, or that it does not go insolvent.

In an earlier section we learnt that a **budget is a prior estimation of income and expenditure**. All businesses estimate their income for the year and plan their expenditure around that. Businesses are also compelled to stick to their budgets, just as good money managers would.

Having a budget also helps us to cut back on spending and save costs. **If we ensure high productivity and quality within the business, we will ensure efficiency.**

Let's look at ways of cost saving within a business.

* Increase productivity
* Make everyone aware of quality and improve quality
* Decrease wastage
* Be pro-active in finding ways to improve efficiency
* Decrease unnecessary absenteeism
* Stimulate motivation

### Income from Sales

Income from sales is the income received from the number of items that are sold, or services rendered.

Once sales have been worked out for a period of time, say one week or one month, the sales can be compared with the budget, and/or estimated sales.

Sales can be increased by:

* Selling more to the customers.
* Finding more customers.
* Changing prices

### What Is Profit?

Profit is the reward companies reap from high levels of productivity, quality, customer satisfaction, cost saving, investment in training, etc. Because companies make profit, reward systems can be put into place to benefit employers and employees. Profit is also invested by companies, to ensure that money works for them and to secure future existence in the market place. Shareholders have to share in the profits of a company as well.

The price at which you sell, the selling price, should always be more than the total cost price otherwise the business will only be breaking even. In other words, that means that there is no reward/returns to the business owners for investing their money in the business.

Profit is determined by the following equation:

Profit = Margin x Volume - Expenses

**Margin** The difference between the price at which each item is sold and the cost of the item. The cost includes raw materials, sales commissions (if salesmen are used) and packaging.

**Volume** The number of units sold over a given period of time. The more units sold, the higher the profit.

**Expenses** Costs like rent, wages, water and electricity, transport, replacement of machinery, etc. The greater the expenses are, the lower the profit will be. Reducing expenses is one way of achieving a bigger profit.

Formative Assessment

|  |
| --- |
| John and Rebecca Moalisi have decided to start their own business. They are going to make and sell hot dogs in front of a busy shopping centre. Their monthly costs (expenses) will be approximately R700 to buy bread rolls and viennas. They aim to sell 600 hot dogs per month. One hot dog will cost them 50c to prepare and they’ll sell them for R2.50. Is their business going to be profitable or not? Use the following formula for your calculation: |
| Profit = Margin x Volume – Expenses |
| Margin = 2,50 – 0,50 = 2,00 X 600(volume) 1200 = less expenses 700 = 500 so yes, they will make a profit |
|  |
|  |
|  |

Earlier we concluded that purpose of doing business is to make profit. To be able to make profit, there will be expenses (expenditure). If the income (generated from sales or services) is more than the expenses, a profit was generated.

A profit can only be generated if the expenses are managed carefully with the use of a budget.

### Gross Profit

**Gross profit** is the profit **after** cost of sales has been deducted from income from sales, but before fixed costs have been deducted, and before tax and dividends have been paid to shareholders.

If you want to calculate gross profit the following steps would be taken:

1. Add up the total of all goods bought during the period for re-sale or production.
2. Count the stock of the goods that have not been sold and work out their value to establish the cost of unsold stock.
3. Add up the total of all sales for the period.
4. Take the value of the stock that was unsold at the end of the previous period and add this to the total figure calculated.
5. Deduct from that total, the stock unsold at the end of the period. This gives you the cost of goods sold, calculated as stock on hand at the beginning of the period + new stock purchases - stock in hand at the end of the period.
6. Deduct the cost of goods sold from the total sales in Step 3, to give you the gross profit for the period.

Sales R 16 000

Stock (beginning) R 3 000

Add: Purchases R 10 000

\_\_\_\_\_\_\_\_\_

Less: Stock (end) R 13 000

\_\_\_\_\_\_\_\_\_

Cost of goods sold R 11 000

Gross Profit R 5 000

### Net Profit

Net profit is the amount of money made during the period after all expenses have been deducted.

The following steps would be taken:

1. Add up all running expenses.
2. Take the total running expense away from gross profit to get the net profit.

Sales R 16 000

 \_\_\_\_\_\_\_\_\_

Gross profit (brought down) R 5 000

Other income (discount received) 226

 (interest received) 10

\_\_\_\_\_\_\_\_\_

R 5 236

Less: Expenses 3 804

Advertising R 1 000

Stationery 600

Motor 400

Telephone 200

Electricity 150

Petty Cash 50

Wages 1 000

Discount 399

Bank charges 5

\_\_\_\_\_\_\_\_\_\_

Net profit R 1 432

### What Are Profits Used For?

#### Repay loans

One use of the profits of a business is to pay back any loans, and or to reduce any overdrafts with the bank. The business may have entered into an agreement to pay the interest on a monthly basis and the capital amount loaned at the end of a period.

#### Reserves

Reserves and undistributed profits represent the amount of money that otherwise would have been paid out to shareholders in the form of a dividend. This money assists the business to engage in **self-financing**. The business can use reserves for emergencies, expanding the business, buying new machinery, repaying loans, increasing working capital, and paying bonuses.

#### Dividends

Shareholders own the business and risk their money when starting a business, or allocating shares for growth. These shareholders could have done many other things with their money rather than investing it in the business. For example, they could have invested the money in the bank and earned interest.

The money that is paid to the shareholder every six to twelve months is called a **dividend**. It is important to note that shareholders are the **last** group to get money from the profits. They first look after the needs of the business and the people of the business before they take any money for themselves. The proportion of the total net profit that gets paid out to the shareholders is usually the smallest, if compared to salaries, reserves and income tax.

### How The Business Manages The Money

The business manages its money by using **budgets** and **financial statements**. These are all roadmaps that assist Management in keeping track of money at all times.

* The Past: Financial Accounts
* The Present: Management Accounts, Actual Cash Flow Statements
* The Future: Plans, Budgets

### Budgeting

A budget is a written document that expresses management’s goals and forecasts in financial terms for a specific future. There are various budgets in a business, like

* sales,
* production
* administration,
* materials,
* labour,
* capital expenditure,
* financial,
* cash, and
* master budgets.

When you have money available you need to think about how you are going to use it, otherwise you may spend it and then not have any left, and you may not know what you have done with it. This process of planning how to spend money is called **budgeting**.

A budget is a plan of how you intend to spend your money. Everything you intend to spend the money on is noted or itemised.

**It is the way in which you estimate how much it will cost you to run a business over a certain period of time. This period can be short (such as monthly), or longer (annually).**

In your private life, it will be working out in advance what you will be spending in that month. It will help you see if you have or will be getting in enough money for the things you need to buy/pay for.

**Budgets are used to plan and control expenses (expenditure).** It is crucial that persons, businesses, governments (local and national) and all business ventures budget to plan and control expenditure according to projected income.

Costs that are budgeted do not always stay the same. Sometimes you spend more on some things and less on others. For example: electricity and water can be more expensive in the winter than in the summer if you use a heater. Groceries can be more expensive and if you have family staying with you and if you have to provide for their meals. If you have a car, and it goes to the garage for repairs and/or a service, your transportation costs will be higher for that month.

It is the same in business. If your organisation manufactures matches they may have to buy more raw materials in winter because people need to stay warm. So customers are going to buy more matches to make more fires. But this also means that the income will be more because people will buy more matches.

On the other hand, you may spend more on raw materials in summer if you are in the business of making ice-cream. However, your income as a business should increase because people are likely to buy more ice-cream.

When an organisation draws up a budget, the person who does this takes an average of what things will cost to cater for the ups and downs in cost. In the months when the business has few expenses the money that is left over must be kept to cover the costs in months when the expenses are heavy.

#### Organisations use budgets:

* To provide detailed plans to aid the planning of annual operations.
* To guide managers in an effort to co‑ordinate actions which are part of the common plan.
* To communicate the policies and constraints to which departments and individuals are expected to conform.
* To provide a measurement tool by which managers are motivated to achieve
* To serve as a control measure against actual results to manage the exceptions.
* Managers' performances are often measured by their ability to meet budgeted objectives.

With careful budgeting, production and financial problems can be overcome before they escalate into major disasters. Production output can be adjusted to the expected market demand by increasing or decreasing production in certain seasons or if necessary additional equipment can be purchased timeously to cope with increased demand.

A major benefit of budgeting is that it requires management to review and coordinate most aspects of their operations.

This, in itself, prevents, or t least helps management anticipate, many crises. Another benefit of budgeting is that management can compare actual costs with the costs allotted in the budget.

If substantial variances are noted, management can take the necessary remedial action.

This is a key aspect in the control of costs and the evaluation of the relative effectiveness of various departments of a firm.

#### Fixed budgets

A relative simple approach to budgeting is the fixed or static budget. Here an attempt is made to determine what costs should be at a given level of activity such as normal capacity. Fixed budgets, as such, are simply a list of costs and the amounts to be anticipated at some specific level of operation. A major defect of fixed budgets is that actual levels of activity and planned levels of activity are seldom the same. Thus, with fixed budgets, management is often faced with comparing actual cost at one level of volume to budgeting costs at another level of volume.

#### Flexible budgets

The recognized limits of fixed budgets have led to the development of flexible budgets. Flexible budgets are in essence derived by a formula for total costs.

### Cash Flow

A business may be very successful and make good profits, just to find that at some stage the business does not have enough money available to cover certain expenses. Money flows in and out of the business, sometimes it flows out faster than it flows in, and sometimes it flows in faster than it flows out. This is called **cash flow**.

A cash flow is the way in which money moves through the business. It comes in through loans, sales and payments to the business.

It goes out through payments to the suppliers and creditors. At home, or in your private life, cash flow is your salary that you earn, or any other money that you get in, and all the money that you pay out during the month.

### Difference between a budget and cash flow

A budget is what you **expect/think** that you will earn and spend during a period of time. Cash flow is the **actual** income and expenses on a day-to-day basis, weekly or monthly. It is a snapshot of the current situation.

### Income and Expenditure Statements

An Income and Expenditure Statement is a record of all income and expenditure with which the business conducted business in the year. This statement will tell you whether you have made a profit or a loss over a period, normally twelve months. As the name suggests, it shows you the income received and the expenses paid to operate the business.

The income statement can be used to see the variance (difference) between actual expenditure and budget.

Managers mainly use two types of documents to control the budget: a Budget Management Report and an Income Statement.

The next page contains an example of a Budget Management Report. From this report, we can see that:

* The income was R1800 less for the year than anticipated
* The purchases made was over budget by R1200 for the year
* The expenses were R1300 over the budgeted amount for the year
* The total income was R73200 for the year
* The total amount spent as purchases and expenses was R54 200
* There was still a balance (profit) of R19000 left after everything was paid.

In the case of a business, this is a good thing, since a business exists in order to make a profit. In the case of a government department it might not be such a good thing. The surplus money could have been used to pay for special projects such as housing, hospitals, schools, roads, etc.







|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Month** | **Year** | **Income** | **Purchases** | **Expenses** |
| Budget | Actual | Over | Under | Budget | Actual | Over | Under | Budget | Actual | Over | Under |
| 1 | March | 2003 | 4 000 | 3 600 | - | 400 | 2 000 | 2 100 | 100 | - | 1 500 | 1 800 | 300 | - |
| 2 | April | 2003 | 5 000 | 4 200 | - | 800 | 2 500 | 2 100 | - | 400 | 1 000 | 1 100 | 100 | - |
| 3 | May | 2003 | 6 000 | 5 100 | - | 900 | 3 000 | 3 000 | - | - | 1 000 | 1 100 | 100 | - |
| 4 | June | 2003 | 6 000 | 6 300 | 300 | - | 3 000 | 3 000 | - | - | 1 000 | 1 100 | 100 | - |
| 5 | July | 2003 | 6 000 | 7 000 | 1 000 | - | 3 000 | 3 000 | - | - | 1 000 | 1 200 | 200 | - |
| 6 | August | 2003 | 6 000 | 7 000 | 1 000 | - | 3 000 | 3 400 | 400 | - | 1 000 | 1 200 | 200 | - |
| 7 | Sept | 2003 | 7 000 | 7 500 | 500 | - | 3 500 | 4 000 | 500 | - | 1 000 | 1 200 | 200 | - |
| 8 | October | 2003 | 7 000 | 6 500 | - | 500 | 3 500 | 4 000 | 500 | - | 1 000 | 1 300 | 300 | - |
| 9 | Nov | 2003 | 7 000 | 8 000 | 1 000 | - | 3 500 | 4 000 | 500 | - | 1 200 | 1 500 | 300 | - |
| 10 | Dec | 2003 | 8 000 | 8 000 | - | - | 4 000 | 4 100 | 100 | - | 1 300 | 1 600 | 300 | - |
| 11 | Jan | 2004 | 6 000 | 4 000 | - | 2 000 | 3 000 | 3 000 | - | - | 1 000 | 1 200 | 200 | - |
| 12 | Feb | 2004 | 7 000 | 6 000 | - | 1 000 | 3 500 | 3 000 | - | 500 | 1 000 | 1 200 | 200 | - |
| **Total** | **75000** | **73200** | **-** | **1 800** | **37500** | **38700** | **1 200** | **-** | **13000** | **15500** | **2 500** | **-** |

Following is an example of a budget report that gives a breakdown of monthly expenses. The management budget report is compiled from various such smaller reports that give breakdowns of expenses per department, purchases per department, etc.

|  |
| --- |
| **March 2003** |
|  | **Payments and Expenses** | **Budget** | **Actual** | **Over** | **Under** |
| 1 | Vehicle Licence | R54 | R54 | - | - |
| 2 | Vehicle Loan | R300 | R300 | - | - |
| 3 | Petrol | R200 | R250 | R50 | - |
| 4 | Owner’s Salary | R600 | R600 | - | - |
| 5 | Wages | R346 | R596 | R250 | - |
| 6 |  |  |  |  |  |
| 21 |  |  |  |  |  |
| 22 |  |  |  |  |  |
| 23 |  |  |  |  |  |
| 24 |  |  |  |  |  |
| 25 |  |  |  |  |  |
| **Totals** | **1 500** | **1 800** | **300** | **-** |

The income statement can also be used to see the variance (difference) between actual expenditure and budget.

On the next page is an example of an income statement.

From this we can see the following:

* How much money came into the business
* How much money was spent to purchase raw materials
* How much was spent on various expense items
* What the net profit before tax was
* What the net profit after tax was
* What the difference was between what was budgeted for and what actually happened for all the above items

Can you see how managers use these reports to ensure that the expenses of the business or the government departments do not become more than the income that was received?

You could do a similar exercise with your household budget, where profit would be money that can be saved.

**INCOME STATEMENT – Actual vs. Budget: 01/04/2006 to 31/03/2007**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Actual** | **Budget** | **Variance** |
|  |  |  | **Value** | **Percentage** |
| **SALES** | 100 000.00 | 80 000.00 | 20 000.00 | 0.20 |
| **COST OF SALES (Purchases)** | 75 000.00 | 60 000.00 | 15 000.00 | 0.20 |
| **OTHER INCOME**  | 100.00 | 66.00 | 34.00 | 0.34 |
| **EXPENSES** | 14 300.00 | 16 400.00 | -2 100.00 | -0.15 |
| **Bank Charges** | 1 000.00 | 800.00 | 200.00 | 0.20 |
| **Cleaning** | 500.00 | 500.00 | - | - |
| **Consumables** | 200.00 | 300.00 | -100.00 | -0.50 |
| **Entertainment Expenses** | 1 500.00 | 1 600.00 | -100.00 | -0.07 |
| **Interest Paid** | 100.00 | 200.00 | -100.00 | -1.00 |
| **Printing & Stationary** | 3 000.00 | 3 000.00 | - |  |
| **Telephone & Fax** | 5 000.00 | 6 000.00 | -1 000.00 | -0.20 |
| **Vehicle Expenses** | 3 000.00 | 4 000.00 | -1 000.00 | -0.33 |
|  |  |  |  |  |
| **NET PROFIT/(LOSS) BEFORE TAX** | 10 800.00 | 3 666.00 | 7 134.00 | 0.66 |
| **TAX** | 3 780.00 | 1 283.10 | 2 496.90 | 0.66 |
| **NET PROFIT/(LOSS)** | 7 020.00 | 2 382.90 | 4 637.10 | 0.66 |

### Balance Sheet

A Balance sheet contains all items that contribute to the economic benefit of the business, like the assets, loans and cash. The capital employed (source of finance) i.e. owner’s equity plus long-term liabilities must equal the employment of capital (application of finance) i.e. fixed assets plus investments plus excess of working capital.

### Marginal Cost and Marginal Revenue

Marginal Cost is the increase in cost to produce one extra unit.

Marginal revenue, however is the additional gain/profit for every extra unit sold. Higher production does not always lead to higher profit. Profit is also determined by other factors like demand, price and marketing. It would be of no use to increase production, but not being able to sell the product.. Thorough market research would indicate If there is a need for a certain product at a certain price.

Fixed cost is the cost of inputs which the firm needs to produce any output at all. The total fixed cost does not change when output changes. Any other cost of the firm’s operation is called the variable cost. The variable cost will increase as the output rises.

# NATIONAL AND GLOBAL ECONOMY

#### Specific outcome

Use mathematics to debate aspects of the national and global economy

#### Assessment criteria

* Calculate values correctly.
* Use mathematical tools and systems effectively to determine and describe the relationships between the various aspects of the national and global economy
* Debate points based on well-reasoned arguments and supported by mathematical information.

## What is Inflation?

In its simplest form, inflation is an unhealthy and steady increase in the price of goods and services. Since the early seventies, South Africans have been faced with an average inflation rate of well above 10%. The end result has been a steady erosion in the buying power of money. It affects all of us; it will make all of us poorer over time. It will eventually reduce our standard of living, it will destroy our confidence and peace of mind. Speak to anyone who retired on a fixed income in the last ten to fifteen years. At an inflation rate of 15%, the purchasing power of your money halves every 4,8 years.

This creates uncertainty and fear about the future. You cannot make plans for anything worthwhile in your life, not for your old age, not for the education of your children, not for the care of your loved ones.

### How is Inflation Measured?

Inflation is measured by means of the CPI (Consumer Price Index).

**This is done by measuring the cost of a representative basket of goods and services consumed by the average consumer and includes things such as cars, food, clothing, equipment, rentals, services etc.**

Calculated on a monthly basis, the difference in cost is thus the inflation rate.

### What Inflation Does To R50.00

Magnus Heystek's story of the disappearing R50 note:

He explains that R50.00 now will still be R50.00 in five years' time, but we will be able to buy much less with the same R50.00.

R50 in itself is not worth anything. It's what you can do with it in the future that is important.

So, the biggest threat to your money is something called **INFLATION**.

The purchasing power of money is one of the most important concepts when it comes to formulating an investment plan for yourself.

All investments must be geared towards protecting the purchasing power of your money.

### How To Combat Inflation

The effect of inflation is that the value of the rand is dropping. Thus the value of assets rises as the purchasing power of the rands in which they are valued drops. But inflation is not bad for everybody - for every person who loses by inflation, another will gain.

The value of the average family home rises by 12% per annum due to inflation. The winners are present home-owners who see the value of their asset increase. The losers are those who have not yet bought, as it now costs them more to buy.

To beat inflation, one has to earn a real rate of return which means a return that beats the inflation rate after taxes. The successful investor is one who always strives to earn a rate of return equal or above the inflation rate.

Investments in the so-called "traditional" category of investments in banks have, on average, lost 5% of the purchasing power of their money per annum, over the last 20 years or more.

By investing in equities and mortgage bonds, your chances of beating inflation are better.

So it is clear that in times of inflation it is sound strategy to keep the major part of your assets in a form which should increase in value, and only a small part in banks, building societies and other areas where it is losing value every day.

### The Rule of 72

The Rule of 72 is a simple way to calculate the effects of inflation. If we take the number 72 and divide it by the expected inflation rate, the answer will be the number of years for money in cash form to lose HALF of its purchasing power or assets to DOUBLE in value.

**If inflation was at 16% on average over the last 20 years (i.e. 72 ÷ 16 = 4,5), every four and a half years an asset such as an income-producing property would double in price, and the money you have left sitting as interest-bearing deposits would buy half the products it would have bought four and a half years ago. If inflation goes to 20%, this doubling or halving will occur every three and a half years, (i.e. 72 ÷ 20 = 3,6).**

Let's see how inflation can affect a typical married retiree who leaves work with what appears to be a large sum of money. Bill retires at 60 years of age with R200 000 which he invests in fixed deposits at 15%. The return is R30 000 per year of which tax takes around R5 000, leaving just over R25 000 to live on.

Let's look at what happens if inflation runs at 16%.

After four and a half years the purchasing power of the capital is down to

R100 000 and the purchasing power of the annual income is down to R12 000.

In another four and a half years the capital is only worth around R50 000 and the income will buy only R6 000 worth of goods and services.

**Certainly the face value of the fixed deposit would still be a nominal R200 000 but money is only worth what it can buy and its purchasing power has been slashed by 75% in just nine years.**

Contrast this to the position of Jim who retired at the same age and used the R200 000 to buy income-producing property. The return of 10% after all costs meant that initially Jim's income was only R20 000 per year before tax, but due to inflation, grew every year. After nine years the property was worth nearly R800 000 and the income had risen to almost R80 000. By using inflation-beating techniques, Jim had managed to maintain his standard of living. On the other hand, Bill was forced to live on a decreasing (in real terms) income from his investment in fixed deposits.

### Types Of Inflation

#### “Demand Pull” Inflation

**Demand-pull inflation means that the demand for goods and services is exceeding the available supply. The excess demand, especially if it takes place in an environment of adequate credit and cash resources, leads to higher prices.**

Take luxury vehicles for instance. There's an almost permanent short supply of luxury German cars; this can only be good for future price increases.

There are many other examples of this kind of inflation.

#### “Cost Push” Inflation

**Cost-push inflation means that mounting costs of producing goods and services are "pushing" up prices.**

For many years now South Africa has been in the grip of "cost push" inflation. No end to this inflation is in sight. Costs are ever-rising due to a number of factors: salary and wage demands that do not match increases in productivity, and imported inflation, as a result of an ever-increasing rand exchange rate which is caused by inflation itself.

### Long-Term Effects of Inflation

What would you say if you were told that a twenty-five year old person, earning R2 000 per month today, will need to earn R530 000 per month by the time he/she is 65, just to be on an equal footing? (This is based on this person's salary increasing in line with an inflation rate of 15%).

This is exactly what will happen if inflation is not brought under control.

The following table illustrates the decreasing purchasing power of R1 000 at various inflation rates

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Inflation | **10%** | **12%** | **15%** | **8%** | **20%** |
| After 5 years | 620 | 567 | 497 | 437 | 402 |
| After 10 years | 386 | 322 | 247 | 197 | 162 |
| After 15 years | 239 | 183 | 123 | 84 | 65 |
| After 20 years | 149 | 104 | 61 | 37 | 26 |

Frightening, isn't it?

Just imagine retiring on a fixed income at the age of 65, still fairly strong and healthy. If you are male, you can expect to live another 12 years on average. The average female can expect to live another 14 years.

You've saved and skimped all your life. And what happens? Inflation destroys it all, at a time when you are no longer able to work and protect yourself against price increases.

**Example**

John Smith takes out an endowment policy in 1998 which matures in the year 2014, i.e. in 16 year's time.

Assuming inflation stays at an average of 9% over the next few years, we can calculate what the real value of his money will then be, if the projected maturity value is R1.8 million, by using the Rule of 72.

72 ÷ 9 = 8 years

That means that the value of this money will halve every eight years, i.e. R1.8 million has to be halved twice in 16 years.

In other words, R1.8 million divided by 2 = R900 00

And R900 000 divided by 2 = R450 000

His R1.8 million payout in 2014 will only be worth R450 000.

### Business And Inflation

Inflation is linked to demand. A higher demand with less product/service available, causes the price to increase, which causes inflation. Inflation is when it costs more to buy the same product/service.

Inflation affects business in the following ways:

* Variable costs are more expensive.
* Less profits are made if the price is not adjusted.
* Employee salaries have less purchasing power creating demand for increased salaries, and so on, and
* Pricing structures and the way we value things. It becomes more difficult to distinguish between the relative value of different things.

### Business Cycles

Different business cycles which are influenced by the economic situation.

#### Recovery

A business builds up inventories (stock) of goods in reaction to rising sales. Investment in capital goods (machinery & equipment) rises so as to produce more goods to satisfy increased demand. The business needs to employ more workers to help produce additional goods. Unemployment is reduced. Consumers can buy more goods. Employment, total income and consumer spending gradually begin to rise, which creates increases in production, sales and profits. Investments spending increase as the economy looks promising.

#### Boom

As the recovery gathers momentum, shortages of labour and raw materials occur as it becomes difficult to meet the demand for goods and services. Product costs and consumer prices rises. Investment and consumer spending remains high. Interest rates rise because the demand for credit exceeds the availability.

#### Recession

Consumer spending starts reducing. The rise in investment loses momentum because the expected future return on investment falls. This downward trend in investment is aggravated even further by high interest. Many businesses go into liquidation. Production levels, income, living standards and employment drop.

Fall in income and spending translates into a fall in demand, which means businesses provide less goods. Unemployment increases and profits decrease.

#### Depression

Unemployment rises dramatically and consumer demand drops. Prices level off and even fall. Business profits drop, many making losses. Pessimism about the economy increases. Businesses are unwilling to take risk and make new investments. Interest rates fall sharply and banks struggle to lend out their money.

## Taxes

### Why Do We Have To Pay Tax?

All over the world, people recognise the system of paying money to government in return for services which government provides. In South Africa the Minister of Finance is responsible for drawing up a budget in which the total government spending is announced. Projects include state funded education and health care, policing, infrastructure (such as roads and dams, libraries, etc.), to name but a few. Obviously the finance for all of these different government responsibilities must come from somewhere. Individual Taxation (Direct Tax and Indirect Tax) is responsible for the greatest portion of funding. The rest is made up by loan agreements.

**From this it becomes quite clear that if people did not pay tax, the effect on the economy would be devastating. What one may want to examine, though, is the amount of income tax we pay.**

In South Africa the laws surrounding income are statuted in the Income Tax Act. This is a very complicated piece of legislation which dates back to 1914. It covers a range of different types of tax.

In summary, it makes provision for tax to be collected from people who are employed, businesses.

### Employees’ Tax

If you receive a salary, wage or what is known as remuneration for work that you do, then your employer is legally instructed to pay over a percentage of that for tax purposes to the Receiver of Revenue. The word "remuneration" would cover all of the following:

* Salary
* Wages
* Overtime
* Leave Pay
* Commission
* Gratuities
* Pensions
* Travel Allowance

Exployees’ tax is paid according to either P.A.Y.E. or S.I.T.E.

#### Standard Income Tax On Employees (SITE)

This is an income tax levied on the first R60 000 of an employee's total annual salary. Obviously if you earn less than R60 000, you will only pay tax on the S.I.T.E. scale. This tax is "paid" by you directly from your salary to the Receiver.

S.I.T.E. as a method of employee tax collection was first introduced in March 1988. If you are taxed on this S.I.T.E. scale, then you are not required to fill in a tax return.

#### Pay As You Earn (P.A.Y.E.)

It is an income tax that is levied in exactly the same way as S.I.T.E. It only applies when the total annual income of an employee exceeds 60 000. This means that the first R60 000 is paid on the S.I.T.E. system and any amount over and above R60 000 is calculated on P.A.Y.E.

#### Assessment

The second aspect of tax collection involves assessment. Assessment is done only on those individuals who have been taxed on the P.A.Y.E. system. In short - everyone who pays P.A.Y.E. must submit a tax return at the end of the financial year (normally worked out from February of one year to February of the next). The reason for the Receiver of Revenue insisting that people do a tax return is so that they can assess taxable income in relation to taxable liability. What this means in real terms is that if you haven't paid your tax correctly, you will be required to pay the balance in to the Receiver.

The good news though, is that sometimes it works the other way - you may have been over-deducted in terms of your tax. In this instance you may receive a wonderful surprise in the form of a cheque back from the Receiver.

Note: At the end of the tax year, both P.A.Y.E. and S.I.T.E. taxpayers are given what is called an I.R.P. 5 form, to show how much tax has been paid.

The employers of P.A.Y.E. taxpayers pay tax to the receiver from your salary or wages on a regular basis. Inland Revenue provides the employer with a set of tables according to which the tax must be deducted.

During the tax year, you should keep various records for use when you complete your tax return. This includes:

* Salary slips
* Note of all medical expenses, e.g. doctors bills, prescriptions etc. You should also obtain a statement of claims paid out to you by your Medical Aid Society during the tax year
* Receipts from dividend payments, or income from other investments during the year
* Note of any contributions made to retirement annuities or other long-term investments, both taxable and non-taxable
* IRP5 from your employer. Statement of interest earned, e.g. from your bank

### Direct Tax vs. Indirect Tax

#### Direct tax

A direct tax is a tax which is paid by individuals or corporations calculated on the INCOME earned by those people. Because it is based on the INCOME earned by such persons, it is commonly known as Income Tax. Income Tax is paid directly from the person's employer to the Receiver of Revenue. The amount of tax that each person is liable for is based on the total amount they earned in any one-year.

#### Indirect tax

These are taxes which are due to any business transaction. This tax is on the "purchaser - seller" transaction rather than on the individuals concerned. At the same time it must be seen that it is the party who funds the transaction who is responsible for paying the tax over to the party who is offering the goods or services - this kind of tax is called a consumption tax.

The most obvious example of an indirect consumption tax is Value Added Tax. Although we will not deal with Indirect Tax, you may be interested to know that this is a tax which may be levied for example, on a product right from the raw material stage through manufacturing, wholesale and finally to the consumer.

### Taxes paid by companies

A business, like anyone else who earns income, has to pay income tax. Income tax is money that is paid to the government. The amount of tax payable depends on what type of business you are running:

* A **sole trader** and a **partner** pay personal income tax only
* A **close corporation** and a **company** pay company tax, and members/shareholders pay personal income tax as well
* **Company** tax is paid on taxable income, in other words on the gross profit

Taxation has a strong influence on the rate of inflation, productivity, investment, economical growth and employment.

## National And Provincial Budgets

The government spends income tax on:

* Education
* Welfare
* Housing
* Defence
* Law and order
* Health care
* Roads
* Dams
* State debt costs (interest), and so on



Just as you should have a budget, every business and state organisation has a budget. During the National budget of the Minister of Finance it is announced what the budget for education will be. This is the amount of money available to the Minister of Education to be spent on education. Of course, all the government departments are allocated funds in order to run their departments. Examples are: Transport, Defence, Social Services, SA Police Services, and so on.

The Minister of Education will then budget (plan) to indicate which portion of her budget will go to which section of education and how much money should be allocated to each province. A portion of the money available to her will be held back by the National Department of Education for their own expenses and special projects.

The various provincial departments of education must draw up budgets to submit to the National Department of Education, showing how they spent their money during the previous year and how much money they will need during this year to pay their expenses and to use for special projects, such as subsidised bus fares, new schools or upgrading of the facilities of existing schools. The money that is available will then be allocated to the various provinces, based on the requirements of their individual budgets.

As the financial year proceeds, the National Department of Education as well as the Provincial Departments of Education must manage and control expenses to ensure that they do not spend more money than was allocated to them. They must also ensure that the money is spent on the items as shown in their budgets. They cannot ask for money to build new schools and then spend the money on higher salaries for top management, for example.

Every year the Minister of Finance calculates the money that was paid from various sources to the Receiver of Revenue, and on the basis of this figure works out the budget for the next year. It stands to reason that he uses the figure of the previous year and then estimates (forecasts) what amount will be paid to the Receiver of Revenue during the current year. He then uses the planned (forecast) amount to calculate his budget and to allocate money to the various government departments.

### Budgets

When we talk about National and Provincial budgets, budgeting usually consists of a financial plan that shows anticipated (what you think is going to happen) or planned (what you planned to happen) costs, revenues cash balances or net income.

**Costs** would be costs to run the various government departments and includes salaries, rental of office space, salaries, water and lights, telephone, the cost and maintenance of government cars, building of new premises, paying social grants such as old age pension, subsidising transport, etc. The list is very long and varies from department to department and province to province.

**Revenues** would be the monies collected from various forms of tax.

As with your personal budget, a government department on both provincial and national level uses a budget to plan and control expenses (expenditure). It is crucial that persons, businesses, governments (local and national) and all business ventures budget to plan and control expenditure according to projected income. You cannot spend more money than you receive – if you or the national or provincial government departments do this, you and they will run into debt. In the case of national or provincial government departments, it means that:

* pensions cannot be paid,
* school bus operators cannot be paid,
* the books required for schools cannot be bought and delivered to individual schools and so on and so on.

A major benefit of budgeting is that it requires managers to scrutinise and coordinate their operations very carefully, to ensure that they do not overspend. If done properly, this will help management to anticipate, many crises.

Another benefit of budgeting is that managers can and should compare actual costs (expenses) with the costs allocated in the budget – in the same way that you compare your expenses with your budget every month. If there are big differences between the budgeted costs and the actual costs, management can do what is necessary to stop this from happening.

This is why budgets are looked at each month, just like you should look at your budget every month to make sure that you do not overspend.

## National Economic Planning

Any national economy in the modern world requires highly trained specialists to ensure that scarce resources are distributed and utilised equitably – where they are needed most, without ignoring the needs of other departments and provinces.

As mentioned previously, most of government’s monies come from taxes that are paid by individuals, companies, estates and trusts. The various provincial and local governments have to compile budgets every year, giving details of how much money they need and what they will spend it on.

### Energy And Resource Development

Government must provide sufficient energy and other resources that are required for the efficient running of the country, use by private businesses and industries, as well as use by individuals living in the country.

Government must plan for present and future use of these resources by stockpiling raw materials such as crude oil and other strategic materials relevant to the needs of a modern society, as well as ensuring that new plants are built to accommodate future needs.

Then government must ensure that the energy resources are distributed equally amongst the users so that everyone has enough to meet their needs.

### Water Supply, Waste Disposal and Pollution

Similarly, government has the responsibility to provide the following services:

* Water
* Waste disposal
* Control of pollution

Once again, the present and future needs of the country must be planned for and government must ensure that these resources and services are distributed equally amongst the users: industries, businesses, private users.

### Agricultural Development

In any society or nation, the planning and implementation of agriculture policy is of vital importance to the system. The agricultural system any nation enjoys priority, particularly since the feeding of a nation is dependent upon its successful production process.

This sector of the economies of developing countries is by far one of the most important for a variety of reasons. If one looks at the food production levels of many developing countries, one finds them to be of such a low level that emergency food imports have to be undertaken in order to avoid mass starvation. To relieve this problem, much more attention must be paid to 'he informal agricultural sector in these countries and the level of agricultural production must be raised. If surpluses are achieved the national economy can also benefit through the export of foodstuff, which in turn may bring in much needed foreign currency.

One way of doing this is through land reform, which will give all sectors of the public an opportunity to own land. Then, of course, smaller farmers should be supported by government in terms of funds to get started, support during the production process by means of training and government should also ensure that the small farmer can sell his surplus products on the general market.

### Industrial Development

In order for industrialization to take place, infrastructural facilities should be provided. These include transportation facilities, electricity and other energy requirements, markets and other much needed facilities such as raw products.

Once again, all these resources should be distributed equally amongst the users, so that one party does not benefit at the cost of another party.

### Welfare Benefits

Government must attempt to create a public assistance scheme that meets the needs of the society concerned. These needs must be based upon the resources available to the state to meet the welfare requirements.

In many societies the state takes full responsibility for the welfare needs of the community, while in others, private organizations also take part in relieving the more urgent needs of individuals. The state can also assist private organisations on a subsidy basis so that they may give service to certain groups such as unmarried mothers, the handicapped and so on. Often the state helps private institutions dedicated to educating handicapped or otherwise underprivileged members of society.

Health services are also of prime importance and as such, government departments are faced with the serious task of providing medical care for the public. In order to do this, government must be involved in the training process of medical personnel such as doctors, nurses and other paramedical personnel to man hospitals, clinics and other facilities.

## Foreign Exchange

Every country in the world has their own unit of money. This is called currency. For example:

* in the United States they have US Dollars (USD)
* In Zimbabwe, they use Zim Dollars (ZWD)
* Botswana uses the Pula (BWP)
* In England and the United Kingdom they use the British Pound (GBP)
* Switzerland’s currency is called the Swiss franc (CHF)
* In Europe, they also have a combined currency called the Euro Dollar (EUR)

When your organisation starts importing or exporting, you will become involved in foreign exchange. Imports are goods bought from another country and exports are goods sold to another country.

When you import goods from another country, you will have to pay for those goods either in the currency of the other country, or in US Dollars or Euro Dollars, depending on their requirements.

When you export goods to another country, you can request your customer to make payment either in Rand or another currency, usually US Dollars or Euro Dollars.

In the foreign exchange market, it is most important to realise that every price, or exchange rate that is quoted is relative. That is to say that one U. S dollar is worth R7.565 (the rate as per 28 Oct 2006) also implies that one rand is worth 13 cents (U. S): US$ 0.13.

All foreign exchange rates are related to each other as reciprocals. All daily newspapers show the exchange rates for the present day and the preceding day, these can be seen in the financial sections of the newspaper.

For many of South Africa’s major trading partners, such as Britain, the United States of America and many others, there are forward rates quoted for periods of thirty, ninety and one hundred and eighty days into the future. For example, the thirty day forward rate indicates the rate at which a trader can contract today for the delivery of some foreign currency in thirty days time, with the actual transaction and payment taking place after thirty days.

Large banks both in South Africa and overseas comprise the main exchange market. As is typical of all forward markets, there is no set physical location where trading takes place. Instead, the banks around the world, are linked electronically through their trading rooms. A typical room may have access to sixty telephone lines and five or more video quotation screens. The market does not have regular trading hours and it is open somewhere in the world twenty four hours per day. In addition, some large corporations have access to the market through their own trading rooms.

Small corporations and individuals that are too small to possess trading rooms engage in foreign exchange transactions through their own banks.

One way of thinking about currencies is to regard them as being essentially similar to other assets, and subject to the same basic laws of supply and demand. When a particular currency is unusually in good supply, it would be expected that its price would fall. The price of one currency in terms of another currency is merely the exchange rate between the two currencies.. In foreign exchange, the flow of payments between one country and the rest of the world gives rise to the concept **"balance of payments".**

If the expenditures of a country exceed its receipts, then that country has a balance of payments deficit. However, if the receipts exceed the expenditures, then the country has a balance of payments surplus. The balance of payments covers the flow of all kinds of goods and services among nations, including the movement of real goods, services, international investment and all types of financial flows.

In order to understand how considerations of the balance of payments influence exchange rates consider the following simple example:

Assume that country X trades with other countries and always imports more goods than it exports. Because of this there is always an inwards net flow of goods into country X.

Some way, X must pay for these goods, therefore, it is assumed that the government of this country prints sufficient additional currency to pay for the extra imports. However, such a situation can not go on for very long without causing a change in the exchange rates between X and its trading partners.

As the trading partners continue to send more and more goods to X, they collectively have fewer and fewer real goods for themselves, but they have a growing supply of the currency of X.

As the world's supply of the currency of X swells, it becomes apparent that it has only a few uses. Holders can use the currency of X to buy other currencies or to buy goods from X. However, the accumulation of the currency of X continues until there is an excess supply in the prevailing exchange rate, therefore the value of Xs currency must fall.

Similarly, as X cannot continually import more than it exports without the value of its currency falling, no country can continually consume more than it creates, without the same result.

The ideal for any country is to balance the imports and exports. This way, the currency earned from exports supply the currency needed to pay for imports.

### Calculating the value of foreign currency:

To calculate from the foreign currency to rand, use the exchange rate quoted in the newspaper or by your bank and multiply the amount of the foreign currency with the exchange rate to get the amount in rand that you will have to pay for the currency:

You have to pay an amount of US$ 12 890, for goods that were imported:

US$ 12 890,00 (foreign currency) X 7.565 (exchange rate) = R 97 512.85

This means that you will pay R 97 512.85 for the goods you have imported.

To calculate from the rand to the foreign currency, use the exchange rate quoted in the newspaper or by your bank and divide the amount rand with the exchange rate to get the amount in foreign currency that you will have. You want to go overseas and you have R12 890 that you want to convert into US$. How much US$ will you have to spend?

R12 890,00 divided by 7.565 (exchange rate) = US$ 1703.90 (foreign currency)

This means that you will have US$ 1703.90 to spend overseas. This is not a lot of money. The reason for this is that we are a small country and our currency is not strong compared to those of the overseas big industrial countries.

This is a disadvantage for people who want to import and who want to travel overseas. On the other hand, exporters can benefit from a weaker currency as they can get more rand for exports in a foreign currency.

### The price of crude oil

To explain foreign exchange and the balance of payments we will look at two items that have a big influence on the balance of payments and inflation in this country: the price of crude oil and the gold price.

At the moment, South Africa imports crude oil from overseas which is then refined in South Africa to produce petrol, diesel, etc.

We do not have crude oil reserves and SASOL, who manufacture petrol and related products from coal, cannot manufacture enough to supply the entire country. Let us then consider the effect that the price of crude oil will have on our petrol price, considering that we have to import and then pay in a foreign currency.

If the price of one barrel of crude oil is US$ 60 and the US$ rate is US$ 7.565, it costs us:

US$ 60 X 7.565 = R453.90 to buy one barrel of crude oil.

This is just the purchase price, remember the oil must still be transported to us, then it must be refined and transported to the garage/service station close to us so that we can put petrol in our vehicles.

Can you see that you have to look at both the crude oil price and the exchange rate in order to find out what we pay per barrel?

Considering that about three years ago, the price of crude oil was US$ 20 to US$ 25 per barrel, is it surprising that our petrol price has gone up so much?

Since petrol and diesel is used to transport all the goods we use, when the petrol price goes up, it follows that the price of all the goods also go up. This affects us negatively since it pushes up the inflation rate and affects the country’s balance of payments – we now pay more for importing petrol than we did about three years ago.

To cover this increase in payment for imports, we have to increase our exports as well.

### The gold price

South Africa is one of the largest exporters of gold and platinum in the world. This means that the price of gold and platinum also affects our country’s economy.

About three years ago, when the price of crude oil started rising, the gold price also started rising. At the time when oil was US$ 20 -25, gold was selling at approximately US$ 250 per ounce.

At the moment, gold is trading at about US$ 596 per ounce. This means that the price of gold has more than doubled during the last three years.

A gold mine that is exporting gold now can expect to receive:

US$ 596 (foreign currency) X 7.565 (exchange rate) = R 4508.74 per ounce.

If we assume that the gold price three years ago was US$ 250 and the exchange rate was about US$ 9.155, a gold exporter would have received R 2287.50 per ounce.

Once again, you must consider both the price of gold and the exchange rate in order to calculate the rand value per ounce of gold.

Of course, the exporter still has to pay bank charges plus the cost of transporting the gold to the overseas country.

Because we export gold, platinum and other ore such as iron, a higher price for these exports have a positive influence on our balance of payments. Of course, exporters, as you can see from the above examples, want higher exchange rates.

### Overseas travel

On the other hand, a higher exchange rate means that we get less overseas currency when we travel, since it costs us more to buy the foreign currency.