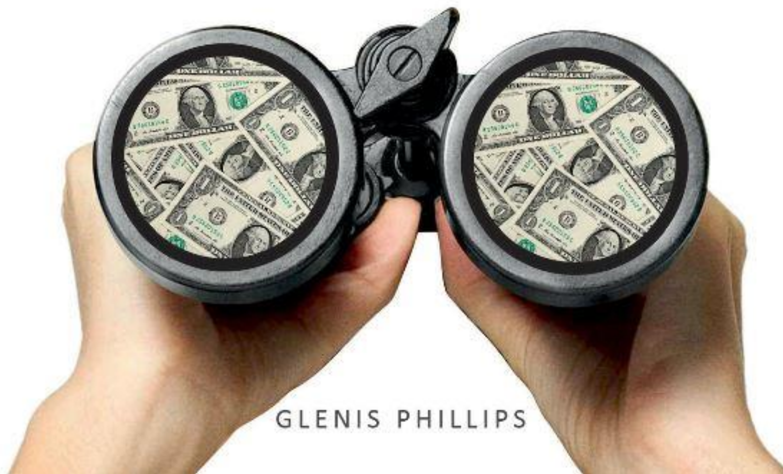
LEARN THE ART OF FINANCIAL MAPPING

UPDATED FOR 2022

MAP *your* FINANCES



GLENIS PHILLIPS

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Chapter 1: Getting to Know your Author

I'm sitting in my Princess Grills Suite on the *Queen Mary 2*, on the third day of my three-week Circumnavigation of Australia vacation. Princess Grills is the second most expensive class on this ocean liner. It refers to the fact you have a separate dining room with an a la carte menu, with food often cooked at your table.

This is the end of a 10-year journey of developing my financial mapping software. It is the world's first interactive software designed to allow any person from any country, with minimal to advanced financial skills, to create a personal financial plan. This plan is like no other seen before, because the software includes an advanced set of modelling tools. These modelling tools will let you test your plan against a wide range of future scenarios where you do not have to rely on long term averages.

I have developed a consumer online product called Financial Mappers. I hope it will be the world benchmark for financial planning, not only for the individual consumer, but for many financial institutions who want meaningful engagement with their clients.

This book is written for those who want to learn how to manage their money, plan for the future and assess the risks. A detailed description of the software is provided in the last three chapters of the book.

The first rule of finance should be 'know your adviser'.

Just as you should get to know your future partner before embarking on a long-term relationship, so too should you know and understand the knowledge and philosophy of any person or organization from whom you may take advice. Thus, I will try to give some insight into how and why Financial Mappers was developed.

By the end of this chapter, I hope you will say:

- Glenis has my interests at heart and not a monetary incentive.
- Glenis has over 40 years of hands-on investment experience.
- Glenis is a teacher, who will teach me the skills I need to learn.
- Glenis is highly qualified in her areas of expertise.

Returning to my story of the *Queen Mary 2*, you may be thinking, 'What is a person dedicated to saving and building wealth doing on such an extravagant cruise?' I could have gone in Queens Grills, the most expensive class, but I exercised some restraint.

Can I afford to go Queens Grills? Sure can! Do I deserve to go in Queens Grills? Sure do!

The question is, 'What should I do with the $10,000 saved? Should I leave it in my retirement account? Should I give myself an extra treat on the cruise, like some long days in the spa treatment room or buy an expensive memento like a fine piece of artwork or jewelry for sale on the ship?'

These dilemmas will come up every day of your life once you start to apply yourself to the sensible management of your money.

I don't want you to live on bread and dripping all your life so you can live like a king in retirement. I want to show you how, with careful budgeting, management of your personal debt, and regular saving into the basic classes of investments, you can grow your wealth so at the time of retirement you can say: 'I have enjoyed the journey so far, but I have set the path for another 30 years of financial independence.' Not only that, but you will know how to manage that large sum of money when you have retired. Remember, your investments and retirement funds may have to be managed

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for a long time. Young people in the workforce today are likely to be retired for longer than their working life.

Saving is deferred pleasure.

How I came from a background of teaching to become the author and creator of Financial Mappers and Advice Online

My husband and I both came from working class families who made enormous financial sacrifices so that all their children had the benefit of university education. We met in the early seventies, when I had been promoted to lecturer at Townsville Teachers College, now part of the James Cook University, and my husband was a first-year intern at Townsville Hospital.

We started married life with no investments but extremely high salaries for the time, with both of us earning more than double the average salary, living in rent-free accommodation, and both in our early twenties. In fact, we saved a 50% deposit for our first investment property within 12 months of marriage.

The problem was we had nobody to mentor us in the art of investing and we spent long hours trying to work out the age-old question: ‘How much money will I need in retirement?’

The 1970s were a different time from now. We were experiencing extremely high rates of inflation and rapidly rising salaries.

We came up with a novel way of working out what we needed to save. We looked at our friends’ parents, who were established financially. Some had arrived in Australia after the war as immigrants. There was a consistent pattern. The family joined their financial resources, saved the deposit for the first house, and from then on, the compounding effect of rent paid by tenants helped fund future investments in more rental properties, businesses and other investments.

Thus we developed what we called the Little House Theory. We calculated what the average income from an average rental property would be. We asked ourselves, how many rental incomes would we need to be comfortable in retirement? Thus, we set about building our modules of ‘little houses’. You need to understand that this did not mean each investment was going to be another rental property. Rather, we would build a range of investments, with each module providing the equivalent income of the average rental property. At any time in our savings life we could quickly add up how close we were to our target of 20 little houses. As inflation rose, the value of the properties rose, as did the income.

I suppose you could call it a back-of-the-envelope calculation, indexed for inflation.

We both read extensively on finance and the history of finance. By the early 1980s my husband was an established surgeon in private practice and my role had evolved from teaching to being in charge of the family’s investments and managing his private practice.

It became apparent early on that investing in the share market was going to be an important segment of our wealth creation. At the time, the Australian Stock Exchange ran free lectures with guest speakers. I started to attend these lectures and gradually, with the help of extensive reading, I developed sufficient confidence to start investing in the share market.

In 1983, the Australian government actively encouraged people to set up their own self-managed superannuation funds. At the time, all the contributions were tax-free and all the income was tax-

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free. The only provision was that of the assets in the superannuation fund, 30% had to be in government bonds. We immediately saw the advantage of this when my husband was paying over half his wages in tax.

A quick note on terminology for retirement funds. Some countries, such as Australia, call their retirement funds superannuation, whereas others call them pension funds. Sometimes these funds have strange names such as 401k. In this book, both superannuation and pension funds will be referred to as retirement accounts.

At this time, the federal, state and municipal governments and their government guaranteed entities, such as Telecom, were expanding infrastructure with the use of bonds, partly funded by public issue. Thus, in these early years of self-managed superannuation, I had to manage a significant portion of fixed interest securities. At this stage, I had not started my formal training in my finance qualifications and I relied solely on the advice of my tax accountant. We started our fund just a few weeks before the end of the financial year and deposited a substantial contribution into the fund. I had to make a quick decision as to which bonds to purchase. The choice was 10-year Aussie Bonds at 14.25% or 10-year Telecom bonds at 15.6%. At the time I didn't know the variation in rates. My accountant said to just purchase Aussie Bonds because it's easier. It was easier to go to the post office and complete the form. The harder option was to phone Telecom and ask them to post me a prospectus.

At the time I had $20,000 invested for 10 years. The difference in income over those 10 years was about $10,000 in interest. This was my first lesson in relying on the advice of experts. While you may ask their advice, make sure the person giving the advice has the knowledge to answer your questions correctly. This was simply a matter of the government of the day introducing a radically new policy with little knowledge for either the professionals or the public in understanding the implications of investment choices. Within a matter of weeks, I realized the implication and deemed that never again would I invest without a full understanding of the investment.

Within a few of years of the commencement of self-managed superannuation, there was a rapid expansion of the financial planning industry. Many large accounting firms started their own financial planning departments.

By this stage, we had accumulated over $100,000 in our fund. Our accountant invited both my husband and I to his office and advised us that superannuation was becoming far too complex for people like us to manage. He was recommending that we use his firm to manage our money. For this, they would charge 4% of the fund as an entry fee and thereafter, a management fee of 2.5% of the value of the fund on a yearly basis. My husband listened to the accountant and felt that because he was the expert, we should follow his advice, but I wasn't convinced. He felt their expertise would ensure we got the highest return. I was still not convinced after the episode with the Aussie Bonds. But first I had to demonstrate to my husband that by not being charged these fees we would be better off managing our own money even if we earned a lower return.

This was the start of my journey in mathematical modelling using a computer spreadsheet program before Excel was even invented. In those days, I had a Model III Tandy computer and used a program called VisiCalc. I set out my model showing the expected returns and costs for both a managed fund and a self-managed fund. I reduced the income of the self-managed fund by 2%. After 30 years of investing, our $100,000 would grow far more under a self-managed fund.

The accountant's prediction was that in 30 years, we would have in excess of $2,000,000 in our fund. At that time, the annual management fee of 2.5% on $2,000,000 would be a whopping $50,000. At last, my husband was convinced. He suddenly realized the long-term implications of relying on paid advice. Unless we accumulated knowledge and learnt from mistakes along the way, we could never actively manage this sort of money in retirement. This was just the money in the superannuation fund, independent of our investment property portfolio.

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I could also see a threat that the government could legislate to make it compulsory to have a person qualified to manage superannuation funds. Thus, I made the decision that I would start part-time study to have the necessary skills and qualifications to manage our super fund.

My next five-year adventure was to complete a Graduate Diploma in Applied Finance and Investments, from the then Securities Institute of Australia. This was the organization responsible for the training of financial planners.

The next lesson came with my superannuation investments in shares. I had not purchased any shares at the commencement of my superannuation fund, because I felt the market was going through an accelerated period of growth and I should wait until after the first correction in market prices.

At this time there were no internet brokers so we had to rely on a full service stockbroker. I did my research carefully based on numerous books and articles I had read, together with public lectures and courses completed as part of my professional training. I made a selection of seven stocks which were all in the Top 50 Australian companies. They were distributed across a range of indices and a range of income-producing and capital growth orientated shares. I thought it was a sound selection as the start of a share portfolio to which I would add more shares as the money became available. They were to be purchased for long-term investment rather than trading. In those days, investors were mainly reliant on the information released by the stock exchange, such as dividend yield and PE and advice from their broker.

At the meeting with my broker, I explained that I was currently studying applied finance and investments, gave him my selection and asked for his advice. I was astounded at the advice I was given. I can only assume that his firm was responsible for floating new stocks and his job was to flog them to anyone who walked through the door.

One of several dubious recommendations was to buy a newly floated company. This company's assets were mainly a block of holiday units in the suburbs of western Brisbane, where I could not imagine anyone would want to holiday. The second asset was a wildlife enterprise whose main attraction was koalas. He looked me in the eye and said, 'These koalas have been valued at $70,000 a koala and thus the company was worth [some ridiculous figure].' When I rejected that offer, he proceeded to go through a similar list of companies, which in my opinion, were unsuitable for any superannuation fund and of dubious valuations.

I rejected all the offers and stayed with my first selection. He could not offer any reason why I should not buy anything on my list. In fairness, I must say from time to time, I did have access through my broker to some fantastic new shares such as Commonwealth Bank, Woodside, Telstra and Woolworths. We held all these shares for many years and they were all stellar performers over the long term. I must also admit I made some mistakes along the way. My view was these mistakes were money well spent. It sharpened my resolve to be a competent share investor using both economic data and charting skills which were, at that time, in their infancy for the solo investor.

As the years passed, I started two businesses which I ran hands-on. The first was a hostel for people with special needs and the second was a video library. I kept both these businesses for several years and became actively involved on the executive of both professional organizations. Thus, I have experienced firsthand the problems of managing two small businesses, in addition to my husband's practice. I spoke with many people in these industries and actively helped in their promotion.

By the start of 2000, my family had grown up and left home, my businesses had gone, and I was left with time on my hands. I returned to full-time study for a year to complete my Diploma in Financial Advising. My aim was to write an educational book on personal finance, but with a twist. In the back of the book would be a CD with a set of Excel spreadsheets for people to do some simplified

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calculations and explanations of the effect of the choices that have to be made in personal finance. The book was written, and the CD created, but it was suggested to me at the time that, rather than a book with a CD, I should consider some proper software for personal finance. This would be a better educational tool. I decided to take that latter path.

By this time, I had created some complex mathematical models in Excel. However, the computer power and the limitations of Excel 2003 limited the effectiveness. It was not until the introduction of Excel 2007, better home computers, and the introduction of the iPad and touch screens, that I realized I could finally create my dream. This was my opportunity to create the first truly interactive modelling software for personal finance by the time laptops, iPads and androids were commonly used by most people.

I wanted the first release to be an international product. I spent a considerable time reading and analyzing the basic rules of taxation and retirement funding in some of the major economies of the world. The software would be user-friendly internationally. While there will be more refinements in time for other major economies, there is sufficient choice for any person to consider the broad brushstrokes of taxation and retirement planning within the first release of the software.

My goal is to give any person with the skills to read a paperback on general personal finance the ability to manage their money using the cloud-based software.

This book and my software are a result of 45 years' experience in investing.

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Chapter 2: Financial Mapping and Introducing Financial Mappers

Not only is this book about my personal financial journey. It is about the art of financial mapping, and you can use any software which provides you with the resources to map your finances. Financial mapping is the ability to plot out, over an extended period, all your future financial plans. When looking for such software, make sure that it includes all financial decisions, such as budgeting, saving for something special, managing debts, building an investment portfolio, monitoring your retirement accounts and how you plan to drawdown money to live on during retirement. Where Financial Mapping is different is that, apart from using long term average returns, you can alternate between a range of returns without losing your original data. At any time, the software should provide you with a series of reports so that you can quickly obtain the information you're looking for in a quick and easy-to-understand format.

For those who have not ventured into the world of financial mapping, you can still use many of the free internet calculators or apps to get some of the more simple areas of finance arranged for the time being.

Financial Mappers, in my opinion, is by far the most advanced financial mapping tool. As I designed it, I will use it to demonstrate how to use financial mapping to your best advantage. The program is designed to allow multiple options for future planning by looking at a range of 'What if?' scenarios. In addition, specific modelling tools have been created so you can turn on and turn off elements such as changes in income, the price of assets or interest rates. To allow these instantaneous changes to recalculate throughout the program, a process has been developed which is different from the format you would expect if the software were an accounting package. The product is cloud based.

I will make reference from time to time to features in Financial Mappers. However, this book is not intended to be a manual for the product. It is to give you the knowledge to improve your money skills and entertain and hopefully educate as you follow my journey of personal experiences.

A good financial mapping product should be quick and easy to use. Often you just want a 'back-of-the-envelope' picture before you start detailed planning. That is looking at the cause and effect of different financial choices. In Financial Mappers, the program has prefilled all the entries with default values, which you can customize. This allows you to start using the program with limited inputs. You can then customize the inputs or select a specific rate rather than the default rate. If you change the default rate, all rates nominated at the default rate will automatically change and recalculate. If you select historical data, all rates will automatically be changed to the historical rate, regardless of you selecting the default or specific rate. If you activate any of the modulators, the rates nominated in them when activated will change. When you deactivate the modulator or historical rates, the rates will return to the previously selected value.

For each asset account there will be the choice of the default fee or a specific fee. Depending on the asset account, specific fees may include dollar and percentage values. These would include bank fees, management fees and performance fees. In Retirement Accounts additional fees are included. All dollar values are entered in present value and the program converts the value to the future value based on the nominated inflation rate and the year of calculation.

Financial Mappers creates automated reports which will change seamlessly as you activate and deactivate the options. A customisable report writer allows me or financial institutions using my Wealth Mapper Engine to create any sort of report a client may need.

In addition, the product selections cater for the international market. There is sufficient choice to create both tax schedules and retirement accounts, which meet the rules of most countries.

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The software was developed to provide you with the answers to your financial questions. I have converted extremely complex mathematical formula into a software package which will allow anyone to create a financial plan. It is designed so that when you start, there are only a limited number of items to enter. The rest are pre-programmed. As you become more skilled and have more questions you want answered, the software will allow you to drill down to answer them. I hope that if you decide to use my software, you will be taken through a journey of learning, far beyond the information in this book.

If you are interested in Financial Mappers or just want a better understanding of how it works, you can view a number of videos on the website or YouTube. You can also download PDF files from the website which show how to use the software and make sample plans, together with samples of all the reports from the software.

The most important issue is the management of debt. For this reason, I have dealt with both personal, home and investment debt separately.

The second most important issue is the development of a financial plan which allocates your investment across the broad range of investment types. I have attempted to discuss each of these investment platforms and encourage you to learn them so you can build your own financial plans.

If you prefer to use the services of a financial planner, that's fine. This book will equip you with the skills to understand what the planner is doing and ask pertinent questions if you have any queries regarding his or her intentions or their understanding of your personal financial needs. In addition, you can print and take a copy of your wealth guidance report to your meeting. This report provides a detailed analysis of a 30-year plan. This will save you a lot of time and your advisor will have a better understanding of the lifestyle choices you want to include as part of your total wealth management.

Always remember that some areas of financial and tax planning will require expert advice. You should not make any major decisions without discussing these matters with a person both qualified and licensed to give that advice. This book will usually refer to either superannuation or pension plans as your retirement accounts so as not to confuse you.

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Chapter 3: Budgets and Financial Planning

In the 1950s, a long-term study was made of business students and how they accumulated wealth over their working life. At the beginning of the study, it was found that some 3% of the students had written down a long-term financial plan. Thirty years later, it was found that those 3% of students held 80% of the wealth accumulated by the total group of business students.

The lesson is—you must have a plan and write it down.

Current research indicates that 85% of people believe they should have a financial plan for both short- and long-term targets. However, only 20% of people take the time to develop a plan. If you are one of the 65% who have not written down your financial plan, I urge you not to put it off any longer. You now have the tools which will allow you to make that plan, store it for future use and revise it as needed.

Financial Mappers can become your personal financial management hub.

First look at your current lifestyle and the expenditure of that lifestyle. It may help you to spend a month writing down everything you buy. There are simple phone apps which will help you with this exercise. Impulse buying can be a major problem.

Financial Mappers include a set of Excel Tools where you will find some month-by-month Budgeting workbooks.

You stop to look in the new car sales yard, not because you need a new car, but because it’s fun to dream about what you might like to own. The salesperson talks up the sales, does a few calculations, and tells you how much it will cost a month. Before you know it, you own a new car and have a debt for five years. This debt could cripple your ability to save for more important items or purchase some other little luxuries like a night at a theatre or restaurant.

On a smaller scale, simple things like clothing costs, snack foods, cigarettes and taxis can get out of hand. Before you go to the supermarket plan your meals, write down the ingredients you need to buy, and purchase only what is on your list. By teaching yourself discipline with these simple things, you will find you will have the money to save. A saving of $20 a week grows to $1,000 saved in one year.

I regularly come in contact with people of average and even limited incomes who have a wonderful lifestyle. They enjoy most of the types of things I have done over the years and have saved sufficient funds to have a comfortable retirement. However, they budget carefully and prioritize the lifestyle activities which are important to them. They manage by buying a cheaper car, a smaller house in a less expensive area, and are more likely to buy secondhand.

To get the big picture, write down where you hope your financial status will be at the end of each five-year period of your life. For example, when do you want to buy a home? When will you pay off the mortgage? At what age do you want to be financially self-sufficient?

Financial Mappers is designed to let you build a 50-year financial plan. This should be created in five-yearly sets so you can see how you’re progressing.

If you find you’re in a situation of excessive debt with little opportunity for saving and wealth creation, I recommend you start with the Debt Management Report. You can download a sample PDF file from the website. Enter all your current loans and create your budget and financial statement. Then set about reorganizing your finances so you can see your way to a reduction in debt. The Debt Management Report will give you strategies to reduce your debt.

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Look at your personal debts and start repaying those with the highest interest rate. Carefully go over your personal budget expenses and make a genuine attempt to cut out all unnecessary expenses. While you can't live on a tight budget for long periods of time, sometimes desperate situations require desperate actions.

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Inflation

Inflation is a word which describes how much comparative costs rise on an annual basis.

For example, if your weekly shopping food bill rises from $100 to $105 over the space of a year, the cost rise of your shopping bill is 5%. The following year, if you try to buy exactly the same food, you will only be able to buy the equivalent of $95.24 worth of groceries. That is, you will have to buy less food for the same value. Alternatively, you must spend $105 to buy the same groceries.

This demonstrates a difficult but important concept in personal finance. It's called 'loss of money value'.

This may not seem important now but if you have $100,000 in your bank account, earning no interest, and inflation is 5%, at the end of five years, the present value of your money will be $78,352. Over five years, you have lost 21.65% of the value of your money. In 10 years, the value of your money will be $61,391 and you will have lost 38.61% of the value of your money.

To maintain the value of that money, your bank account must earn 5% after taxes. If you want to grow your money, the interest rate earned must be more than 5% after taxes.

Inflation and CPI index

The Consumer Price Index (CPI) is the most common measure of inflation. It is a record of the change in price of a set basket of goods and services generally consumed by the public and averaged over the major cities of the country.

The Bureau of Statistics for your country will provide detailed information regarding the Consumer Price Index. To find the website, use the words 'Consumer Price Index plus [your country]'. They will list the current inflation rate, the projected future inflation rate, and provide historical data of previous inflation rates.

Where prices are increased in Financial Mappers, it assumes that price will rise at the rate of Inflation. However, you should be aware that not all costs or prices will rise at the rate of Inflation or the CPI. Some costs and prices will fall. For example, the cost of cars relative to a person's income has fallen in recent years. Where prices fall, this is usually related to improved methods of production, access to cheaper labor and in some cases, a change in the exchange rate where goods are imported. On other occasions, costs will rise faster. For example, at the moment in Australia the cost of electricity is increasing.

When buying real estate, the aim of every investor should be to buy property which is going to rise in value at a faster rate than inflation. This can be accomplished by buying in areas which are likely to have a higher demand in future years. The types of things which could make the value rise faster are the introduction of better transport links and the natural increase in population. The demand for real estate moves away from city centers when prices are no longer affordable for most people.

When buying real estate, you should also think about what may lower the demand for the property you purchase. For example, there have been rapid increases for property values in towns close to new booming mines. However, once the mining boom is over, the demand will be almost non-existent and both rents and sale prices will fall dramatically. This is one time when the 'buy and hold rule' does not apply. It is a bit like musical chairs, everything is fine while the music is playing, but you don't want to be holding the parcel when the music stops.

Traditionally, house values have been limited by average incomes. In the past, house prices overall remained at four to five times average salaries. When the average salary was $50,000, the average working family could expect to pay $200,000 to $250,000 for an average suburban home in the average sized town or city. The price was limited by the ability to service the loan. In the last 20 years, we have seen a rapid increase in double income families and thus, the ability to service higher

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mortgages. This increase in disposable income has resulted in a move away from the average multiple. However, these higher prices are still limited by the limitations on joint incomes. Therefore, be cautious about the likelihood for house prices to continue this rapid rise. With rising child care costs and incomes not keeping pace with inflation, this continued rise could falter. Coupled with higher interest rates and higher unemployment, real estate prices could suffer a fall as in the United States of America and the United Kingdom.

As of 2016, Australia continues to have one of the highest house prices relative to income in the world.

Calculating future and present values

In the Handy Quick Calculations, you can convert values to both future and present values.

1. **Future value:** Enter the inflation rate, the present value and the number of years in the future and the future value will be calculated.
2. **Present value:** Enter the inflation rate, future value, the number of years from the present year and the present value will be calculated.

Examples: The inflation rate is 2.5%. The value is $100,000 and the number of years are five years.

The future value of $100,000 after five years of inflation would be $113,141.
The present value of $100,000 after five years of inflation would be $88,385.

These calculations can be handy when you want to do a quick calculation of future and present values before you start working on your financial plans.

In Financial Mappers, all dollar entries are made in present value and the program converts the value to the future value according to the nominated inflation rate. This method improves the dynamic nature of the program because you can quickly change the year of the purchase of a house, for example, and the purchase price will be automatically adjusted.

In the budget, all entries remain in present value. Where the program imports calculations from other sections, these are converted to present value.

Both the retirement plan and the summary page can be viewed in either present value or future value. This allows you to view the figures in what is often referred to as Today's Dollar Value.

Debt Servicing Ratio

Debt is a two-edged sword. It can allow you to buy and have the use of an asset now. In the case of your home, this saves you rent and allows you to gradually pay off the loan over a long period of time. In the meantime, you have the benefit of any rises in value of the total property.

If you allow the debt component of your budget to be too large, sacrifices will need to be made in other areas of your lifestyle.

Lenders have a number of criteria for assessing loan applicants. One of these is called the Debt Servicing Ratio (DSR). This is the portion of total debt you can afford to pay from your after tax (net) income.

Many lenders allow a Debt Servicing Ratio up to 30% to 32% of your net income. In previous years, the norm was in the region of 25%. Give careful thought to what is an appropriate rate for your financial circumstances. When calculating the amount for a loan, some lending institutions may include 2% above the current interest rate when determining your DSR. No allowance has been

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made for this 2% in Financial Mappers. However, you could increase your current interest rates, using the modulator for loans, and then calculate your DSR.

It is important to look at all debt, instead of just a single loan. If you have personal loans such as credit card debt and car repayments, the cost of servicing these debts must be included in your DSR. This figure should be used as a benchmark to flag excessive debt.

Financial Mappers includes both regular monthly payments and any additional payments to calculate DSR. However, the Debt Management Report will also calculate the DSR without additional payments.

To assist you in understanding your DSR, Financial Mappers will also use word descriptions such as moderate, high and very high levels of debt.

Debt management

Excessive borrowings, high interest rates and interest costs which are not tax deductible impede wealth creation. If you have short-term high interest personal loans, your aim should be to create a budget which allows the repayment of these loans as quickly as possible. Your first priority should be loans with the highest interest rates.

If you are one of the many people with excessive credit card debt, use the credit card calculator to give several alternative loan repayment scenarios so you can plan to repay this debt as quickly as possible.

For people who have poor money management skills, consider replacing your credit card with a debit card. The card is used in the same manner as a credit card for purchases. The difference is that you have to save the money before the purchase can be made. In this way you will not attract any interest costs.

Financial Mappers allows you to create numerous loans. Experiment with how you can adjust your budget so you can increase your loan payment schedule.

A good exercise is to create a budget which will do the following in order of priority:

1. Repay credit card debt and any personal loans used for items with no intrinsic value. For example, going on a holiday, paying off a wedding, or buying sporting and electrical goods.
2. Ensure interest-free loans are paid within the interest-free period. If you have one of these loans, increase the monthly payment amount so that the loan is repaid two months early. If an emergency occurs, and you have to miss one or two payments, you will still have the loan paid before high penalty charges occur.
3. If you have a car loan and there are no high penalties for early repayment, repay the loan quickly. In the meantime, start a savings plan to ensure you don’t need to borrow for a car in the future. The same applies to similar loans for boats, caravans, recreational vehicles, etc.
4. Try to repay your home loan in 15 to 20 years. If you can’t repay your home in this time span, you have probably purchased a home which is too expensive for your income.

Optional personal expenses

There are numerous free apps for making budgets and I recommend you take the time to make a formal budget.

The budget in Financial Mappers allows you to tag any item which is optional. That is, if for any reason your anticipated salary is reduced or not available for a short period of time, you can manage without spending on these items.

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If you decide to use *Insurance Needs—Self Evaluation*, the program will not include these items when calculating your likely expenses if you are unable to work through sickness or accident. Another option is to apply a percentage of your optional expenses to repaying those high interest loans as quickly as possible.

The way you plan your budget will depend on your priorities. Obviously, your fixed costs and loan commitments are pre-determined.

I recommend you pay yourself first by allocating a percentage of your salary to your investment plan.

The person focused on wealth creation will set their next priority as goal saving for personal items such as cars, holidays, etc, instead of using personal loans. The person with excessive personal debt will focus on how to make additional payments to loans.

Look for areas where you can find additional money. Start with revising both your living and discretionary costs.

When planning your budget, don't set yourself up to fail. Make sure you have a balance between your current lifestyle and saving for your future lifestyle.

Leave a reasonable proportion of your funds unallocated. Every month there is sure to be an unexpected expense such as an illness, car problems or house repairs.

Leave sufficient funds to cater for these unplanned expenses.

The budget will calculate how much is unallocated or if you have 'insufficient funds' for your current budget. In this case, the expenses are greater than income. After you have activated the modulators or historical data, check your budget and bank account to see if you still have sufficient funds.

In addition, the Debt Management Report will calculate the approximate additional cost of loan payments using your Interest Rate Assessment Tool. The default calculation will calculate the additional funds you will need if interest rates rise by 2%. The additional cost is discounted for currently budgeted additional payments. It is recommended you have this amount unallocated in your budget in case variable interest rates rise over the next five years.

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Chapter 4: Consumer Finance

Consumer finance relates to credit cards, interest-free purchases and personal unsecured loans for items such as electrical goods, furniture, entertainment and holidays. They are loans to support lifestyle choices rather than growing wealth with appreciating assets financed by loans.

Generally, interest on consumer debt which is not repaid within any interest-free period is extremely high, even without interest-free periods. Interest charged on consumer loans is always high.

If there is an interest-free period, it is essential to repay debt before the high interest rate starts. If used in this manner, consumer debt can be useful in terms of paying for items without carrying large sums of cash or meeting unexpected costs. Repaying consumer debts in a timely manner may help to build a sound credit rating.

Generally, consumer debt is for the self-indulgent, who sacrifice the opportunity to build future wealth for immediate gratification.

Credit rating

All countries have some form of credit rating system for borrowers. A credit rating is a score determined by your income, assets and liabilities together with past performance in relation to repaying debt.

In America, a common credit rating used by banks is called a FICO score. Australia is in the process of developing a national scheme.

Lenders pay agencies to report the credit rating of potential borrowers. For this reason, it is important to maintain a good credit rating.

Generally, the consumer has the right to review their credit rating and ensure the information is correct. If you are having difficulty with getting loans, it may be worthwhile checking on your credit rating.

To develop a good credit rating, you may need to borrow for some consumer items simply to demonstrate your ability to repay loans. If this is the case, borrow for small items with low or no interest which can be repaid quickly.

Credit cards

Credit cards can be useful when used correctly. At times, the only method of payment accepted is by credit card. Having a credit card saves you from carrying too much cash and is useful for unforeseen expenses. However, ‘maxing out’ your credit card is destructive to your wealth creation.

As a credit card holder, you need to establish some rules for its use. Read the terms and conditions of your specific credit cards carefully to ensure you don’t encounter unnecessary expenses. Read the recommendations and warnings from your government’s consumer protection department. Each country and sometimes each credit card distributor within a country will have different rules.

These are matters you should pay particular attention to:

1. **Minimum payments:** Minimum payments may be listed as a dollar amount or percentage of balance. Generally, a minimum payment will not cover the interest on the credit card balance. Thus, the balance of your loan is increasing.
2. **Rewards:** Unless you spend substantial amounts on your credit card and always repay the balance of your account by the due date each month, rewards programs are unlikely to offer any significant benefit.

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3. **Cash withdrawals:** Cash withdrawals from a credit card may activate interest charges on all purchases from the time of the cash withdrawal. Repayment of the cash advance does not automatically cancel the interest charged on the advance, but is deducted from the balance of the account according to its rules. Usually, the loan payment is used to repay the balance with the lowest debt first. Thus, your cash advance balance is continuing to grow with more interest charges until the payment balances have been repaid in full. Governments are in the process of trying to regulate how payments are allocated where there is more than one interest rate applied to the loan categories.
4. **New purchases:** If you have a credit card balance from the previous month, you may forego any interest-free time periods on new purchases where the account balance is not repaid in full by the due date.
5. **Interest rates:** Check if the interest rate is charged from the date of purchase, statement date, or due date.
6. **Annual fees:** Where credit cards charge an annual fee, the interest is sometimes lower. If you repay your credit card on time every month, it would be better to have a credit card with no annual charge, but a higher interest rate.
7. **Credit card limit:** Periodically you will be offered a chance to increase the limit on your credit card. Make sure the credit limit is an amount which suits your ability to repay the debt. As a test, use a credit card calculator to determine if you can repay the limit in less than 12 months. If you can't, don't increase the credit card limit. For example, if you have a credit card limit of $5,000 at 17.25% interest, you must make monthly payments of $457 to repay the credit card in 12 months. In addition, you can make no further purchases during those 12 months.

In recent years, credit card debt has been rising to unacceptable levels. If you want to create wealth, the first step is to remove all credit card debt. An alternative is to use a debit card for everyday expenses and keep a credit card for financial emergencies. A debit card allows for ATM and EFPOS payments only. Therefore, you cannot make purchases unless you have the money in your account.

If I asked you to tear up a $50 note at the end of each month, you would think I was crazy. If you have a credit card debt of $3,500 at 17.25%, you are wasting $50 a month in unnecessary interest cost.

As credit card debt is considered such a serious impairment to wealth creation, Financial Mappers has a special calculator which allows you to work out, on a month by month basis, a strategy to reduce your credit card debt in the shortest possible time.

Consumers with serious credit card debt involving a number of credit cards are sometimes encouraged to transfer this debt to a home equity loan, repaying it over the length of a home loan at a much lower interest rate. This is not a good policy. If you added the $3,500 to your 20-year home loan, paying 8% interest, the interest cost will be another $3,500 over this time. Long before that time, the consumer item no longer existed.

In addition, the home is used as collateral for your loan. If your financial situation worsens, you may lose your home.

Credit card debt has become the new social problem for all developed countries. With inflated property and equity values and the lowest interest rates in over 30 years, the modern consumer has been on a binge of consumer debt. Unlike many other financial problems, credit card debt appears to be affecting both low- and high-earning individuals equally.

Credit card debt for personal expenditure is one of the highest costing debts the consumer can have. You need to address the issue of your credit card debt. You must find a way to cut your lifestyle expenditure until the debt is repaid. Alternatively, take a second job until it is repaid. This may be the lesson you need to remind yourself in the future—that you will never accumulate credit card debt again.

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If you are unable to repay all your credit card debt within 12 months, it is recommended you seek the help of a financial counsellor to consolidate or refinance loans.

Interest-free loans

Shops which sell consumer items such as furniture and electrical goods are constantly promoting interest-free purchases.

The reason for not charging interest is likely to be one of the following:

1. The cost of the interest is built into the price of the item. Check other stores to compare price. When you go to the shop, ask what their best price is for a cash transaction.
2. The store does not carry the cost of the interest, but sells the loan to one of the companies which provide consumer credit. In this case, the company knows that sufficient consumers will default on the 'interest-free' time period, to make the exercise profitable. Make sure your purchase does not cause you to be one of them.

While there may be no interest cost for a nominated period, the interest cost after the free period will be extremely high. In many cases, if you do not pay the entire loan within the nominated time period, interest is charged on the total amount of the sale price, rather than the balance of the loan.

For example, if you purchased furniture for $4,000 interest-free for 12 months and you repaid only $3,500 by the end of the year, you would be charged interest on the $4,000, rather than the $500 balance. If the interest rate was 24%, the interest cost added to your loan is $960.

Every interest-free loan will have its own set of rules. It is imperative that you read every last word of the contract. If you don't feel competent to do this, have someone other than the salesperson assist you with the reading and explanation.

While there may be no interest costs, you will almost certainly be subject to administrative fees. Make sure this cost is not a quasi-interest charge.

These loans are what I call 'smoke and mirror loans'. They pretend to be giving you something for nothing, but you can often end up getting something which is very expensive.

If used correctly, interest-free loans can be a good way of improving your credit rating and having the use of goods before you've paid for them. The important issue is to ensure the loan is repaid within the interest-free time period and that you realize you are probably paying a higher price than people who pay cash and ask for the 'best price'. A word of advice, always ask for the best price when buying in shops which offer interest-free shopping.

The following ideas may be of assistance in avoiding some of the pitfalls of interest-free loans:

1. If there is no penalty for repaying the loan faster than the nominated period, divide the amount of the loan by two months less than the number of interest-free months. If you make those repayments, you will have the loan repaid two months early. If you have a financial emergency in the meantime and miss one or two payments, you can still repay the loan within the interest-free period.
2. If you aren't allowed to make additional payments, save two months' payments before you purchase the item and have this money allocated in your emergency fund money. If an emergency does occur you will have the payments covered for two months.

Interest-free loans should be viewed with extreme caution. No one gives you the use of their money for nothing without a catch. You will almost certainly be able to purchase similar goods for a lower price elsewhere.

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Unsecured personal loans

Unsecured personal loans are freely available, particularly if you have a good salary, however, the interest cost will be high. This does not dissuade the poor money manager.

If you want a $5,000 holiday, you need to put in place a savings plan so that you can afford that holiday, if not next year, then the one after.

For example, if you want to take the holiday in 12 months, you must save $417 a month. If you take the holiday now using a 12 month personal loan at 16%, and monthly fees of $10 a month, you will have to pay $464 a month for the year after you return. This is an additional $47 a month, or an additional $684 in total.

This type of loan is dumb. Don't even think about it.

If you don't already have your investment plan well underway, expensive holidays should be put on hold.

I remember many years ago, my husband came home and told me how a friend of his was taking the whole family to Disney World at a cost of $20,000 which he had borrowed. At the time, we had $20,000 ready for our next investment. I said to my husband that if we invested the $20,000 now, in 20 years' time we could afford an overseas holiday every year and we certainly won't need to borrow the money. Fortunately, he didn't need much convincing and that's why we can now afford to go on the *Queen Mary 2*.

Borrowing to buy consumer items adds to the cost of these items and does nothing to improve your financial strength.

In general, you should save rather than borrow for consumer goods and services.

Financial Mappers has a special section called 'Lifestyle Goals'. This allows you to list your personal financial goals such as saving for a new car or holiday. The difference is that this personal saving is included in your Investment Plan and is part of the percentage of salary you save. If the Bank Account has sufficient funds at the end of the year in which you want to purchase the item, the money is withdrawn from the account, on the assumption you will proceed with the purchase. If there are not sufficient funds, you will be advised that you did not achieve your goal. You should then go back and see how you can increase your savings so that you can reach your personal financial goals.

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Chapter 5: Car Finance

Your first major loan is often for the purchase of a car. This asset, like boats, caravans, etc, is quite different from all other assets as it loses value over time. Loans for your home or investments are expected to result in increased wealth or income.

The purchase of a car can be an emotional choice and this may override common sense in relation to what you can afford.

The choice of car and the amount you spend on transport will be decided by many factors apart from economic ones. Because you are studying this program, it is assumed that you wish to learn how to use your money effectively. This means that sacrifices may need to be made in the areas of optional spending.

Transport 'needs' and 'wants' should be critically evaluated before purchasing a car.

There are four major costs to be considered when owning a car:

- Holding costs: insurance, registration and auto club membership.
- Running costs: petrol, repairs, tyres and parking fees.
- Depreciation: the car will lose value as it is driven and will need to be replaced in time.
- Interest on loans: if you chose to borrow money to finance your car, the cost will vary depending on the type of loan you negotiate.

Remember that the car is a depreciating item and will need to be replaced. While working with your budget, try to include a saving regime to purchase your next car in the section 'goals'.

Loan types

Car loans are normally a short-term loan, over three to five years. The interest costs will depend on the length of the loan, the size of the loan, the purpose of the car and security offered against the loans.

The types of loans usually available are:

1. **Principal and interest loan:** Monthly equal payments consist of interest charged for that month and a part of the original money borrowed. The amount borrowed is reducing each month.

2. **Principal and interest loan with balloon (residual) payment:** Instead of repaying the total amount over the length of the loan, a portion of the loan is repaid as a single amount at the end of the loan. The balloon payment, or residual amount, as it is sometimes called, is usually quoted as a percentage of the loan.

   If you have a 40% residual amount on a $10,000 car, you will have to pay $4,000 at the end of the loan. Loans of this type result in a lower monthly payment. Financial Mappers does not offer this loan format as different companies use different formulas.

3. **Business loans:** If you are in a position where you have a business overdraft or a business instalment loan, the interest rate will be lower than the rate for a personal loan.

4. **Secured loans:** Offering additional security or collateral will reduce the interest costs. Security offered may be an additional mortgage on your home or a guarantee from a relative. However, if you default on the loan, the lender can force you to sell your home to repay the loan. Worse still, your relative may be forced to sell their security to pay your loan. While your

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interest rate may be higher on a car loan with no additional security, if you default on the loan, the borrower only has the car to repossess.

Interest costs can be significant in the total expenses of the car. Reducing the amount of the car loan by saving for a larger deposit before purchase, will save interest costs.

Limiting your personal debt is the first step to fast-tracking your wealth creation.

If you can't comfortably repay the car loan over three years, you should consider buying a cheaper car or increasing your deposit. I would also recommend that you keep the car more than three years and start saving for the next car, so it can be purchased with cash or a much larger deposit.

Interest rates and monthly loan payments

Interest rates for car loans are controlled by three variables:

1. **Loan amount:** Higher interest rates are charged for smaller amounts.
2. **Length of loan:** Higher interest rates are charged for shorter time periods.
3. **Security:** Additional security or collateral will reduce the interest cost.

This type of loan is called a tiered loan. All banks will provide you with a printout of interest rate charges for the various combinations of time, amount and security. These can be confusing, particularly when loan charges are included.

The arrangement can be complex. The following is a sample of interest rate differences at a time when the variable home loan rate was 8.06%.

All fully secured loans were charged 9.97%, regardless of amount or term of loan and all business loans were charged 8.25%, regardless of amount or term of loan.

However, when the loan was unsecured, a loan of less than $10,000 (term one to two years) was 14.71 % and for loans more than $10,000 (term one to two years), the interest rate was 13.21% (term three to four years). If the loan was for more than $10,000 (term one to two years), the interest rate was 12.71% and the interest rate was 11.64%. That is a substantial difference in costs and you need to be careful which loan you accept. It is important not to consider whether or not you can afford the monthly payments.

The loan you choose should have a balance between the monthly payment amount you can afford and the amount of interest charged.

The shorter the loan, the higher the repayment amount, but the less interest you will pay.

Depreciation costs

As soon as you drive a new car out of the car yard, its resale value will be less. The difference between what you paid for the car and its resale value is called depreciation. This is a major and often unconsidered cost of car ownership.

There are several ways of estimating the amount of depreciation. The method you choose will depend on the importance you place on that cost.

The rough guide—prime rate depreciation

The rough guide depreciates the value of a vehicle by an equal amount over each year of the expected life of the vehicle.

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If you expect your $20,000 car to have a life expectancy of 10 years, you could allocate $2,000 a year for depreciation costs.

Average depreciation rate for selected categories—diminishing value depreciation

A car does not lose value at the same rate over the course of its life. It loses more value each year when it's newer and less as it ages.

One auto club has calculated figures based on a new car being held for five years. The depreciation rate for a medium-sized car is 16.74% for each of the first three years and 13.69% a year for cars which are three years and over in age.

A $20,000 car will depreciate $3,348 per year for the first three years if it is new. A three-year-old car worth $20,000 will depreciate $2,738 a year. This is a saving of $610 in the year.

Research on a specific vehicle

For the thinking car buyer, the final choice of car purchase may depend on how the car will hold its resale value and thus reduce the depreciation cost. Both secondhand car dealers and insurance companies have a book price, which lists the average price of a particular secondhand car in average condition for the age of the car. A common guide, which can be found on the internet for most countries, is Glass's Guide.

Once you have narrowed your car purchase options to type, price and age, you could estimate the possible depreciation cost by checking the average prices being asked in the used car section of the classifieds. It could be worthwhile finding out which cars in the category you are looking to purchase will hold the best value.

The smart buyer will consider the depreciation costs.

Alternative to buying a car

Whenever you are faced with a financial decision, particularly in relation to lifestyle spending, it is worthwhile sitting down with pen and paper or Financial Mappers and giving yourself three realistic, achievable options.

You need to 'think outside the square' and ask, 'What if?' So far you have looked at the difference in the cost of buying a new or secondhand car. Only you can make the choice.

The third choice is 'Do I need to own a car?' Before discounting this out of hand, consider the following points:

- Do you live within walking distance of your work place?
- Can you cycle to work?
- What is the cost of using public transport for work and taxis when needed?
- Is it cheaper to relocate closer to work and pay a higher rent or buy a more expensive house so as not to finance a car purchase?

Lost opportunity

You should also consider what you could have done with the money instead of buying a car.

Imagine you have received a small inheritance of $50,000. The options are:

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Option 1: Buy a new $50,000 car.
Option 2: Buy a new $25,000 car and invest $25,000.
Option 3: Keep your currently owned car and invest the $50,000.

Assume the car depreciates at 15% pa (diminishing value method) and any investment would return 4.5% pa net.

What will be the financial position at the end of each year for the next five years?

Option 1: The car will depreciate in value from $50,000 to $22,185 over a five-year period.
Option 2: The car will depreciate in value from $25,000 to $11,093 and the investment earning 4.5% pa will be valued at $31,315, giving a total value of $42,247.
Option 3: A $50,000 investment, earning 4.5% pa would be worth $62,309.

Twenty years later, your investment will be worth over $120,000, and any car would be worthless. (These calculations do not include any tax paid in income)

This is the difference between buying a depreciating asset such as a car and investing your money in an asset which grows in value and earns income.

If you were 20 years old and choosing your first car, selecting one with lower ownership costs and cash outlays would enable you to commence your wealth creation earlier.

Then, by the time you are 40 to 50 years old, you will have the funds to purchase any car whenever you wish, provided you had accumulated income-producing assets.

Think of saving as a deferred pleasure.

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Chapter 6: Home Finance

Buying your home may well be the single most important financial decision you make. The wrong decision can severely hamper your future wealth.

In these days of easy credit, large loans are made available to us. This can make it almost impossible to reduce the size of the loan in any reasonable time.

In this consumer society, we often want to have large homes and are told we can afford them, but the large borrowings are not sensible.

Financial Mappers was designed to focus your attention on what type of loan is suitable for your lifestyle and future expectations. You need to think beyond 'Can I pay next month's mortgage payment?'

The family home is an important investment. The equity you build in your house through its rise in value and your repayment of the loan will enable you to embark on further loans for investment without having to raise large deposits.

The most common recommendation by financial planners is to pay off all personal debt which is not tax deductible. This includes the home loan. In most countries, the interest payments on your home are not tax deductible. Once the home loan is repaid, money previously used to repay the loan can be directed towards investments.

The other choice is to invest at the same time as paying off the home loan. This is possible, where you choose to have a less expensive home or have saved a larger deposit. By entering the investment market earlier, you will have the opportunity to increase your wealth through additional time in the market.

When considering a home loan, ask the following questions:

1. What deposit is required to avoid additional loan costs such as mortgage insurance and higher interest rates?
2. What percentage of my after-tax income can I allocate to home loan costs without impeding on the quality of my lifestyle?
3. How long should I take to repay this loan? Do I need to have this loan repaid by a certain stage of my life? For example, should I have this loan repaid before my children reach high school?
4. If interest rates rise, can I continue to pay this loan without excessive financial stress?

Financial Mappers has four formats for loans which may be used to purchase a home or investment property. These loans are:

- Interest only loan
- Principal and interest loan
- Interest only loan followed by a principal and interest loan
- Principal and interest loan with options:
    - Introductory interest rate
    - Redraw facility
    - Refinance.

Buying and selling costs

Buying a home involves a number of initial costs and each must be considered to ensure you have adequate funds.

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Items to consider:

1. Relocation costs such as packing, moving, cleaning and establishing utilities.
2. Upfront costs such as insuring the new home, paying your share of rates and/or body corporate fees, which are deducted from the seller's account on the day of settlement.
3. Property and termite inspection prior to settlement.
4. Property valuations and surveyor's fees to ensure you are not paying too much for the property and are buying the advertised property.
5. Mortgage insurance charged by banks to protect their interests if you do not have sufficient deposit. The amount varies according to the percentage deposit and the cost will increase with lower deposits.
6. Loan application fees from your bank or lending agency.
7. Legal fees for transfer of title deed and protecting your interests during the sale.
8. Government charges such as stamp duty on sale, and fees related to mortgages and registration of new ownership.

When the time comes to sell your home, consider the following costs:

1. Real estate agent's commission fees.
2. Advertising costs.
3. Legal fees.
4. Fees relating to closing out the mortgage and establishing a new one if you are changing homes.
5. If you purchase a home before the sale of the previous home is completed, you may have to pay bridging finance until the house is sold. These costs could be substantial and force you to take a lower sale price, because you cannot afford to finance the two loans.

There are numerous government and commercial websites which give information regarding the likely costs.

While the costs in each country may be different, they will always be substantial. As a rough guide, allow 5% of the purchase price for additional buying costs and 4% for selling costs, if advertising costs are low. On a home with a value of $500,000, the house would need to rise in value by 8% or $40,000 to recover your buying and selling costs.

In times when house prices are not rising rapidly, it can take a substantial time to recoup these large costs.

Home ownership should be viewed as a long-term investment. Real estate is not a liquid asset.

How other debts will affect the amount you can borrow

Lenders set the Debt Servicing Ratio (DSR) which they consider allow you sufficient funds to service their loan.

This pre-determined ratio doesn't take into account your personal spending needs. In recent years, there has been a tendency by lenders to increase this ratio. This allows you to borrow larger amounts.

In more recent times, this DSR would be 30%–32% of after-tax income. As interest rates may rise, the monthly payment may be set so that the DSR won't be exceeded if interest rates rise by up to 2%.

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The DSR takes into account not only the proposed loan, but any other existing loans. Thus, having other loans may reduce the amount you are able to borrow for your home. Each lending institution will have its own set of rules for determining the DSR.

Consider three people each earning a net salary of $100,000.

1. The first person, John, has no debts.
2. The second, Jill, has a car loan and she is paying $250 per month over the next four years.
3. The third person, Joan, has the same car repayments as Jill, but is also paying $150 a month off a $3,000 credit card debt.

If these three people wanted to buy a house with a loan interest rate of 7.0% over a period of 25 years, the amount they could borrow would be different for each person.

Using a DSR of 32%, John, who has no debts, could borrow $377,000. Taking into consideration the car loan payments of $250 a month, Jill's borrowings would be limited to $342,000. Joan's borrowings would be reduced still further to $270,000.

In this exercise John is able to borrow $107,000 more than Joan, who is repaying her car and credit card debt. If Joan could pay off that credit card debt before purchasing her home, she could borrow the same amount as Jill. This is $62,100 more.

In each case, the lender has allowed a margin of approximately $400 a month in case interest rates rise.

If interest rates don't rise, John could pay the $420 a month allowance off the loan as an additional payment. Under these circumstances, John would reduce his loan by just over seven years and save $137,452 in interest costs.

This is a powerful start to a good long-term wealth creation plan.

Variable versus fixed interest rates

The standard home loan usually comes with a variable interest rate. This means that as interest rates rise and fall due to determinations by the Reserve Bank and the bank that owns the mortgage, the amount of your repayments are recalculated by the lender.

For example, if you have a 30-year loan of $120,000 with a variable interest rate of 8%, your monthly repayments will be $881 per month. For every 0.5% rise or fall in interest rates your monthly repayments will change by approximately $40 a month.

For many people a 2% increase in interest rates would put undue pressure on the budget and could cause some households to default on their repayments. Banks typically factor a 2% increase in existing interest rates to calculate how much you can afford to borrow.

One way to protect yourself against a rate rise you cannot afford is to borrow with a fixed interest loan. In this situation, the interest rate agreed to with the bank stays the same for the period of the fixed interest term, regardless of how much interest rates rise or fall.

By having a fixed interest loan, you are transferring the risk of higher interest rates to the lender. When calculating the fixed interest rate, the lender must take this risk factor into account. There will be times when the long-term fixed interest rate is lower than the current variable rate. However, in recent years, this has generally been the exception. Depending on the lender's expectations of future interest rates, you may be subjected to additional fees and charges for fixing the interest rate.

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The length of time you can fix your interest rate will vary from country to country. For example, in the USA you can borrow for 15 and 30 years at fixed interest, while in Australia, the limit is usually 10 years.

Many websites provide a current list of comparative interest costs.

There are a number of disadvantages of fixed interest rate loans:
1. You don't benefit from any reduction in interest rates.
2. Additional payments may not be permissible.
3. If you wish to refinance, there are likely to be substantial costs involved.
4. Generally the variable interest rate averaged over the length of the loan is lower than the fixed rate for the same period.

Other alternatives are:
- Fix the interest rate for part of the loan amount.
- Fix the interest rate for a short period, perhaps two or three years, before reverting to the variable interest rate.

Fixing the interest rate is a safety factor until your financial situation improves and you can afford the risk of higher interest rates. It also avoids fixing the entire loan for a long time at higher interest rates as interest rates are just as likely to fall as rise.

The following is a comparison table of interest rates charged by the same Australian bank between 1999 and 2008:

Interest Rates			
	Nov 1999	Feb 2001	Sep 2005
Variable home loan	6.80%	7.56%	7.32%
Fixed one year	6.99%	6.9%	6.85%
Fixed three years	7.49%	6.99%	6.47%
Fixed five years	7.99%	6.99%	6.99%
Fixed 10 years	8.39%	N/A	6.99%

Note the interest rate differential in November 1999 and September 2005.

In 1999, the variable rate was considerably less than the 10-year fixed rate. In 2001, 10-year fixed rate loans were not offered. By 2005, the variable rate was higher than the 10-year fixed rate.

These changes will reflect the bank's perception of how interest rates are likely to change at that time of the economic cycle.

Could you have predicted in 1999 an interest rate rise of 1.25% in nine months? Could your budget have withstood that higher interest charge of about $100 a month for every $100,000 of the mortgage?

The variable interest rates averaged over the period 1999 to 2005 is considerably less than the 7.99% fixed rate for five years in 1999 and 8.39% fixed rate for 10 years in 1990.

In March, 2016, the variable home loan rate was 4.39%. The fixed interest rates rose from 4.49% for one year fixed to 4.59% for five year fixed. Ten year fixed loans were not available.

It is not possible for you to predict future interest rates. If you need to protect yourself from short-term rate rises that you cannot afford, fixing the interest rate is a good means of protection. But this

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protection is likely to come at a cost. Over the long-term, the variable interest rate is likely to cost less.

The Modulator for Loans gives you two options to test interest rate changes. The first allows for a change in both fixed and variable interest rates using the default values pre-filled in the program or customizing the interest rate changes. The second method is to choose one of three economic cycles and nominate the year in which you want to start the economic cycle of interest rate changes.

Back-testing with historical data demonstrates the effect of different interest rates. Over recent years, interest rates have been kept artificially low in many countries by their Reserve Banks. This cannot continue forever.

The Debt Management Report has a special calculation called the interest rate risk assessment. You nominate a percentage rise in interest rates. The program considers all your variable interest loans, takes into consideration any planned additional payments which could be diverted to defray the new payment schedule and calculates how much extra you will need to fund the higher interest charges in each of the next five years.

Predicting future interest rates

The decision whether to have fixed or variable interest rates is a gamble, as you can't predict future interest rates.
Nor can your friends and family, the real estate agent, the bank manager and all the economists in the world.

The best indication can usually be found in the statements and reports published by the Reserve Bank of your country.

The single most important factor in the selection of fixed interest rates is your ability to handle dramatic changes in interest rates and the need to protect yourself against these changes.

All forms of interest rate protection come at a price. It's like an insurance policy.

A limited cost is better than an unlimited loss.

Lenders who offer a fixed interest rate will generally charge a higher rate than the variable, because, like you, they can't predict future interest rates. They will charge a fee for the risk they're taking.

For example, the 15-year fixed interest rate (USA) in 1990 was 10.33%. The average variable rate between 1990 and 2004 was 7.5%. During that time the interest rate started at 9.52% and ended at 7%. The lowest interest rate was in 1988 at 6.27% and the highest was 9.52% in the first year.

Governments expect their Reserve Banks to monitor inflation, economic activity, foreign exchange rates and interest rates. The government usually sets targets for economic factors and the Reserve Bank adjusts rates to meet the targets.

After the globally high inflation rates of the 1970s, governments generally set the priority to maintain inflation at 2% to 3%.

However, in recent years, there has been a divergence of policy between the major economic powers of the world. Some countries are reducing interest rates to stimulate the economy, while other countries are raising interest rates to stop the rise of inflation.

The twin evils of high inflation and high interest rates are a constant battle for Reserve Banks. Often it is the home owner with a mortgage who pays the price.

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Emotive factors often come to play in home ownership. Allocating too much money over too long a period to purchase your home will severely limit other lifestyle choices and savings programs.

While your home provides you with collateral and will increase in value, you don't benefit from income which may have been earned had you purchased a home which cost less and at the same time invested the balance of the funds elsewhere.

Another option to consider is the purchase of a smaller home, and when needed, expand the house. This saves the cost involved in relocating to a larger home. If you live in cities where the cost of any average home is high, consider renting and investing your money in a rental property in an area which is more affordable. This property may be somewhere you could live at a later time after you have significantly reduced your debt and had the benefit of generous tax deductions.

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Chapter 7: Investment Finance

For wealth creation, the most important thing you need to understand is how to borrow money for the right purposes, at the right interest rate and with the right amount of deposit or collateral.

Borrowing money for investments can be the making of your financial security or its undoing. Used correctly, ‘gearing’, or borrowing money for investment purposes, can dramatically increase the growth of your investments. However, if used inappropriately during the wrong economic cycle, borrowing can have dire effects.

The key is never placing yourself in a position where you are forced to sell when a market turns down and you are unable to continue to service your debt.

Borrowing for private use has been discussed in detail in the sections relating to cars and homes. You have been introduced to the concepts of borrowing and how it affects your overall financial status. You should understand the sections on car and home loans before you continue to read this chapter.

Cash flow in principal and interest loans and interest only loans

With an interest only loan, regular interest payments are made (usually in monthly instalments) on the amount of the loan. The loan amount is repaid in full at the end of the loan. In a principal and interest loan, the interest and capital are paid (usually monthly) in equal instalments until fully paid.

Interest rates charged on interest only loans are usually marginally higher than the equivalent principal and interest loan.

An interest only loan requires less regular outlay to support it because no capital payments are made. However, the loan must eventually be repaid. The usual method is to sell the asset and use some of the proceeds to repay the loan. The strategy of interest only loans relies heavily on the asset rising faster than inflation and interest charges, but profit may be reduced by capital gains tax.

Interest only loans can be effective where your cash flow is limited in the initial period of the loan. As the income and the capital value of the asset rises, converting the loan to a principal and interest loan eventually allows you to buy the asset outright, and in the process, reduces interest costs.

One specific type of interest only loan is a margin loan. A margin loan is usually used for buying shares, with the shares being used as collateral. With this type of loan, if the value of the shares falls below a predetermined level, the borrower must provide further collateral or a cash injection to maintain the correct percentage of equity. If the borrower is unable to do this, the lender will sell the shares at market value to provide the required cash injection. Margin loan interest rates are higher than interest only loans secured by property. In the share portfolio in Financial Mappers, the program calculates when a margin call is due and the amount by which your portfolio is over the margin limit.

Compare two investors who wanted to purchase an investment for $200,000, and borrow the money at an interest rate of 10%. The outlay for the interest only loan would be $20,000 ($200,000 x 10%) per year for each year the loan is outstanding. With a principal and interest loan, the investor makes equal payments (usually monthly), for the length of the loan. Each payment amount repays part of the capital and interest outstanding on the loan.
If both loans were for 10 years, the loan payments on the principal and interest loan would be $2,643, $977 more than the interest only loan. However, the saving in interest costs is $82,838. The reason is the balance of the loan is reduced each year by paying down the value of the loan. With the interest only loan, the $200,000 still has to be repaid.

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Property assets are usually held long term, and if sold, can initiate substantial capital gains tax. If you never sell your property you never pay capital gains tax.

This can be an effective strategy provided you buy properties you believe are good long term investments.

Tax considerations: interest only versus a principal and interest loan

Important note: Financial Mappers does not offer tax advice. However, provision is made for some limited estimation of tax liabilities. Given the nature of the product and its international use, any calculations can only be of limited value. You must not rely on information in the program when considering tax advantages. You should seek advice from a tax accountant or financial advisor qualified and licensed to give that advice.

Each country has specific rules relating to the tax deductibility of interest. Usually, the interest cost can be written off against the combined salary and investment income. In some countries, the interest can only be written off against the income received from the investment and not against the salary. In Financial Mappers, it is assumed that where interest is tax deductible, the cost may be written off against both salary and investment income.

Interest only loans are popular for investment because all the cash outlay (interest on loan) is usually tax deductible.

A negatively geared investment is one where the interest costs are greater than the net income received from the investment. In this situation the tax due on the salary is reduced.

For example, an interest only loan of $20,000 for five years at 10% interest would incur an interest cost of $2,000 a year. If the net income from the investment was 4% or $800, the additional $1,200 interest cost would reduce the investor's tax. Where the investor's income was $50,000 and taxed at 25%, the tax before the interest deduction would be $12,500. However, the negative $1,200 ($2,000–$800) interest cost reduces the investor's taxable income to $48,800, a tax saving of $500.

In the case of a principal and interest loan, the annual payments would be $5,099 a year. Each year of the loan would see a reduction in interest costs. Annual interest costs would be $1,854, $1,514, $1,139, $724 and $266. With an income of $800, the property is negatively geared for the first three years, with the tax advantage reducing each year. In years four and five, the investment would be positively geared, and the investor will have to pay tax on the income after interest costs. If the tax rate were 25%, the tax would be $19 in year four and $134 in rear five. When the investment is fully paid off, the investor would pay $200 (25% of $800) tax on the investment income.

Note that the total interest paid is $10,000 for the interest only loan and $5,497 for the principal and interest loan.

While the interest costs for the principal and interest loan are lower, the cash outlay during the length of the loan is considerably higher.

A second consideration is the ability to borrow more for the same outlay when borrowing interest only.

For example, the investor with an interest only loan could increase the amount borrowed from $20,000 to $50,990 in the above exercise. If the asset were to increase in value at 5% per annum, the profit on the sale at the end of the loan would increase from $5,525 to $14,088.

Capital gains tax is usually at a lower cost than income tax. Some counties do not have any capital gains tax on the sale of investment assets.

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The tax implications discussed above are of a general nature only and not country-specific.

Before any money is borrowed for investments, the tax implications should be discussed with your accountant.

To calculate the tax due in Financial Mappers, you must nominate which tax schedules you want to activate for income tax and capital gains tax. For income tax you can select the progressive tax scale of a nominated country and a flat tax with a tax-free limit or a combination of both. The reason for the inclusion of the flat tax is for people who want to allocate some cost to other taxes such as state taxes, health care or social security charges.

For capital gains tax you can nominate no capital gains tax, flat rate and percentage of profit taxed as income.

Collateral and loan equity

To protect their investment, lenders will hold a mortgage over the purchase or other asset. This gives the lender the right to recoup the amount of the loan should you not meet your loan commitments.

The asset guaranteeing the loan is called your collateral or security. It doesn't necessarily need to be the asset for which you are borrowing. Items which can be used as collateral are your home, investment property or occasionally shares.

For each asset type, the lender will set the percentage of equity required for lending. Most lenders will lend up to 90% for a home loan (provided mortgage insurance is charged), 80% for a property investment and possibly only 60% to 70% on shares. Many lenders will not allow shares as security and insist on a collateral equivalent of 80% of a property valuation. Where shares are allowed as collateral, the lending institution may allow you to purchase approved shares only. This is usually a list of blue chip shares.

Equity for loan purposes is referred to as a percentage. If you have a home valued at $200,000 and your loan is currently $150,000, your equity is 25% or (200,000—150,000/ 200,000) x 100% or $50,000.

If your home loan had been reduced from $200,000 to $100,000, you would have 50% ($100,000) equity. If you wanted to borrow to buy shares, the bank would take a second mortgage over your home and lend you up to 80% of the value of your home equity. In this case you could borrow $80,000 to buy shares.

In the same situation, if you wanted to purchase an investment property, you would not need to save the 20% deposit. You could use the $100,000 equity in your home together with the value of the investment property as collateral. If you wanted to purchase an investment property worth $300,000, the combined value of the two properties would be $500,000. The $100,000 equity in your home would provide you with the equivalent of the 20% deposit.

Where you are unable to supply sufficient equity, the lender will expect you to purchase mortgage insurance. The cost of mortgage insurance can be significant. To reduce your borrowing costs and to lower your personal investment risk, it may be wise to save a larger deposit before embarking on the purchase.

Reducing your home loan is the first major step in establishing collateral to borrow funds for investment.

Financial Mappers will calculate the equity in dollar and percentage values at the start of each year.

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Home ownership and investment loans

Home loan interest is not tax deductible in most countries. Where this is the case, you are best to pay cash for your home and borrow for investment properties. As most of us can't pay cash for our home, paying it off in the shortest possible time is usually the best solution.

Once the home loan is repaid, you are able to divert the same payment amounts towards your investment loans or savings. Collateral for future borrowings is created by your home equity. It is for this reason in Financial Mappers that home ownership is considered part of your wealth creation, rather than a personal expense. However, the calculations are segregated from your direct investments and retirement accounts.

The major danger of this policy is that, by using your home as security, you could be forced to sell it if you are unable to meet your commitments to the investment loan. Make sure you have considered factors such as falling asset prices, no income from the investment, rising interest rates, accidents, sickness and employment security. You need to protect your home security.

Some investors buy a small home which they pay off quickly, moving to a new home and keeping the debt-free home as an investment. A major problem with this strategy is that new home loan interest is not tax deductible and the income from the original home is taxable.

If you plan to keep your first home as an investment property, the details of your strategy should be discussed with your accountant in the early years of home ownership.

Personal debt versus investment savings

A common question from potential investors is whether or not to repay the home loan and other debts before saving for investments. For an investment to be effective, the investment income after tax must be greater than the cost of personal loans. Generally this is difficult to achieve.

The interest earned on investments is taxed at your marginal tax rate. In the example below, the marginal tax rate is 43.5%. Note the interest which would need to be earned before it was better to invest rather than repay the loan:

- Credit card loan at 15.25%: 22.26%
- Car loan at 10.5%: 15.33%
- Home loan at 7.5%: 10.95%

The higher your marginal rate of tax, the higher the interest rate you must earn on your investments to match paying off personal debt. By reducing personal debt, you will have more money to apply to your saving and investment plan.

Deposit (principal and interest loans)

A deposit is the amount of money you save before borrowing to purchase an asset.

Having a deposit of at least 20% and preferably more can avert the dangers of changing economic or personal circumstances.

If you were to purchase an asset for $400,000, the deposit required would be $40,000 for a 10% deposit, $80,000 for a 20% deposit and $120,000 for a 30% deposit.

The following are some reasons to save as much deposit as possible before commencing a loan. In our example we will examine 20-year loans at 7.5% interest and varying deposits.

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1. Loan repayments will be lower where the deposit is larger. For example, if you purchase a $400,000 property at 7.5% interest over 20 years, the monthly repayments will be: $2,660 with a 10% deposit, $2,365 with a 20% deposit, and $2,069 with a 30% deposit.
2. Total interest paid over the length of the loan will be lower.
3. If interest costs rise, the additional payments may be more difficult to find. For example, if interest rates were to rise 2%, the monthly loan payments would rise by: $485 with a 10% deposit, $431 with a 20% deposit, and $377 with a 30% deposit.
4. Usually, the deposit requirement for property is 20%. Where the deposit is lower, the lender may demand mortgage insurance. This insurance can be expensive. Mortgage insurance costs can vary considerably from lender to lender and are generally not advertised by the lender until the loan has been approved. Long before you borrow, make sure you have a clear understanding of mortgage insurance costs. You may be better to save a little longer and contribute this money to your deposit.
5. If the value of the asset decreases in value, you are more likely to retain equity with a higher deposit. For example, if you borrow with a 5% deposit to purchase a $400,000 property and prices fall 10%, the value of your property is now $360,000 but your debt could be as high as $380,000. Thus if you were forced to sell the property, you would have to repay an additional $20,000 on the outstanding loan as well as paying for the selling costs. If the deposit had been 30%, (borrowing $280,000) a temporary fall in value to $360,000 is of no concern to you or the lender. If you were forced to sell at $360,000 you would recover $80,000 less your selling costs. Because you have this equity, with larger deposits, you are far less likely to have a 'forced sale' situation.

At times, property prices rise faster than the investor can save their deposit. In these situations it can be tempting to scramble onto the rising property ladder.

A rapidly rising property market usually ends in a decline of prices. However, it is extremely difficult to time when and if the fall will occur.

Length of loans (Principal and Interest Loans)

The longer your loan, the greater the total interest paid.

The shorter the loan, the lower the total interest; but the annual loan payments are greater. Adjusting the length of the loan will provide a balance between affordable loan payments and reasonable interest costs.
With an interest rate of 7% on a 20-year loan ($100,000 amount), the interest cost is $86,072. Interest is $139,505 on the 30-year loan. For an extra 10 year loan time, you are paying an additional interest cost of $53,437, an average $5,340 interest each year for the last 10 year period.

To shorten the 30-year loan to 20 years, the additional payment is $25 a week. After year 20, you could then divert the $775 a month loan repayments to other investments.

Paying that additional $25 per week for every $100,000 of debt owed on your home loan is an important financial step for future wealth creation.

The same principle should apply to investment loans.

Positive gearing and self-funding loans

Positive gearing is where the net income from the investment covers the interest costs of the loan. Negative gearing is where the investor has to make additional payments to meet the interest costs. Negative gearing is often an attractive tax strategy as the interest payments are tax deductible. This will reduce the average tax paid by the investor.

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Some investors are uncomfortable with high debt. They would prefer to have what I call a 'set and forget loan' or a positively geared loan. Their aim is to buy a property with a sufficient deposit so that the tenant's rent will pay off the loan. The amount of deposit will depend on three variables:

- **The net (after expenses) rental income of the investment:** The higher the return from the property, the less you will contribute to the loan payments. To achieve positive gearing, you would normally purchase property with a high rental income.
- **The interest rate charged on the loan:** Positively geared loans are easier to achieve if the interest rate is lower than the net income. If you are getting a 10% net return on your investment and the interest rate is 7%, you will automatically be positively geared. If you borrow at 10% interest with a net income of 7%, you will need a substantial deposit to be positively geared.
- **The length of the loan:** The longer the length of loan, the lower the repayments. By increasing the length of the loan, you may make the investment more self-sufficient in the immediate instance. However, in the long term, you will pay considerably more interest on the loan.

It's good to see how you can manipulate these variables to find a satisfactory balance between the three.

Additional payments

A self-sufficient loan is one where the rent will cover all costs and loan repayments. Consider the purchase of a $400,000 investment property which you want to be self-sufficient. The property has a net rental income of 5% or $20,000 a year ($1,667 per month). The interest rate is 7.0% and length of loan is 25 years. For the loan to be self-sufficient, you will need a deposit of $164,140, leaving a loan amount of $235,860. In this case the investor has a 30% deposit.

The following payment schedules are considered in the table below:

- The net rent is used to pay off the loan.
- The net rent plus a further $25 per week, ($1,300 a year) from your savings.
- The net rent plus a further $50 per week, ($2,600 a year) from your savings.
- The net rent plus a further $100 per week, ($5,200 a year) from your savings.

A small ($25 per week) contribution from savings will reduce the length of the loan by 3.6 years and save $44,833 in interest costs.

A moderate ($50 per week) contribution from savings will reduce the length of the loan by 6.2 years and save $75,577 in interest costs.

A considerable ($100 a week) contribution from savings will reduce the length of the loan by 9.8 years and save $115,745 in interest costs.

Finding that 'bit extra' to add to your mortgage payments will result in substantial interest cost savings and provide unencumbered ownership earlier.

Loan protection and insurance

Borrowing money to invest is an important means of increasing wealth. The issue is not a matter of whether or not you should borrow, but rather how much, when and for what? You must ensure you can continue to finance the borrowings should you lose your job or become ill.

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During their working life, 60% of people will require at least three months off work due to sickness or accident. This is a significant risk which must be considered before embarking on a loan which requires financial support from your primary source of income.

There are various types of insurance policies which may protect you to some degree from these events. The cost of these policies increases dramatically once you reach 50 years of age.

For this reason, you should attempt to have your savings program well underway by the age of 50. If you can make your investments self-funding by this time, you may not be forced to sell if you are unable to work through ill health or become unemployed.

If you have followed this strategy, you can reduce the level of insurance protection as you get older. The saved insurance costs can be directed towards further investment.

Financial Mappers has a report called Insurance Needs—Self Evaluation. By completing the details of the report, the program makes the necessary calculations to demonstrate your income and expenses for accident or sickness, total and permanent disability, and death. In the case of death the program calculates the funds which may be available to your loved ones and dependents.

It is recommended that you seek professional advice in matters relating to insurance.

Financial Mappers helps teach you the principles of borrowing and debt management.

For investment loans you should consider the following:

1. Income from investments in the form of either interest, rent or dividends will affect the amount of additional money required to service the loan.
2. Capital growth or an increase in the value of the asset will increase the amount of loan equity over time.
3. Taxation rules specific to your country may increase the effectiveness of your loan strategies and cash flows.

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Chapter 8: Loan Equity and Capital Growth

Wealth is created by a rise in the value of the asset and income earned by the asset. A loss is made when the investment loses value. Capital growth or loss is the rise or fall in the value of the asset.

A basic rule of wealth creation is that borrowing for investments gives a greater base from which to grow.

If you invested $10,000 in shares which are expected to increase in value at the rate of 5% per annum, the shares would be worth $16,289 in 10 years' time.

If you used that $10,000 as a 20% deposit you could borrow $40,000 to purchase a total of $50,000 worth of shares. The shares purchased would be worth $81,445 in 10 years' time. After repaying the loan of $40,000, you will have shares worth $41,445 from your original investment of $10,000. This assumes dividends and tax advantage approximately cover the interest cost for borrowing.

The danger is that market conditions change over that time and the expected gains may not be realized.

Two major factors which affect the price of any investment are:

1. **Supply and demand for the investment:** Investors tend to have a 'herd' mentality. As soon as the share market appears to be rising, everyone wants to jump in. At the first sign of the prices falling, many will 'leap before looking'. These extreme supply and demand situations force the markets to be over or underpriced at those times.

   Recognizing these lows and highs is one of the fundamental basics of investment. You have no doubt heard the saying 'buy low, sell high'.

2. **Supply and demand of money:** While certain investments may appear attractive, they can't be purchased without access to money at a reasonable price. Central banks attempt to control the supply and demand of money by raising and lowering interest rates. As interest rates rise, the cost of holding the investment rises and it becomes less attractive. As a result, the demand falls and prices fall.

Try to choose assets where demand is likely to rise, and buy at times when borrowing costs are low.

How are capital growth and loss measured?

All assets will lose or gain value according to supply and demand. An index shows the percentage of increase or decrease in value of an asset class.

Some common measures of price changes are:

Consumer Price Index (CPI): The most common measure of inflation is the Consumer Price Index. The index records the change in price of a set basket of goods, consumed by the public and averaged over the major cities of that country.

While the CPI will give an indication of how prices in general are rising, it does not reflect the rise in specific items. For growth investments, the minimum requirement is growth greater than the rate of inflation. If they do not achieve this, they are losing value as measured against the value of money. The CPI is maintained by the Bureau of Statistics for each country. There is usually a selection of CPI types and you should use the one most appropriate to your needs.

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Share Price Index: A Share Price Index measures the change in price of a group of shares (equities). The most common index is one which measures the major companies of a country. Throughout the world, the Standard and Poor's 500 Index is generally employed by the local share market to maintain various share indices. A sample of major indices is S&P 500 (USA), All Ordinaries and ASX200 (Australia), and FTSE (United Kingdom).

There are numerous indices to measure various prices related to the share market. For example, a Transportation Index measures the change in price of a selection of companies involved in that industry.

An Accumulation Index measures the total increase in value, including dividends reinvested as well as the change in capital value of the shares.

House Price Index: Both governments and commercial companies have developed a range of property price indices. Because the majority of investors using Financial Mappers are likely to invest in domestic housing, the Established House Price Index (Australia) is employed to measure changes in real estate. However, if you are investing in commercial or industrial property, the indices relating to those properties would be more appropriate.

If investing through a property trust, you would look to the Property Trust Index.

Approximations to the Share Price and Housing Indices are used in Financial Mappers. Historical price data is used to back-test your financial plans over selected time periods.

When choosing an average long-term rate of capital growth for different asset types, you should use long-term average capital growth to assist you in selecting a figure appropriate to your financial plan.

By using the inflation rate found in Financial Mappers' default rates, the program can calculate both present and future values.

Historical changes in capital growth

The aim of every investor is to purchase assets which will increase in value at a greater rate than inflation. If the asset rises at the same rate as inflation, no real capital growth has been achieved. If the asset increases in value at a lower rate than inflation, the investor is actually losing money.

Various categories of investments will produce different capital growth rates during different time periods. The following chart demonstrates the growth of the three types of assets over three-year time periods:

- $100,000 unnamed assets(index linked to the CPI)
- $100,000 portfolio of shares (index linked to All Ordinaries)
- $100,000 property (index linked to Established Houses Index)

The portfolios are assessed from historical data supplied by the Australian Bureau of Statistics and Standard and Poor's. The graph shows how the value of each asset class increased from a base amount of $100,000 over a three-year period. There are seven separate three-year time periods from December 1985 to December 2006:

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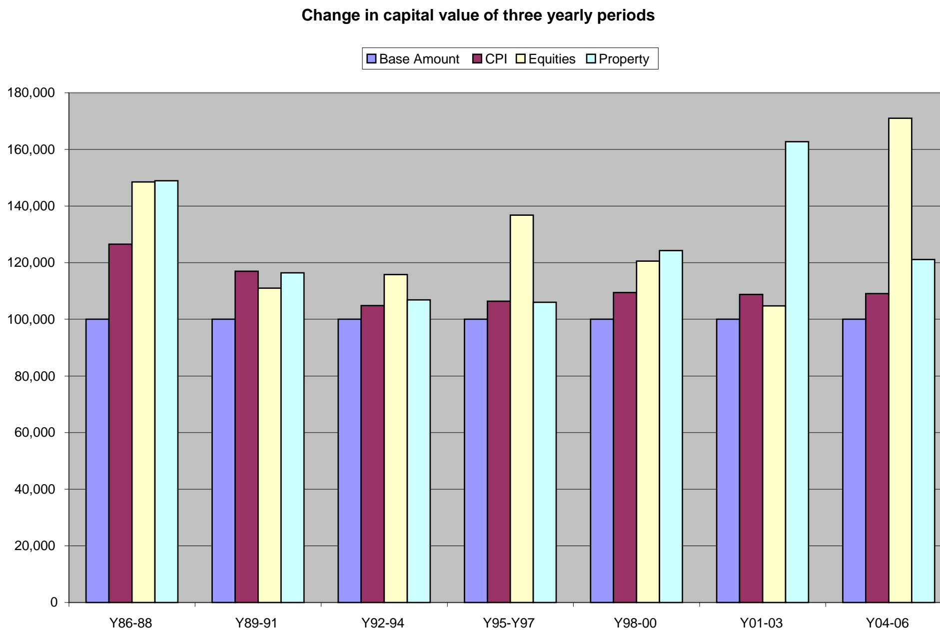

There is no guarantee that these types of returns are likely to be repeated in the future. During the last century, there have been several decade-long time spans in which either property or equity investments had little or no increase.

The above chart demonstrates how the value of different assets will increase by varying amounts during different economic cycles.

A summary of each three-year time period is as follows:

1. **1986 to 1988:** Both equities and property prices rose substantially above the rate of inflation with little difference between the two asset classes.
2. **1989 to 1991:** Neither equities nor property prices rose sufficiently to keep pace with inflation. They both lost real value over that time. This type of cycle is often associated with economic downturns.
3. **1992 to 1994:** Equities were clearly the superior investment during this three-year period. Property investments were marginally greater than inflation.
4. **1995 to 1997:** For a second consecutive three-year period, equities have had a substantial increase above inflation and above property. Investors holding equities during that six-year period would have made substantial profits.
5. **1998 to 2000:** While both equities and property have substantially outperformed inflation again, property has been marginally superior over the three-year period.
6. **2001 to 2003:** Over this time, the growth of equities has not kept pace with inflation, while property has had a 54% increase above the rate of inflation. Increases of this nature can only be categorized as a boom.
7. **2004 to 2006:** Equities significantly outperformed property with a 71% increase in value over that time. While property also performed well and significantly above the inflation rate, it was a poor second to equities.

Predicting asset price changes and their relationship to inflation and other asset classes is impossible. While equities had a substantial rise in price over one six-year period, there were two three-year periods where their price did not keep pace with inflation.

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When an asset class greatly outperforms all other investments and inflation, there often follows a period of little or negative growth. The rapid rises in both equities and property started to unravel in 2007 and 2008. This was the start of the Great Financial Crisis.

When predicting future growth of assets, one should use recent statistical data with caution.

Rather than using a short-term average, it would be prudent to use long-term capital growth figures for the asset classes you purchase.

In Financial Mappers' Modelling Tools/Historical Data, the program provides four ten-year economic cycles showing the capital growth of real estate and shares, together with the 90-day bank bill. The time periods range from 1986 to 2011 and demonstrate a variety of economic cycles. For more information go to Financial Mappers website and open the PDF files for Reports—Overview of Modelling Tools Using Economic Cycles.

Comparing capital growth with inflation and the industry index

As an investor there are three facts you will want to know about the performance of your investments:

1. **Have I made a profit after inflation?** The Bureau of Statistics measures the inflationary increase on goods in general with an index called the CPI (Consumer Price Index). If you buy a house for $100,000 and you sell it for $150,000 in five years and the index has increased so that the value of $100,000 has increased to $120,000, you will have made a $30,000 profit after inflation. This is because buying the equivalent house, if it had increased in line with general prices (CPI), would cost $120,000 to replace.

2. **Has my investment performed better or worse than similar investments?** Not all investments will rise at the same rate as the CPI. On occasions they will perform better or worse, depending on the supply and demand for the investment. If the house has increased to $150,000, it may have performed better than inflation. If however, similar houses now cost $190,000 as measured by the House Price Index; your investment hasn't performed as well when measured against the index. To buy a similar house would cost an additional $40,000.

3. **Has my investment performed better or worse than another asset class?** If your investment property has risen in price to $190,000 while assets held in equities had risen to $240,000 as measured by the All Ordinaries Index, you may have outperformed inflation, but a similar investment in shares would have provided a higher price rise. The share investment would have increased your wealth by an additional $50,000.

The problem with measuring past performance is that there is no reason to assume that the performance will be repeated in the future. However, studying asset performance by index changes allows you to identify possible cyclical changes in capital growth. Generally, periods of excessive growth are followed by periods of little or no growth. Occasionally, the assets will lose substantial value and take some time to recover these losses.

As an investor, you should try to understand why the various asset classes rose or fell and the likelihood of similar conditions repeating in the near future.

Prudent investors will diversify across asset classes. They should also avoid buying an asset class at the top of their cycle.

The magic of Financial Mapping is that you now have the tools to test your plan against a whole range of possible outcomes. These can be based on historical data, economic cycles or your customized changes through the use of modulators. It simply takes the click of a button to revert to your original plan.

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Investments can lose money

Historically, most investments will increase in value over time, if held long enough. However, there have been times when markets have declined dramatically and some haven't recovered for many, many years.

When the value of your asset decreases, your equity falls. You may be left with insufficient equity in your investment and your lender will ask for a cash injection or other security for the loan. If you are unable to meet this request, the lender may foreclose on your loan.

Borrowing money for investments may magnify any losses.

In 2007 and 2008 this problem made headlines throughout the world. It was not just small investors making imprudent investments and borrowing on the expectation of rising asset prices. Banks were lending to both individuals and corporations with too little deposit, too little security and insufficient cash flow to support the loans when asset values started to fall.

In the American property market, the overall fall for 2007 was small. However, in states such as California and other localities, the fall was much larger. Some home owners were forced to sell or were foreclosed at prices far below the purchase price.

Likewise, the S&P 500 rose rapidly over previous years, only to fall dramatically in 2008. Most diversified portfolios held over this time period would have displayed similar gains and losses. However, some shares lost over 90% of their value. Some companies did not survive the 'sub-prime' crisis of 2007–08.

It is easy for both experts and investors in general to analyze in hindsight why it was so obvious a particular market was due to rise or fall. Predicting the exact turning point of this market change is far more difficult.

The important issue is that when prices fall, you must have the ability to hold the asset until the prices resume their normal upward trend if you want to keep the asset long term.

There may be times when you recognize the market can't recover quickly and you decide to sell at a loss and move the balance of your funds to either a safer market sector or one which has better prospects of capital growth. This scenario is much easier where you're able to exit the loan and still have money to invest.

The less prudent, who borrowed beyond their means, may find they are left with a large debt and no assets. Worse still, they may lose not only their investments but their home as well.

Liquidity

Liquidity is the ease with which an asset can be sold in the market without affecting the asset's price.

Cash is the most liquid asset because you can withdraw it at any time. Other liquids assets are equities and managed funds.

When borrowing to purchase investments such as shares (equities) and property, consider the liquidity of the asset in case you need to sell it quickly.

Equities have more liquidity than property because you can sell your shares at any time. Provided you trade in the shares listed in the major share price indices, you should have a trade within the day and receive your money within a matter of days.

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If you purchase small companies which trade on an irregular basis, the advantage of liquidity will be lost. Where liquidity is important, invest in large company shares.

Property is far less liquid for a number of reasons. The time and cost taken to adequately promote your property to the marketplace together with the time to settle the sale makes property less liquid.

The property market is not a transparent marketplace like a stock exchange where you can value your share on any given day. Investors tend to be more emotional about the value of their property and their price expectations may be unrealistic. You can't argue about the value of share 'XYZ', because there are sufficient buyers and sellers to the set price at any given time. This is not the case with property.

In the sub-prime crises of California (in 2008), a marketplace for properties being liquidated was established with auctions for 500 to 600 properties being sold in a day. Where this occurred, properties were often being sold at large discounts on their previous prices. In this situation there is a truly transparent property market. However, this is rare.

Because property has low liquidity, you need to consider a number of factors before you purchase. The most important factor is whether or not you can afford to hold the property through a downturn in prices or if the rental income stops for any reason.

The second consideration should be comparing the liquidity of the property you are purchasing with similar properties. For example, is the presentation of the property going to appeal to the larger market, is the price within a range most people can afford, or is the property in a desirable location?

While good profits can be made by purchasing property for specific but smaller markets, the liquidity will be lower and you may have to wait longer to find a purchaser who recognizes the value of your specialized property.

When creating a portfolio of investments with borrowed funds, make sure some of these assets are liquid so in an emergency you have sufficient liquid funds. Property is not an asset you can liquidate quickly.

Volatility

Volatility is a term which defines risk. It is the speed and amount at which the value of assets can rise and fall within a short period of time. Volatility of both asset classes and individual assets within each class should be considered.

Borrowing for volatile investments magnifies risk.

Equities are far more volatile than property. The volatility of both share markets and individual shares can be measured and expressed in a logarithmic form.

Both the share market as a whole and individual shares are volatile. Share markets in countries with mature markets are usually less volatile than those in emerging markets.

Within a specific share market, some shares are less volatile than others. When the share market suffers a period of volatility, the rise or fall in price may be less for those shares. It is only a skilled share trader who is able to read the market sentiment and benefit consistently from a volatile market.

In times of share market volatility, the investor must decide whether to retire from the market until a new trend has been identified, or hold the shares and hope that the share price will recover before the share needs to be sold.

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The property market is far less volatile than the share market. Downward corrections in price are less frequent and happen slowly. Provided you can maintain your mortgage if property prices fall, it is likely that the price will stabilize and return to an upward trend. However this is not always the case. The most spectacular example is the collapse of the Japanese home market around 1990. Before the price collapse some home owners were expecting three generations to help repay the loan. Some properties fell 80% in value and have not recovered more than 20 years on.

Borrowing for equities carries a much higher risk factor than borrowing for property because of the volatility. If you are risk adverse, don't borrow for investment in shares. Certainly do not borrow to invest in shares until you have invested in shares over an extended period of time which includes a significant fall in share prices. I would also recommend that you undergo some extensive educational courses in share market trading. I am not suggesting you become a short-term share trader, but you do need to keep a watchful eye on the market. This topic will be discussed in more detail in another chapter.

Asset allocation

At various times, different asset classes will perform better in terms of income and capital growth.

There will be times when the value of assets won't keep pace with inflation. In these periods, the particular asset has lost value.

Capital growth is often considered desirable because of the tax rules. The capital gains tax in most countries tends to be less than income tax.

You may attempt to predict when various economic cycles are going to occur to take advantage of superior returns likely from an asset class. Even if you could time that prediction accurately, the cost of buying and selling assets may negate the exercise.

As not even experts can predict the cycles accurately, you should consider maintaining a diversified allocation of assets.

The sensible thing would be to purchase a specific asset class when you believe it offers value for money. In addition, you should spread your risk by having some assets in each asset class (cash, shares and property). A balance between direct investment, managed funds and retirement accounts is also wise.

Financial Mappers calculates your investment asset allocation according to the categories of cash (interest earning accounts), shares (shares and managed funds), investment property and retirement accounts.

In addition, Financial Mappers will assign to your investment portfolio, excluding retirement accounts, a description based on the percentage of cash held. A portfolio with 100% cash is referred to as 'no growth'. As the portfolio moves through five stages each with a 20% less range, the investment profiles will be listed as low growth, conservative, balanced, high growth and aggressive (less than 20% cash).

The sub-prime crisis of 2008 has made apparent the inherent dangers of excessive borrowing and unrealistic expectations for future price rises. If you had used the Financial Mappers, you could have assessed the dangers. If you want to understand the sub-prime crisis of 2008, watch the movie *The Great Short*. It explains exactly what happened, and more importantly, why.

Borrowing in moderation to purchase assets which have the prospect for sound long-term capital growth is a conservative approach to investment. This approach has been successful for the average

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‘mum and dad’. Look to the emigrants who come to a country not speaking the language, with no money and no job. How have these people generally become financially successful in one or two generations?

The most common reason is a consistent saving pattern together with conservative loans which are repaid in the shortest possible time.

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Chapter 9: Income from Investments and Savings

The principle of compound interest

Compound interest is the standard method in finance to calculate interest over the period of an investment. Interest is paid at regular intervals. The usual intervals are weekly (52 times a year), fortnightly (26 times a year), monthly (12 times a years), quarterly (four times a year), bi-annually (twice a year) and annually (once a year).

The term interest rate, in this chapter, is used loosely to identify the percentage per annum (% pa) return (income) on your investments. This may be rental income from property, dividend payments from shares and managed funds, or interest paid on money invested with a bank or corporation.

In your wealth creation years, you will reinvest this income to create more wealth. In your retirement years, you will most likely spend a combination of interest on investments and part of your investment capital. Having assets with good returns will help sustain your money for as long as possible.

The magic of compound interest is that at the end of each compounding period you are paid interest on the original investment, plus interest on the previous interest earned. Therefore the more frequent the compounding periods, the greater the interest earned for the same time period and the same interest rate. If you want to invest $10,000 at 10% interest you have a choice of the interest being paid monthly or annually.

The difference in being paid interest monthly and annually over a 30-year period is $33,900. However, you have still accumulated $164,491 with annual interest and $198,374 with interest paid monthly.

If you can start saving even small amounts early in your working life, the benefits will be considerable. This initial saving may be in the form of buying your own home. Although you don't earn income, you start to accumulate wealth, and eventually, reduce your overall living costs by not paying rent. When your home has been paid for, you can direct those savings to your investment plan.

Comparing the effect of different interest rates on long-term savings

Over long periods of time a small change in the interest rate earned can have a dramatic effect on your final outcome. For example, if you invest $10,000 for 30 years, earning 9%, paid monthly, the balance at the end of 30 years will be $147,306. With an interest rate of 10%, the balance will be $188,374 (10%). With an interest rate of 11% the balance will increase to $267,081.

A 2% difference in interest rate will give a final outcome of an additional $120,000 over 30 years for an initial investment of $10,000.

The principle of compounding applies not only to the interest earned on investments, but your accumulated savings. By commencing your savings program early, you will reap the rewards of compounding interest.

How do I compare income returns on the investment for the associated level of risk?

The higher the risk to your capital, the more interest you should be paid to compensate you for that risk. This risk/return factor is usually measured against the 'risk free return', that is, an investment in which your money is most unlikely to be lost. In the financial markets a short-term federal government security would be considered the risk-free rate. For the purpose of this book and Financial Mappers, the benchmark used for the risk-free rate of return is the 90-day bank bill rate. This figure has been chosen because the figure is readily available in the daily newspapers and

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private investors do not have access to the short-term federal government securities which can be purchased wholesale by major institutions.

If your bank was offering an investment return of 5% for a 12-month investment, a well-known national company with a AAA rating would need to offer a higher rate, say 5.2%, because there is more of a chance the company won't meet its commitments than the bank. Likewise, a less well-known company with a CCC rating would need to offer an even higher interest rate, say 6%, to compensate the investor for the even higher risk.

You should always compare the interest rate being offered with the risk-free benchmark rate to gauge the level of risk with the investment. If the risk-free rate is 5% and you are being offered an investment with a 20% return, this is an extremely risky investment. A company offering that sort of return has to be suspect from the start. Some Australians lost all their investments and often their homes with companies like Storm Financial. Anyone reading the prospectus should have known the risks. However, from what I read in the newspapers, many investors didn't read the prospectus in detail and so were not sure of what they were investing in. No matter how boring, you should always read the prospectus and if you don't know what it means, ask someone who does.

The major problem is for people attempting to estimate how much money they will need in 20, 30 or 40 years is they can't know the future rate of growth in either inflation or assets (usually fixed interest securities, shares or property) in which they want to invest. A simple means of overcoming this problem is to separate the inflation component. If your investment has a nominal income of 7.0% and inflation is 2.0%, we could say that the nominal income after inflation is 5.0%. The other 2.0% is only compensating you for the loss of value of money through inflation. This is the 'ball park figure'. When taking into account the effect of compounding, the percentage accounting for inflation is actually 2.1%.

In Financial Mappers, this value is referred to as 'present value'. It gives you an estimation of today's dollar value of what you may have accumulated in the future. Only you can determine if that value will be sufficient to meet your retirement needs.

Nominal Values and Present Values

When planning for the long term, one has to consider very closely the return on the investment, particularly the return after inflation, of an investment.

To calculate the Real Rate of Return, you need to know both the Nominal Capital Growth and Nominal Income. The total Nominal Return is then discounted for Inflation. For example, if the Returns for shares are 4% Income and 6% Capital Growth, the Total (Nominal) Return is 10%. Normally the description 'Nominal' is not used. If the Inflation is 2.5%, the Real Return for the Share Portfolio is 7.32% (Real Return for Income is 2.93%, Real Capital Growth is 4.39%).

In the Financial Mappers, nominal rates are used. The values projected forward, using this are called Future Value. It will also calculate the Present Value. In this case, the value at the end of any given year is discounted by the rate of inflation. This calculation will give you the value of your account balance in Today's Dollar Value.

If you have an inflation rate of 3% and a real return of 4%, your nominal interest rate will be 7.12%. Generally, interest rates are quoted as nominal rates and you need to do the conversion. For example, if the inflation rate is 3% and you have a nominal return of 5%, your real return is only 1.94%.

Financial Mappers gives the option to convert your retirement plan and summary page to present value.

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The values in the Budget and Financial Statement are always displayed in present value.

The program will calculate the real return of your total investment portfolio. This is the nominal return discounted for the rate of inflation.

Calculate the 'yield' or 'effective rate of return'

Interest payments on your investments may be paid on different time schedules. The common payment times are monthly (12 a year), quarterly (four a year), and annually (once a year). If you leave your interest payments in the account to accumulate more interest, the greater the number of payments each year, the more interest you will earn.

For example, if you have $10,000 invested earning 20%, the amount of money you will have at the end of the year will be $12,000, $12,155 or $12,194 if you are paid annually, quarterly or monthly. While the nominal interest rate is 20%, the yield or effective rate of return for each investment is 20.0%, 21.55% and 21.94% respectively.

You need to calculate your effective rate of return so you can 'compare apples with apples'. The effective rate of return is also referred to as 'yield'.

Which of the following $10,000 investments will pay the most interest in one year? The order, from highest to lowest, is listed in brackets. Cover up these figures and see if you can estimate the answers first.

1. 5.00% paid weekly (fourth $512)
2. 4.95% paid fortnightly (sixth $507)
3. 5.10% paid monthly (first $522)
4. 5.11% paid quarterly (second $521)
5. 5.05% paid bi-annually (fifth $511)
6. 5.20% paid annually (third $520)

The Handy Quick Calculations in Financial Mappers' Compound Interest and Effective Annual Rates of Return will make these calculations for you.

How to double your money without saving

One of the richest men in the world said if you can earn 10% after tax and inflation you will double your real wealth every seven years. What a wonderful concept!

Of course, in times of high taxation, earning 10% after tax and inflation is difficult. However, it is not unusual to see many of the growth trusts showing returns of 12% to 18% over the periods of high growth. I believe you will be all the better in your understanding of saving and creating wealth if you play around with figures and get a feel for how your money will grow if you can increase the rate of return on your money.

If you can earn 6% return after tax and inflation, you will double your money every 12 years. If you had $100,000 invested at age 40, your investment would be:

- $200,000 by age 52
- $400,000 by age 64.

In 24 years you will have quadrupled your money without saving one single dollar. This is the real power of investing and saving early in your life.

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Unfortunately, this story is like the chef who starts his introduction to the cooking lesson with 'First you catch the chicken.' Once you have the $100,000 you can quadruple your money with a 6% return (after tax and inflation) over 24 years. Finding the original $100,000 is the problem.

Use Financial Mappers to create a plan with a target age to repay your loan and a target age where you will have a net investment (other than your home) of $100,000.

What return can I expect from my investments?

For the time being we are looking at long-term returns of a conservative investment portfolio. In the 1990s the share markets grew strongly. In the early 2000s the strong share market appears to have been overtaken by a rapidly rising property market. In 2008 the GFC took its toll on all investments, including cash. It would be unwise to anticipate either of the returns over these different time periods will go unchecked for the next 20 to 50 years.

As you read in the chapter on capital growth and loss, returns on various sectors of the market changed considerably over 20 years. To take the conservative view, I will use as a benchmark the figure quoted by Edna Carew, one of Australia's leading financial commentators. In her book *Guide to Financial Survival*, Carew uses statistics supplied by IPAC and lists the rate of return (capital growth and income) after inflation (but before tax) in the following returns for the **Australian** markets.

1. Cash 0%—1%
2. Fixed interest 0%—3%
3. Property 3%—5%
4. Equities 5%—8%

Management funds and superannuation funds often invest in overseas markets. The following are the figures for **international** markets:

1. Fixed interest 1%—3% (0.97% to 2.91%)
2. Property 4%—6% (3.88% to 5.83%)
3. Equities 5%—9% (4.85% to 8.74%).

Please note that the above figures include both the income and the capital growth. The proportion of each will depend on the specific asset. The returns listed above are the returns after inflation and the figures in brackets are the real return, where inflation is 3%. These returns were quoted from a book written by Edna Carew in 1999. Fifteen years later, more relevant data should be available. However, I can't find accurate figures in this format for comparison. My other reservation is that many governments have manipulated and controlled the interest rate benchmarks to extraordinarily low levels. This will have a flow-on effect on all returns.

For the purpose of this book, I am going to use a benchmark return of 4.5% after inflation for the average small investor. I believe that any person who has read this book and a range of other books dealing with specific areas of investment and who seeks additional advice and support from their accountant, financial planner, real estate agent and stockbroker should achieve this return. Those who want to be more selective in their choice of assets and take more time to understand the markets they are investing in, and maximize tax relief granted to investors (discussed in the next chapter), could add a further 1–2% above this figure.

What factors will affect my savings program?

Saving has never been easy. However, understanding what factors are going to make a difference in the final outcome will allow you to make a plan, which will achieve your particular goals. Consider Mary, a single person aged 25, who is earning $60,000 per annum (the average tax rate is 25%). She does not anticipate her salary will rise dramatically apart from normal wage increases. She has

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no debts other than a small home loan for a one bedroom unit. She is looking to work out the following:

- The effect of saving 5% and 10% of her gross salary a year.
- The effect of saving consistently for 10, 20, 30 and 40 years.
- The effect of net income return rate of 4.5% and 6.5%.

Doubling the amount saved each year will double the amount of assets at any given time.
As the number of years of saving increase, the buildup of assets increases exponentially. For example, the person saving 5% of their salary and earning a rate of 4.5% will have **12 times** $3,000 after 10 years**, 29 times** $3,000 after 20 years, **53 times** $3,000 after 30 years and **86 times** $3,000 after 40 years. This is the effect of compounding income over a long period of time.

A 2% increase in income from 4.5% to 6.5% will increase the amount of savings each year, with the effect being much greater as the number of years increases. The difference over 10, 20, 30 and 40 years for Mary earning 4.5% and 6.5% (saving 5% of salary) on her investments is:

$4,000 for 10 years
$17,000 for 20 years
$50,000 for 30 years
$120,000 over 40 years

Your wealth is going to increase dramatically over an additional 20 years of consistently saving with a 2% increase in the investment return.

If Mary wanted to save the $378,000 which had been accumulated by saving 5% ($3,000 pa) of her salary for 40 years (6.5% interest), she would need to save the following amounts over different time periods:

$33,000 per year (55% of salary) over 10 years
$13,000 per year (22% of salary) over 20 years
$7,000 per year (12% of salary) over 30 years

Saving $3,000 a year for 30 years is the better alternative.

Spending your investment income in retirement

Assume Mary has saved $400,000 and has a further $200,000 in retirement benefits, giving her a total savings pool of $600,000.

If Mary were to drawdown $40,000 a year, at the end of 20 years, the balance of her funds would be $57,000 with an investment return of 4.5% and $283,250 with an investment return of 6.5%.

No account has been made for supplementary income which will come in the form of government pensions as your capital and retirement income is reduced. The point at which this kicks in and the amount to which the government will support you at some future date is unknown.

There are many excellent retirement calculators on the internet. For example, the National Australia Bank has a good site which sets the parameters of its calculations and gives the answers for retiring at age 55, 60 and 65. For example, a 25-year-old with no previous savings would need to save $16,831 to retire at age 55, $11,238 to retire at age 60 and $7,248 to retire at age 65 if they wanted to have an income of $40,000 (today's dollar value) to age 80 on retirement.

In relation to retirement expectations the Australian Bureau of Statistics (1998) states:

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1. People retire five years earlier than they plan to.
2. The average retirement age is 48 (58 if you are still working at age 45).
3. The average superannuation fund payout at retirement is $63,500.

Twenty years on these figures may have improved slightly, but you should consider each of these statements and how your anticipated plans may change with time.

Financial Mappers has two detailed accounts for calculating your superannuation or pension funds in both the accumulation and drawdown phases. One focuses on the change in costs and returns, together with the allocation into employer and personal contributions. Personal contributions may be from either pre- or after-tax income.

The second format is designed for the self-managed fund, where the emphasis is on the asset allocation into cash, shares and property and how these assets should be drawn down in retirement.

The earlier you start your savings plan, the better your lifestyle will be, not only in retirement, but also in your later working life. The income being earned on those assets accumulated early in life means you don't have to allocate as much of your disposable income to saving in later life.

By the age of 50 you should be able to afford the luxuries of good holidays, better cars and more entertainment if this is what gives you pleasure. You will reach these goals with a sensible approach to creating a sound budget. This budget needs to ensure current lifestyle choices are chosen so that you can enjoy the present, but have a similar or perhaps better lifestyle in your retirement. Twenty to 30 years is a long time to support yourself in the manner to which you are accustomed.

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Chapter 10: Taxation and Investments

The nature of this book and the software Financial Mappers is not suitable for giving specific advice on taxation. It is intended for readers from a wider market than Australia. In general, comments relate to Australia, but most taxation systems are similar.

Before making any financial decisions based on effective taxation, you should seek the advice of a person qualified and licenced to provide tax advice.

Personal taxation

You create and build your wealth from three sources, all of which are taxed:

1. **Earned income from employment** and earned by physical effort. If your average tax rate is 30%, for every $1,000 (gross income) you earn, only $700 (net or after-tax income) can be spent or invested. The higher the income, the greater the proportion of your income paid in tax. Certain residents, such as low income earners, tax payers with dependents and self-funded retirees are entitled to a range of tax rebates, tax credits or tax offsets. These amounts are deducted from the tax due.

2. **Non-earned income from investments** is accumulated from interest on money in the bank or fixed interest securities, dividends from shares, net rental income from property, and income from managed funds. Again, income tax is paid on the income earned in the same manner as your normal income. There may be some tax incentives such as imputation credits on shares, depreciation on plant and equipment of your property, building write-off on some property, and deductions of interest paid on money borrowed for investment purposes.

3. **Capital gain** is the capital growth in value of the asset through rising prices. Tax is not paid on this growth until such time as the asset is sold. Currently your capital gain tax (Australia) will be calculated by halving the difference between the total acquisition cost and the net sale price and taxing that amount at your top marginal rate. Capital losses can't be written off against income. It can only be written off against future capital gains.

Financial Mappers is not about tax minimization in the sense that we're not looking for clever ways to beat the tax system. Instead, we will discuss simple basic strategies that will be effective for most ordinary salary earners. Because every person has specific financial needs, the nature of the information provided in this section must be considered as background information only. No financial decision should be made based on the information supplied in this this book or Financial Mappers without having your tax strategy assessed by a qualified person who is familiar with your particular financial circumstances.

Tax effect on different asset classes and different accounting entities

The three basic types of investments are: interest earning investments (cash management funds, term deposits, bonds and debentures), equities (shares) and property. The final outcome after application of tax will depend on a combination of the following:

a. The rate of taxation for the entity in which the asset is held. For example, assets in superannuation are taxed at 15%, company tax is 30%, and the top marginal rate for individuals is 45.0% plus 2% Medicare levy.
b. Imputation tax credits for shares, including those held in superannuation and managed funds.
c. The amount of money that has been borrowed to finance the investment, as the interest on an investment loan is tax deductible.

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d. Different asset classes will have a different rate of income and capital growth. As the taxation on income and capital growth is different, it is difficult to compare assets with differing rates of return. A share returning 1% income but having a capital growth of 4% per annum, is difficult to compare with another share returning a 4% net income per year and a capital growth of 1% per annum. Likewise, a fully franked share is difficult to compare with an unfranked share.

The problem for any investor is trying to break down each tax component so you can compare 'apples with apples'. This can be done to a limited degree and in a stylized manner. Therefore, the examples given in this section will usually attempt to isolate one or two factors and compare how different asset classes respond in different tax brackets.

Calculate personal rates of income tax

As the taxation system becomes more complex with additional charges for the Medicare levy and HECS and rebates (or offsets) for families, low income workers and regional workers, finding a simple method of tax calculation is not easy.

To get an accurate amount of the tax you should be paying on your salary, the easiest method is to use one of the Australian tax calculators which are free on the internet.

Calculations are complex as the Australian government has four tax brackets using the progressive taxation method of taxation. It is also the most frequently used method internationally. The aim is to have people on higher incomes pay a greater proportion of their income in tax.

Financial Mappers comes pre-loaded with the progressive tax scale of major countries. They also allow the users to nominate their own tax schedule. Some countries also have a state and/or municipal state. Again, these options are provided through an option of a flat tax rate, although the results will be only approximations.

Calculate average tax paid and understanding 'bracket creep'

The concept of a percentage rate of tax is important when working on long-term financial plans. If you start to introduce variables such as inflationary increases in salary and capital growth, the tax brackets will not work, as we don't know what the specific tax brackets will be, as overall incomes increase with time.

No doubt you will have heard the term 'bracket creep' in relation to taxation. The government does not increase the income levels to change the tax rate in line with inflation. Thus, if your salary rises to maintain its purchasing power and the tax bracket is not increased accordingly, you will be paying a higher percentage of your income as tax. For example, if inflation is 9.09%, your $55,000 salary would increase to $60,000, but your purchasing power would still be the same as $55,000. The percentage of tax you would pay will rise from 24.54% to 25.52% of your total income, leaving you with less purchasing power for your after-tax money.

When making long-term financial plans, knowing your approximate average tax rate over the major portion of your savings years is an important feature of all calculators.

The tax estimator in Financial Mappers calculates the average tax paid on both income and capital gains tax.

Imputation credits on share dividends

In Australia, companies currently pay tax at the rate of 30% on taxable income. If the company has paid Australian tax on its profits, then a system has been put in place for the investor to get a credit

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for that tax previously paid by the company. This ensures that company profits are not taxed twice. Dividends which are paid from after-tax company profits are called franked dividends. In order to compensate the share investor, an imputation credit for the amount of tax is returned. The amount of the imputation credit is added to your income as part of your taxable income. After calculating the amount of tax due on the total amount (dividend plus imputation credit), the amount of the imputation credit is deducted from the amount of tax due. If the company has not paid tax on profits from which the dividend is paid, the dividend is unfranked and you do not receive imputation credits.

Canada has a similar system, but the dividends are grossed up by 45% and then an 18% discount is given as a tax credit. This method of calculation is also included.

In addition, if you are from another country which has different rates, you can choose either the Australian method or the Canadian method, according to your needs, and enter the appropriate specific rates.

Gearing: Borrowing money to invest

It would be difficult for most people to save the cost of a property before purchasing it. Normally one would save a deposit as discussed in the chapter on buying a home and you would pay off the loan over a period of time, usually 15 to 20 years. On occasions, you may borrow the money interest only, so that your outlay is reduced, but the loan amount remains constant. The amount of interest payments for investment loans is allowed as a tax deduction.

If the cost of the interest is greater than the net income earned from the investment for which the money was borrowed, you are able to deduct this excess amount from your other taxable income and reduce the overall level of income tax due. This is called negative gearing.

While negatively geared investments are a popular method of reducing tax, also ensure you have sufficient cash flow to meet your commitments. Unless you have made prior arrangements with the taxation department (which would be unusual), you need to make the interest payments in advance and wait for your tax refund at some date after the end of the financial year when you have completed your tax return.

Pension (superannuation) funds

Financial Mappers provides two extremely detailed and comprehensive methods of calculating the benefits of superannuation or pension funds for both Australia and other countries.

In Australia, all employees have an employer-funded superannuation fund. The finer points of superannuation are far beyond the scope of this program and professional advice needs to be sought in this extremely complicated area of savings. Your superannuation fund will often provide seminars so you can understand how your superannuation works.

The government in Australia and most other countries have changed the rules of retirement accounts so many times it would be a fruitless exercise to predict what your particular situation may be in 20 to 30 years. Suffice to say, people under 35 will most likely accumulate sufficient funds for a modest retirement. However, I suspect all it will do is replace the currently free pension. Young people should recognize that many government and employer pension funds have not fully funded the needs of the Baby Boomers. While I would not want to predict any specific crises in pension funds, I think people should be aware that there are risks with having all their retirement savings in government or employer-controlled funds.

If you are over 50, only an expert in superannuation can advise you adequately in a one-on-one situation. Under no circumstances should you attempt to work it out for yourself.

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Most pension funds allow the contribution of additional money by the beneficiary as either pre-tax (concessional) or after-tax (non-concessional) contributions. In this case, the money enjoys the same tax benefits, which are usually a reduced rate of tax or no tax on the earnings.

It is important to remember that once additional money is put in your superannuation fund, you are unable to access that money until you are eligible under the government rules of the day. It may be that you want to have savings independent of your retirement account so you can take early retirement. If you have sufficient savings outside superannuation, you can leave this fund alone, continuing to accumulate wealth and taking advantage of the tax benefits until such time as you wish to access it or the government deems that the fund must be accessed.

Superannuation and other pension formats are generally one of the most tax-effective means of saving. However, you are at the mercy of government regulation as to how and when you may access the money and what tax will be paid on the retirement account in the future.

Having all your investments in one entity has never been a good investment plan.

What is capital gains tax and how will it affect your investment strategy?

Financial Mappers gives the user three options for capital gains tax. These are:

- No capital gains tax
- Flat rate capital gains tax
- Percentage of profit taxed as income

In the last 20 years the Australian government has made two major changes to capital gains tax. Prior to 1985, no tax was paid on capital gains. From 1985 to 1999, investors paid tax on any capital gain on profits above the sale price, which had been indexed for inflation. Currently, tax is paid on 50% of the full profit (not indexed) after consideration of buying and selling costs. This tax is paid at the individual's marginal tax rate.

The following points should be noted about previous capital gains tax in Australia and how you need to adjust your tax strategies regarding the use of investment income versus capital growth.

1. When there was tax on income and no tax on capital gains, investors sought investments with low income and high capital gains.
2. When capital gains tax was indexed to inflation, you only paid tax on the real (after inflation) gains. Tax was paid on real (after inflation) profits.
3. As a ballpark figure, high income earners (those paying the top marginal tax rate) can expect to pay about 20% of their nominal (not real) profit in capital gains tax. As the capital gain is added to your income in the year of taxation, the sale of assets will quickly move the investor's marginal tax rate into higher tax brackets.
4. If you never sell an asset, you never pay capital gains tax and you have the income from the full value of the investment. If you sell the investment, pay capital gains tax and re-invest your capital, the value will be reduced by the amount of the capital gains tax.

Capital gains tax: what is the effect of high inflation?

When inflation rises over a long period of time, the sale price of assets is likely to increase at greater rates than when inflation was low. Thus, you will be paying tax on a higher indexed profit, but the after-tax money you receive will purchase less.

Consider two properties (A and B), which are each purchased for $100,000 and increase in value at the same rate as inflation. Property A has an annual growth rate of 10% for five years and Property B has a growth rate of 2% for five years. While nominal profits were made in both situations, neither

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property made an after-inflation profit over the five year period. That is, the growth in value of the property only compensated the investor for the inflationary loss of money value. Property A (10% pa inflation) would have increased in value to $161,050, leaving the property owner to pay capital gains tax on half the profit ($30,525). Property B (2% pa inflation) would have increased in value to $110,408, leaving the property owner to pay capital gains tax on half the profit ($5,204).

While Australia has enjoyed a relatively low and stable rate of inflation since the early 1990s, there is no indication that this will continue over a 20 to 40-year time span. The average rate of inflation since 1960 has ranged from 6% to 7% averaged over periods of five to 10 years. For assets held for a very long term, you could expect to pay about 20% of the profit in capital gains tax (ball park figure only). People being forced to sell assets in their retirement could find their capital gains tax a significant issue.

Alternatively, it could be viewed as a new form of death duties, as many investments have to be sold to divide amongst the beneficiaries of the estate.

What are the dangers of tax schemes?

It is a simple fact of life that no one likes to pay tax. For the last 30 years there has been a process where investors are seduced into investments with the promise of large tax savings, together with large investment profits.

Past experience has shown the vast majority of these schemes have not achieved their projected level of profits. Many have ended in liquidation with loss of all funds. Giving your money to a tax scheme promoter is no different from giving it to the tax collector. You would have been better off paying the higher rate of tax and at least carry on with legitimate investments which are not likely to involve years of fighting with the taxation department or liquidation of your asset to pay penalty taxes.

In recent years the government has closed most loopholes and a number of prominent people have been jailed for participation in these schemes. However, the occasional one still appears. If you don’t want to risk going to jail and/or being given extremely high tax penalties, do not even consider it.

To be sensible about these investments, ask yourself one question—if the promoter promises you a 30% return on your money, why wouldn’t legitimate producers of that product increase their investments? At the end of the day, the marketplace will develop a true risk/return value. Even if projected profits of 30% were available, it would not be too long before the marketplace would be flooded with new investors. This would reduce the demand and thus, the return or profit margin.

Never go to a seminar on how to invest in real estate. These are invariably run by a spruiker who is only interested in either selling real estate no one else wants to buy or providing you with high cost loans.

In general, taxation paid or saved is a important consideration for the overall success of your investment. Over long periods, a small percentage increase in returns to you by reducing your tax can enhance your final savings plan result. No investment should be entered into purely to save tax. It must be a viable investment by itself, although tax benefits should not be ignored.

When considering strategies which reduce your rate of tax, consider other investments which may not reduce your tax to the same level, but have higher returns or require less cash support, resulting in a better result after tax.

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Chapter 11: Interest Earning Investments

The importance of understanding interest rate investments

Interest rates are the driving force in all investments. Financial markets are based on the market principle that investors operate within an informed market. The market will balance return on the investment with the perceived level of risk. A risk-free investment is one where there is no risk or minimal risk you won't receive the return of the capital and interest. For example, there is little risk a 30 day government backed security will not pay the interest and capital at the end of 30 days.

The first criterion is the entity guaranteeing the payment of the interest and the return of the capital. While the group of investments considered risk free could incorporate Commonwealth government, state government and leading Australian bank guaranteed securities, the Commonwealth securities would be considered safer than those of the state government, which in turn would be safer than the banks. However for the purpose of this exercise, any of the former is considered sufficiently safe to be considered 'risk free'.

The second criterion is the time to maturity. A Commonwealth government security which matures in 24 hours, is more secure than one which matures in 30 or 90 days. A treasury bond of three years has less risk than one which matures in 5 or 10 years. In normal conditions, the market will expect to be paid a higher interest for the longer term to compensate for this time risk. As the time increases, there is greater risk inflation will absorb more of your money value. In the year 2000–1, the average interest rate for the three bonds was 5.55% (three year treasury bond), 5.78% (five year treasury bond), and 6.04% (ten year treasury bond). There will be times when the shorter time periods have higher rates. This may be caused by a change in long-term financial outlook to lower interest rates, or short term interest rates being raised because of liquidity problems.

If you are comparing companies with A, B and C credit ratings, the company with the C credit rating would need to offer a higher interest rate for the same time period than the company with the A rating. It is the market forces of the day which will correct the balance between the security of the investment and the length of time for the investment.

When you are offered outlandish returns on an investment, remember the market forces will balance return and risk factors. A promised return, which is substantially above the rate for similar investments, will invariably fail to meet its expectations. Most likely you will lose all your capital.

Treat with respect the term 'risk and return'.

Keep this notion of risk/return at the top of your investment-planning checklist.

How can interest earning securities change in value?

Financial markets require liquidity. You don't want to buy a 10-year bond and not be able to sell it during that time. Therefore, markets have been created so that securities can be bought and sold.

To give an example of security pricing, consider the bond market.

You buy a three-year bond with a coupon yield of 5% ($50 a year, usually paid six-monthly), for $1,000. After 12 months, you find you need the $1,000 investment money and have to sell the bond. If, in 12 months' time, yield to maturity for a two year bond is 6% ($60 a year interest), no one will pay $1,000 for a bond paying $50 a year. The price of the bond will be reduced to account for the $10 reduction in interest being paid each year. The bond would cost $943.52. The reduction in price of $56.48 would compensate the new owner for the lower coupon amount.

On the other hand, if yield to maturity has been reduced to 4% ($40 interest) and you are earning $50 as your coupon payment (5% return) on the bond, you can sell your $1,000 bond for more than

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that amount to compensate you for the additional interest being paid. The selling price would rise to $1,060.03. The additional amount of $60.03 would compensate you for the loss of the higher interest rate when you come to reinvest your money at the market's lower interest rate.

The coupon payment on your bond is fixed for the length of the bond investment period. The price of the bond will fluctuate according to rises and falls in comparative interest rates. As interest rates rise, the price of the bond will fall; as interest rates fall, the price of the bond will rise.

In Financial Mappers, when Modulator for Income is activated, the program calculates the change in value of the bond, based on the change in interest rates. However, the rules of the program do not allow you to sell bonds before the maturity date.

The relationship between the risk-free rate of return and other investments

For the purpose of the private investor, the 90-day bank bill rate is readily available and sufficiently safe to use as your benchmark. The price can be found in any daily newspaper or on the internet. From this benchmark, you can compare the return you are receiving on other investments and decide if the interest rate is sufficient to compensate you for the additional risk.

This relationship of risk and return follows through to your share and property investments. As the risk free rate rises, i.e. 90-day bank bill, the share price will need to offer a higher dividend rate. The end result in the share market is that some investors will take their profits from the share market and invest in the cash and bond markets as interest rates rise. The lower demand for shares will reduce the share price. In addition, those remaining in the market will expect to be compensated for the higher risk compared to the risk-free rate. The price of the shares will need to fall to increase the dividend rate.

The risk-free investment rate is also reflected in the borrowing rates for mortgages. Investors in the property market will find their returns are being lowered by higher interest rate charges on mortgages. The lower return on property investments reduces the number of investors buying property, thus the value of property is reduced accordingly.

The risk-free rate will change over time and will impact on all other investments.

The major types of interest earning investments

There are several means of owning interest earning securities within the marketplace. For the private investor, the four major choices are:

1. Cash Management and Fixed Interest Trusts
2. Term deposits or Certificates of Deposits (CDs)
3. Bonds
4. Securities sold on the Stock Exchange

There are many internet sites which will allow you to choose and compare a wide range of financial products, including various interest earning securities, banking services, managed funds, brokers, insurance, mortgages and other information.

Term deposits

The major problem for term deposits is the lack of capital growth available in securities such as bonds. Unlike money market securities, shares and property, term deposits do not have the capacity to increase or decrease in value with supply and demand.

Two important considerations to be made with term deposit investments are taxation and inflation.

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Taxation:

Tax is paid on the full amount of interest earned. The lower your tax rate, the lower the impact on your return.

Consider two investors who have each invested $10,000 for 12 months and will be paid a 5% return after 12 months. The tax rate for the investors is 20% and 40%. The after-tax return for each investment would be 4% for the lower tax rate and 3% for the one paying 40% tax.

The high income earner’s return is reduced from 5% to 3%.

Inflation:

With no opportunity for capital growth, the purchasing power of your money will decrease as inflation increases.

The following points can be made regarding the relation of inflation and income with an investment of $10,000.

1. **2% inflation, 5% income:** The value of the investment dropped to $9,800 at the end of 12 months. To maintain the capital value of $10,000, the investor would need to reinvest $200 of the income to maintain his capital at $10,000. This would leave a disposable income of $300 before tax was paid. The only investor to have this money to spend would be Case A with no tax to pay. Case B (20% tax) would have to pay $100 tax, leaving him with $200 after inflation and tax. Case C (40% tax) would have $100 after tax and inflation. Thus Case C has a 1.0% return on his $10,000 investment.
2. **5% inflation, 5% income:** With no tax to pay, the income is equivalent to inflation, therefore all the money would need to be kept to maintain capital at $10,000. Investors B and C would lose $100 and $200 respectively.

Variation of the term deposit

Term deposits are best for short to medium-term investments. The range of investment periods is usually from one month to 60 months (five years). The longer the time period, the greater the risk of inflation stealing your capital. The risk of the longer term periods is that the rate of inflation in three to five years is anyone’s guess. The banks have made a guess by offering you a higher rate for the longer term. If the banks believe long-term interest rates are going to fall, they may offer a lower rate for longer periods, although this is unusual. If inflation is greater than the amount factored into the increased interest rate for longer term deposits, you will be disadvantaged. Once committed to a term, you are ‘locked in’ unless you are prepared to pay heavy financial penalties.

If you have decided that a term deposit is the correct choice for your money, you will be faced with a myriad of choices. The variations will depend on the amount invested, the length of the term and the number of payments made each year.

All banks offer different rates for different sums of investment money. The greater the sum of money, the higher the interest rate. In each category, interest may be paid monthly, quarterly or annually. In the same choices as above, you can choose a ‘standard’, ‘at call’ or ‘trade up’ term deposit.

To compare each situation, you first need to calculate the **yield** or **effective rate of return** (using the Toolbox Mapper),

In February 2002 the 90-day bank bill (benchmark rate) was 4.54%. The following interest rates, paid quarterly, were offered. Notice the difference between nominal and effective rates of return which are listed in brackets:

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12 month term deposit: 2.90% (2.93%)
36 month term deposit: 4.10% (4.01%)
60 month term deposit: 4.30% (4.37%)

The types of fixed term deposits are constantly changing to meet the needs of investors. For example, one major bank offers a ‘term deposit at call’ which allows you to access a portion of your money if you need it. It also offers a ‘term deposit trade up’ which lets you take advantage of interest rate rises during the term of your investment.

However the interest rates offered by these options will be less than the normal ‘term deposit’. This is the price you pay for having the increased flexibility.

Using trusts in money market securities

The only effective means to be truly involved in short- and long-term money markets is by being in a unit trust (sometimes referred to as managed funds). A trust involves a large group of small investors pooling their money to invest. In the case of interest earning trusts, the larger sum of money allows the trust to benefit from the higher interest rates available in the wholesale market.

However, this is offset by the cost of fees paid to the trustee and the fund manager. While most trusts will, from time to time, hold considerable amounts of money in these markets, there are trusts dedicated to specific interest-bearing securities. They are called Cash Management Trusts and Fixed Interest Trusts.

Cash Management Trusts

Cash Management Trusts trade in the short term money market. This involves the buying and selling of securities with a maturity date of less than 12 months. Governments, lending institutions and large companies offer these securities. The more common include bank bills (bills of exchange of varying terms usually 90 or 180 days), treasury notes (usually 13 weeks), promissory notes (usually sold by large companies) and the overnight cash market.

These securities are sold at a discount to the face value of the security and are often referred to as ‘discount securities’. Consider, the trust buys a $5,000,000, 180 day bank bill with a yield of 7.5%. The trust would purchase the bank bill from the bank at the discounted amount of $4,821,644.46. At the end of 180 days, the bank would repay the trust the face value amount of $5,000,000. The difference between the face value and the discount price is the amount of interest earned. In this case, the amount is $178,335.54. In addition to earning interest, the trust makes profits (and losses) by buying and selling securities before the maturity date, as the interest rate changes over time. When interest rates fall and the security is sold before the maturity date, it may be sold at a profit. If the interest rates were to fall, a loss would be incurred if the security had to be sold. In this situation, the private investor would most likely hold the security to maturity, accepting the lower interest rate but not losing any capital value.

Cash Management Trusts can be useful in that there are no entry or exit fees and low management fees. Because the trusts are dealing in the wholesale market, they are able to earn higher rates of interest than that available to the small investor. Usually you are able to access your money within 24 hours. Most banks will offer a cash management facility, often with some extra benefits such as a ‘free’ cheque account.

However, nothing is ‘free’. This is reflected in the interest rate earned by the various trusts. Considering they are all investing in one small area of the financial markets, the interest rates offered vary considerably. For example, for sums of $10,000, the following rates were offered in April 2002 by various cash management trusts:

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- National Australia Bank 0.01%
- ANZ Bank 1.00%
- Macquarie Bank 3.26%
- GIO Building Society 3.60%

At the same time, term deposit rates for one year fixed were:

- National Australia Bank 2.90%
- ANZ Bank 4.40%
- Macquarie Bank 4.85%
- GIO Building Society 4.60%

Note I have used interest rates from a time period when the rates were not being held artificially low by government controls.

Fixed Interest (Bond) Trusts

Fixed Interest Trusts invest in deposits of more than one year to maturity. There are both government and corporate bonds. Every six months the investor is paid the amount of interest earned less fees. This payment is referred to as the coupon amount. Thus, these investments are often referred to as coupon securities. If you wanted to purchase a three year bond with a face value of $100,000 and a coupon yield of 5%, you pay the face value of the bond at the time of purchase. You would receive an interest (referred as a coupon) payment of $2,500 each six months for the next three years. At the end of the time, your $100,000 would be repaid with the last coupon amount.

If you wanted to sell the bond before that time, there is a complicated mathematical formula, which compensates the purchaser for any change in interest rate for the coupon rate and for the amount of time before the bond expires. The financial markets treat money like any other commodity, such as shares or property, in that it can be bought and sold at a profit or a loss.

The most profitable time to invest in Fixed Interest Trusts is after a period of high interest rates which are expected to fall over the coming years. Conversely, the worst time to invest is when interest rates have been low and are expected to rise over the next few years.

In hindsight, the movement of bond prices relative to interest rates is easy.

However a ‘crystal ball’ is not included with the prospectus.

How to select a managed fund

Choosing the right fund is never easy. Various finance-based magazines and newspapers will list the names of funds giving various amounts of information which could include: size of fund, returns over a range of time periods (say one, three and five years), management fees (called MER) and ratings.

There are a number of organizations, which will rate the fund, for example, ASSIRT uses a star rating system. The system rates funds from five stars to one star, recommending you only invest in funds with three or more stars. An example of their rating is:

(Five stars) ***** Excellent fund, comprehensive investment strategy and strong past performance.

(Four stars) **** A very good fund with sound investment strategy and solid past performance.

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Money Manager will list the funds in order by either a three- or five-year past performance and include the ASSIRT rating where applicable. In April 2002, the average three-year return for the top 10 funds was 6.0%. Of the top 10 funds, none were rated five stars, three were rated four stars, one with three stars and the remainder were not rated. The top three funds listed in their trust name the words ‘inflation linked bond’. The performance of funds will depend on changes in market interest rates. Five years earlier, in November 1998, the average three-year return for the top 10 funds was 11.02%. The average interest paid on three year treasury bonds over five-year periods from 1980 to 2000 was: 14.03% (1980–1985), 13.17% (1985–1990), 8.68% (1990–1995) and 6.79% (1995–2000).

To a limited degree, private investors can purchase government and corporate discount securities and bonds. At the current time governments are not raising large loans from the public, and therefore the range of products is limited. The advantage of using a trust is that your money is invested in a range of bonds of varying time spans, interest rates and organizations. This diversification reduces specific risk.

Interest rate securities sold on the stock exchange

To overcome the lack of fixed interest securities available to the private investor, the Australian Stock Exchange has created a group of securities which can be bought and sold on the stock market in the same way you can purchase shares. An explanation of the various types of securities and their features can be obtained from the website of the Australian Stock Exchange.

The aim is to produce a product which acts in a similar manner to a fixed interest security but can be traded quickly and efficiently. You will find a list of these securities in the *Australian Financial Review* under the heading ‘Interest Rate Securities’. The list of securities available is less than 200, however, their popularity is increasing. The major categories are:

- **Corporate bonds:** Corporate bonds are issued by well-known companies at a face value and a listed coupon rate, usually paid twice a year, for a set period. At the end of the period (called maturity date) you will be repaid the face value together with the last coupon amount. If you should sell the bond prior to settlement, the selling price will be calculated using such information as the current interest rates, time to maturity and date of next coupon payment. Generally, if interest rates rise, the selling price will fall; if interest rates fall, the selling price will rise above the face value.

- **Floating rate notes:** Most floating rate notes are perpetual, that is, you are unable to redeem them for the purchase price at a given time. They must be traded on the stock exchange at market price. As the name suggests, floating notes have a floating interest rate which is a set percentage above the 90-day bank bill rate. As this product has become more popular, more companies are offering this type of product. To attract customers, their floating rate may be higher. As a result, you will see that the price of a floating rate note will vary between two notes, one 1% and the other 2% above the 90-day bank bill. Provided you hold the security to maturity date, your capital will be returned in full. However, most have long maturity dates or no maturity date and must be sold in the marketplace.

- **Hybrid securities:** Each hybrid security can be structured in a different way to reflect differences in the bond and equity markets (fixed interest market and shares). You need to understand the characteristics of the hybrid security you are investing in, and understand to what extent they act as a bond and a share. A convertible note is a form of hybrid security. A company sells the security with a set rate of interest for a set period of time. At the end of the period, the investor has the choice to convert to an ordinary share, redeem the security at the face value, or continue with a new set term and interest rate. If the price of the share has risen above the face value of the convertible note, the investor can make a profit. If held to maturity, the investor will not lose any capital value. Note that ‘convertible’ securities give the investor the choice of converting to

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the underlying share, ‘converting’ securities must convert to the underlying security on the set date.

The convertible note acts as an interest-bearing security in that you have a fixed known interest rate. It acts as a share in that, at maturity, you have the choice of buying the underlying share if it has increased in value above the amount of the face value. If the share price is less than the maturity price, you would redeem your security for the face value and incur no capital loss.

Not all products provide the option to convert.

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Chapter 12: Share (Equity) Investments

For the beginner, investing in the stock market seems an insurmountable task. The main function of the stock exchange is to allow you to buy and sell shares in companies or in trusts managing share portfolios.

In addition, the stock exchange operates a number of markets which allow investors to trade in financial instruments such as options, futures, warrants and mortgages. Discussions of these additional markets are beyond the scope of this book and are not included in the Financial Mappers.

How to choose which shares to buy and sell

Each investor will have different financial needs, level of expertise and time to devote to investments. If you're not comfortable with making your own share selection, you can use managed funds or a full service stockbroker. The stockbroker will assist you with the purchase and sale of the shares.

The following is a sample of different methods employed by investors (and fund managers) who want to manage their own share portfolio:

- **Fundamental analysis of shares:** The aim is to buy good quality companies which are making profits, paying dividends, are not overextended with debt and where the purchase price appears to be good value. They are shares selected by the investor who wants to hold them long term, rather than buy and sell to make short term profits. Much of the information you require for this type of analysis can be found in the financial pages of the newspaper. Each share will have listed its earnings per share, dividend per share, debt ratio, high and low price for the year. Warren Buffett would be considered the most successful share owner using this type of technique. While this type of information is available in the company's financial records, there are a number of sources available to the investor where this information has been analyzed. They come in the form of books, websites and newsletters.

- **Technical analysis:** This investor believes that factors other than the underlying economic strength of the company will affect the supply and demand of a share. They attempt to predict the price movement of the share by plotting the share price on various types of graphs. Their aim is to predict the low and high points of the share price, hoping to buy at a low point and sell at a higher point. The cycles of high and low can be charted on a daily, weekly, monthly or long-term cycles. To be effective, the trader would use a computer-based charting program such as Metastock or EzyChart and download the end of day trading prices. If you have an internet share trading account, your service provider may supply simplified charts of the major companies and share indices. The setting-up costs and maintenance of daily updated data is considerable. Unless you intend to have a large amount of money invested, the cost is not warranted.

- **Combined fundamental analysis with technical analysis**

  The investor would first select shares which appear to be fundamentally sound. By using the charting method, they would attempt to select the shares which appear to be at the bottom of an upward trend. The other alternative is to research the shares which appear fundamentally sound, but the purchase of the shares does not take place until the charts confirm the shares have commenced a strong upward trend in price movement.

- **Systems based on one or two known factors**

  - **Ranking by % dividend yield:** One of the most popular share selection systems is based on information collected by a group of investors who developed a website

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called Motley Fool for America online. It is often referred to as 'Dogs of the Dow'. The premise of the original American version is that the Dow Index consists of the thirty largest American companies. Given this, they are unlikely to go bankrupt and should continue long term. When no longer in the top 30 companies, they are replaced with the new company. As the price of the share falls, the dividend rate increases. The aim is to rate, in order, all the shares in the Dow Index from those with the highest dividend yield to the lowest. You purchase the 10 highest dividend paying companies (the ones currently 'out of favor'). At the end of 12 months, you repeat the exercise, selling the companies which are no longer in the top 10 dividend earners and replacing them with those which have joined the list. There is an Australian version using the Australian ASX 50 Leaders. Lists of the 'Australian Dogs' are often in the magazine *Shares*. From my experience, the idea may work for the Dow, but when you start changing the rules by having smaller and more companies, it is not as reliable. However, the book is certainly a good read.

    - **Ranking by PE ratios:** Using PE ratios can make a similar style of selection. A PE ratio is the number of times the earnings per shares is covered by the share price. In this case, the emphasis is on the full earnings of the company, rather than the portion of earnings paid as a dividend. In this case, you would select the 10 shares with lowest PE ratios. Small investors may use only five or six shares. However, the risk would rise accordingly. Supporters of these types of systems maintain they can outperform the rate of the All Ordinaries Index and that of most managed funds. They support this with trials using back data over different historical periods.

- **Expert advice:** The traditional method of buying and selling shares has been through a share broker. Their role has been to analyze various companies and make recommendations to their clients. With internet trading and telephone trading at less than $20 a sale, brokers are having a difficult time convincing clients to pay 2.0% to 2.5% fee on both buying and selling shares. In addition to share brokers, there are a number of magazines and newsletters which give advice. If you have not invested in shares before, I would recommend you buy one of these publications to help you at the start. They will often have a recommended portfolio for the new investor.

From my personal experience of share buying using all of the above methods, there are strengths and weaknesses in any one system. All of the above methods of share selection when used consistently, appear to outperform the Index at various times. Personally, I find it difficult to accept the argument from the fundamentalists that if you buy shares which are fundamentally sound, they will continue to make profits, pay dividends and eventually this soundness will be accepted by the general market and the price will rise accordingly. Why buy a share with a falling price? How long do you need to wait until 'the value' is recognized by other investors? Generally, if a price is falling there is a good reason. Thinking you are smarter than the market is a fallacy.

However, I have the same problem with the technical analyst who attempts to choose shares according to the rate at which the price is rising or falling. At any one time there will always be a range of shares which are rising for different reasons. Distinguishing between those which are rising because they are fundamentally sound and have projected long-term increased profits would make more sense than buying for a short gain, which may have no more substance than a rumor. This rumor may be that the company is in line for a big contract. Alternatively, a managed fund may have decided to increase its holdings by buying shares over a series of trading days. Once the announcement appears about the lost contract or the fund stops buying the shares, the rapid price rise may cease just as dramatically as it started. One of the problems I have with technical analysis is that shares are often 'ramped up' by various press releases, only to find the enthusiasm dissipates once the news reports have stopped.

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Another problem is that equities are used as the underlying currency for a range of derivatives. Trading in derivatives was one of the factors in the Black Tuesday crash of 1978. This trading in derivatives and high volume trading, where large volumes of shares were bought and sold within minutes, to my mind, is a form of market manipulation.

It is not a fair playing field for those people who want to invest in a company with the aim of supporting a business and in return, receive a reliable dividend and hopefully see the company grow in value under sound management.

My personal experience in the share market

In my top 10 tips, I recommend that shares be held medium term and that you try to take advantage of the economic cycles of the share market. These cycles tend to be five to seven years, but sometimes they are longer. In addition, you are likely to see a major fallout of the share market every 20 to 30 years. You don't want to spend all your money investing in the share market to see the value drop by half and take years to recover.

Some people will simply say buying shares is too hard and ignore this section of the investment marketplace. However, to my mind, you have to do battle with the dragon and learn to make sensible medium-term decisions. We are so much more fortunate in the amount of information available to help us. This information may be either free or at a cost.

Before I started investing in the share market, both my husband and I read many books and attended many seminars. I think it is important that if you have a partner, you both make yourselves fully informed. It is good to have discussions about which shares to buy and sell and to talk in general about what stage of the economic cycle the share market is in. While we all have a general understanding of the cycles, the timing will be different for each one. If you don't have a partner, try to join an investor's club or find friends who have similar interests. On the other hand, never buy a share just because someone gave you a tip. Do your own research first. If for any reason either of you are alone, you need the skills to carry on managing the portfolio.

I have been actively investing in the share market for over 30 years and over that time, have accumulated, at times, a very large share portfolio, sometimes managing up to 40 shares. I don't recommend that number for most people. I think 10 to 15 is more than enough for the average person.

In the initial stages of my share accumulation, my view was that asset allocation was the first priority. Once I had decided that this was a good entry point into the market, I carefully studied the fundamentals of the company and tried to select sound companies with potential for growth. At this time, charting-type products and internet brokers were not readily available. As a result, I had no exit plan for the sale of my shares. The general consensus at the time was that, although there would be periods when the share market suffered a 'correction' or fall in price, the price would recover and continue the upward trend which had been a long-term feature of the share market.

If you aren't going to be a short-term trader, it would be best to wait for a change in the cycle. Don't start buying until the market has been down for some time. It usually bumps along the bottom for some time and you are never sure whether the next bump will be the start of a new upward trend or another short upward trend which again fails to get traction and continues the trend down.

It is impossible to pick the exact time when the share market starts to rise. It is probably better to be in the market before it really starts to gather momentum. Unless you are in the market, you will have lost the advantage of the rise from the start.

This worked well for a number of years and I kept adding to the portfolio at times when I thought it was a good time. I never bothered to look at the price of my shares, confident the experts of the day were saying 'buy and hold for the long term'. Over a period of time, two of our shares failed and we

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lost all the money invested in them. It was at this point in time that I decided I needed to pay more attention and that this 'buy and hold' was not as good as I had been led to believe.

In addition, home computing power improved and I was able to buy a charting package which allowed for the downloading of the daily share prices. There were also a number of good quality newsletters which analyzed shares and gave advice on what to buy, sell and hold. However, there seemed to be many more buy signals than sell signals in these newsletters.

I purchased a product called Metastock which was a good software package. I went to a number of courses on charting and read extensively about it. I learnt to write my own formula so that I could search a set of shares and look for a list of features which might indicate if this was a good time to buy or sell. I created lists for my portfolio, shares on a watch list to either buy or sell, lists according to industries and most importantly, lists of the various indexes.

A few years later, I also purchased a product called Lincoln Indicators. This is an extremely good product in that it is based on fundamental analysis and looks for shares it calls 'star stocks'. There are nine criteria required to be a star stock. I believe, if you did nothing but buy their recommended star stocks, you would outperform the market. My only comment is that sometimes a star stock meets the criteria before the stock is in an upwards trend. When I looked at the new star stocks, I would put them in a watch list until they had started to rise in value. Of course, the problem with this is that I might have missed the first 10% rise before I decided to buy. Lincoln Indicators now also have a good charting package, although I continue to use my Metastock.

The other important thing to understand about the share market is that it is not one share market, but a number of markets. Each of these markets will have their own indices. Therefore, when you are looking for trends in the Australian market, you don't look at the trend of the ASX200 or the All Ordinaries. These markets are too large and will hide the true market conditions of price movements. Just as you go to the fruit market or meat market, so you need to be selective in deciding where you are going to shop in the share market.

I have now developed a system whereby I look at the overall market to see if there is an upward trend. I then use my *Stock Doctor* list of indices to see which industries are rising and falling. I will only buy a share if the sentiment for the industry is positive. I will then search my list of shares within the industries to see which are the most favorable or just starting a strong upward trend. Then I will buy the best performing shares, according to Lincoln Indicators, if they also have a rising price. Once an industry or share starts to fall in price, I will monitor it and have a stop loss point where the share will be sold.

I think the most valuable lesson I learned was that when the market rises to the point where the price rises hit the headlines of the newspapers most days, you know this is too good to last. This is the time when the people who have never bought shares in their life start buying because their mate bought some share no one had ever heard of and made a packet of money quickly. The other type is someone who got a hot tip from the taxi driver. When sensible commentators say these prices are unrealistic and can't continue, you will still see other experts urging you on, saying the market is in a good place. They are probably pushing it as hard as they can while they quietly sell the soon to be 'duds'. It is difficult to know which expert to trust. Only time will tell who was right. Often they will both be right eventually, but it is the timing of the market change which is difficult to predict.

Sometime before the GFC, I recognized that the prices were unrealistic, but I had friends who had sold all their shares 12 months previously because they too thought the market was too high. As a result, they did not benefit from the continuing rises over that last 12 months. I decided I would continue to monitor my shares as I had always done, but when a share fell in value to the point where I decided to sell, I did not re-enter the market by purchasing more shares, I simply left the money in my cash management account.

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What became apparent several months before the so called ‘crash’ in Australia was that most shares had been falling in price for a good six months before. It was the weight of the bank and mining shares which were holding up the ASX200 Index. By the time of the obvious crash I only owned about eight of my original portfolio of 40 shares. As I still had significant profits in all of them, I was able to sell without a loss. However, I owned some of those shares since the early 1990s and I had significant capital gains tax to pay. That was one of the reasons I was hoping I could hold onto them. But once the writing was on the wall and I realized this was one of those catastrophic drops, I knew I was better off paying the tax and leaving the market until the market fallout subsided.

For the person with no knowledge of the share market I would like to give you a little insight into looking at shares on a chart. But before I do, a word of caution. I am not talking about day traders who spend several hours every day trying to pick short-term rises in stock prices. But for those of you who are thinking that day trading may be a good way to get rich quickly, let me pass on some words of wisdom given to me by a stockbroker. In America some stockbrokers will provide computers and offices free to day traders. The research shows that 90% of all day traders lose all their capital within 90 days and never return to the share market. Yet every day there are hundreds of people lining up to spend 90 days losing all their money. Many of these people would have given up good jobs to start a career in ‘day trading’.

The other person who does just as bad is someone who has never bought and sold shares, but pays thousands of dollars for a ‘black box’ trading scheme. It’s called a ‘black box’ because you don’t know how they decide when to buy and sell the shares. These products may work reasonably well when the share market is in a strong upward trend, but they are unlikely to work once the marketplace is in a down cycle or a volatile state. If you learn nothing else from this book, please, if you are going to invest in shares, take the time to learn something sensible about how to manage your share portfolio. Don’t look for the ‘quick fix’.

It takes years of training and practice to be a competent day trader. Of those who are successful, they only expect 60% to 70% of their trades to be successful. Fortunately for them, the wins are usually much larger than the losses. Investing for the medium- to long-term is a far safer option.

For the average mum and dad who wants to own some shares and manage the risk of severe downturns, I would suggest that you use a combination of share charts and select companies with good management, conservative debt and paying a reasonable dividend. For those of you just starting, most of this information can be found free on the internet. Most of the internet trading platforms provide excellent information. You can also source other information at a cost. I would recommend that if you are just starting, you review a number of these sources and select something in the price range that will meet your needs. If you are only buying, say, five to seven shares as the start of your portfolio, there is plenty of information to help you find this number of good shares without excessive costs. As your portfolio grows, you may find it helpful to get further assistance.

For those of you who want to be pointed in the right direction without being too technical with graphs, I would offer the following advice. If you look at a chart, use candlestick charts which are red for shares where the price finishes lower than at the start of the day and green where it is higher at the end of the day. Instead of looking at a daily chart of price changes, you could look at a weekly and a monthly chart to get an overall picture of where the price movements have been recently.

I like to use moving averages rather than day by day prices. The length of the moving average will depend on whether you are a short-, medium- or long-term investor. But for most, I think a 10 to 21 day moving average is a good place to start. Thus you get a smoothed-out line of prices showing an upward, sideways or downward trend. Averages are good to give you the trend but not for the best time to buy. But as I said before, when the trend is up is a good time to buy provided all the other information about the stock is good.

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My personal favorite for identifying trends is Guppy's Moving Averages. This configuration of averages was developed by an Australian, Darryl Guppy, and I strongly recommend any of his books. He has a wonderful style of writing. His indicator is now used worldwide and will often be included in charting packages. If it is not in your program, you can create it. Darryl Guppy recreated a set of short-term and long-term moving averages as lines on one chart. As both the short- and long-term traders moved in the same direction, so did the lines to a point where, if there was a change in direction of the trend, the two sets of lines crossed over. Once this cross occurred, the trend usually, but not always, changed for some considerable time. If you don't want to use something as complex as six lines on a chart, you can select just one short- and one long-term average and watch where they cross. When the cross moves in an upward trend, this is often called a 'golden cross' and is the start of an upward trend. You will find this type of indicator on almost all free charting services.

If you buy a charting package there are many indicators and you will soon learn to use them for their specific purpose.

But for now, I would just like to mention one. It is called the Coppick Curve. The only aim of the Coppick Curve is to pick the start of an upward trend after a severe and long downward trend, of say, over 18 months. I am talking about the time when everyone has given up and thinks the market can never recover. So if you read or hear about the Coppick Curve showing signs of recovery, take note. However, remember that all indicators have a percentage of reliability and they won't always get it right. But if you are waiting for your chance to start in the market, it is probably a good time.

There is a fantastic range of books available on the share market. I would suggest any books or courses by Colin Nicholson, Alan Hull, Louise Beresford, and of course, Darryl Guppy. All these authors are of world class and I would recommend them to my readers even if you are not trading in Australian shares.

I think another important issue to consider is your risk management of the whole share portfolio. This will help you decide how many shares you should buy in any company as a part of your portfolio. It will also nominate the price at which you should sell a share. There are several software programs listed on the internet. You should choose one which suits your budget.

Buying shares through managed funds or trusts

Managed funds can trade exclusively in shares or can consist of a combination of products such as property, interest bearing securities and mortgages. Managed funds can be 'listed or unlisted'. Listed funds can be bought and sold on the stock exchange at the market price for the day. Unlisted funds must be redeemed from the fund manager according to a set of rules relating to current valuation of the fund.

Within the share funds, there is a wide variety to suit the needs of every investor. Factors to consider are the level of imputation credits, level of income and capital growth, and diversified or specialized fund. Some funds are referred to as index funds. These funds believe you can't beat the market long-term, so they buy the shares proportional to their value in the Index.

One consideration you must pay attention to is the level of leverage. Some of these funds borrow money to invest on your behalf. Borrowing to invest in the share market increases the risk. Ultimately, you are the person carrying that risk. In addition, you will be paying fees on the leverage amount. My personal view is that the share market is too volatile to use borrowed funds. However, people with funds to lend or shares to sell will tell you differently. Only you can assess your tolerance for debt and the associated risk when used to purchase shares.

An area of concern for all investors is calculating the amount of management fees. While the government requires some fees be stated, determining the cost of fees is, at best, confusing. To add

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to this confusion, the fees are often listed as a range. For example, they may say the management fee will be 2% to 4%, but don't tell you the entry points for the different costs. Various financial magazines, newspapers and websites list some of this information regarding trusts.

Some issues you need to consider are:

- **Entry fees:** Where charged, the entry fee can be as high as 5%. Therefore, if you invest $1,000, the agent who sold you the investment will be paid $50 and $950 will be invested. Some financial advisors and internet fund managers will reduce the fee or refund it completely where you are paying an hourly rate for financial advice.
- **Exit fees:** Occasionally, you will be required to pay an exit fee when you sell the units. This usually occurs when there is no entry fee and you hold the fund less than a specified time.
- **Management Expenses Ratio:** The MER is the percentage of the fund value which is charged annually by the management and trustee of the fund. The MER usually ranges from 2% to 3% of the average balance of the fund over the year. If your fund is worth $1,000, an MER of 2% would result in a fee of $20. If the fund were to rise in value next year to $1,100, the MER for the second year would rise to $22.00. If the income from the fund is 5% of $1,000 or $50, and the MER is 2% of $1,000 ($20), your income is reduced to $30. This represents net income of 3.0%. The MER is taking 60% of your income.
- **Gross performance:** This is the return on the gross amount invested. It does not consider the amount of the entry fee. If you invest $1,000 and the entry fee is 5% and gross return is 7%, your net return would be 6.65%. In most cases the gross performance will deduct all costs other than the entry and exit fee.

Geared (or leveraged) equity investments

Borrowing money to invest in the share market is a common investment strategy. The security is often the equity of your home. Understand clearly that if the share market drops dramatically and you cannot repay the loan through the sale of your share portfolio, you put your home at risk of being seized by the bank.

The second, but usually more expensive, method is to use the purchased shares as security. This type of loan is called a margin loan. The level of gearing is usually 60% to 70% of the value of shares. This allows for any falls in share prices, which are likely to trigger margin payments, or forced sale of shares when the market is down. If the value of the shares falls below that margin, you will have 24 hours to top up the account with more money. If you don't, the lender will sell sufficient shares to bring the portfolio within the limit of the margin. This is referred to as a margin call. You need to make sure you have funds available for your margin call.

The aim of gearing is to allow you to benefit from the dividend payments and capital growth of a larger portfolio than you can finance from cash. If the interest on the loan is more than the dividends, you can reduce your other tax payments, thus reducing the holding costs of your loan. This is called negative gearing. Imputation credits on the larger amount will reduce your average tax rate. If you plan to gear your equity investments, you should consider the following:

1. Choose good quality shares with the potential for capital growth.
2. Choose shares which are fully franked.
3. Choose shares with a high % dividend return, say above 4.5%. This has a twofold effect in that higher dividends offset the interest costs. Good quality shares with high dividends and low PEs are often at a low point in their economic cycle, and are more likely to have the potential to rise in price. As the price of the purchased shares rise, your % dividend yield is likely to fall.
4. Do not overextend your borrowing capacity.
5. Borrow funds at the best price. For example, a home equity loan will be cheaper than borrowing from a margin lender. The difference can be substantial, particularly where some

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capital loss protection is offered as part of the deal. However, you are putting your home at risk.

Gearing to invest is heavily promoted by financial institutions, marketers of investment packages and stockbrokers. The estimated returns can be inflated and you should perform some simple calculations for yourself.

Keeping records

There will be records you need to keep for both your annual tax return and for calculation of capital gains tax when you sell your shares. There are a range of inexpensive accounting software packages which can be purchased for general business accounting, share trading and property management.

In Financial Mappers, the tax estimator will calculate your imputation credits and potential future capital gains tax. Remember that this is modelling software, and you will need to keep accurate records for your tax return.

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Chapter 13: Investment Property

Most investors have a preference for investing in either property or shares. By owning some assets in each category, you will smooth out the ups and downs of the economic cycle. The economic cycle for say, property or shares, can take four to seven years from low to high. Traditionally, the cycles will move at different times and at different speeds. Previously, the aim of every investor was to buy low and sell high. With the advent of capital gains tax, a better strategy may be to 'buy low, buy value and hold'. The order in which you purchase your assets may be determined by the current economic cycle.

An important feature of property is the collateral it will provide against borrowing for either more property or shares. The downside is the high cost of buying and selling and the lack of liquidity. Shares can be sold immediately at the market price and money received within five days. Selling a property may take several months. New investors fail to consider the high cost of buying and selling, occupancy rates and maintenance costs.

If a private investor were investing directly into the property market, they would most likely choose the residential market. The residential market has a wide range of choices to suit price range, location and type of tenant. It is relatively easy to rent and sell within this market. If the market drops, you may have to drop your rental price a few dollars, but you should not have a long-term vacancy such as one finds in the commercial and industrial market.

Other choices available to the direct property investor would be industrial or small commercial properties. While the return on these properties is higher than the residential market, finding tenants and buyers can be more difficult.

For those who do not want direct involvement, property trusts are another option. Property trusts invest in large industrial, commercial and CBD properties, which are beyond the price range of the solo investor. By investing in a trust, you are able to diversify your risk by owning a small share of a number of large properties. Your liquidity is improved because you can sell your units within a relatively short time. Unlike equities, property trusts don't have franking credits. However, they do tend to pay higher dividends than fully franked shares.

The residential property market: to manage or not to manage

The advisors who encourage you to invest in the residential market are mainly real estate agents or promoters of negative gearing trying to sell you a mortgage. The outlook given by both parties is often superficial and optimistic. There is no reason why you can't manage your own rental property provided you have the time. Paying a real estate agent is no different from paying a fund manager to manage your managed funds, or paying a gardener to mow your lawn. All states have property owner associations which you should support. A strong property owners association will help all property investors to have their case presented strongly to various government bodies. Too often government funded tenancy lobby groups get more input than property landlords.

You should understand the Residential Tenancy Act of your state and follow the guidelines set out by your state Residential Tenancy Authority.

Today it is relatively easy to advertise your property with photos on the internet for a small fee. I recently had an organization phone me to say that they would advertise on my behalf on these websites. In addition, they would answer the enquiries and let the property for me. I thought the fee was more than reasonable and certainly much less than newspaper advertising. Once the property was let, you could then manage the property yourself. This may be a good alternative to doing it all yourself. I use an internet platform, Cubbi, which lets me advertise and rent my properties privately.

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On the other hand, most real estate agents offer an excellent service. However, you will probably be charged around 7.5% of the rent as a fee, in addition to another fee when the property is rented. If I were paying this type of fee, I would expect first class service. From talking to other private landlords, the biggest problem they have is making sure the rent is paid on time, and if not, taking the correct action as soon as possible. I had a friend who was told the tenant could not pay the rent because they were having a bad time. It was too bad about the poor landlord who had to pay the mortgage. This type of behavior is unacceptable and should not be tolerated. You need to have a list of processes you want the agent to sign off on before you give them your custom.

My list may appear harsh, but as I am going to pay someone to manage my property, I expect them to do at least what I would. Remember that the rent is paid into the agent's account and the balance of the rent after any agent fees and expenses paid on your behalf will be deducted at the end of each month.

I would request the following:

- Notification by email when rent is received. This way you know the tenant is paying the rent and the agent is checking the rent has been paid.
- If rent is overdue by more than two days, the agent must send an email, text or letter to the tenant requesting payment. A copy of the information should be forwarded to you.
- The agent must advise you of the laws of your state when issuing notices for recovery of unpaid rent or eviction of tenants for unpaid rent. You must be updated as this process is actioned in a timely manner.
- Property inspections. These should be undertaken at least every six months. At the time of the inspection, the agent should note any repairs which need attention. Requests by the tenant for improvements should also be included. The agent should ensure that all repairs are completed promptly.
- Repairs and maintenance. From my experience, there are two types of problems. Firstly, tradesmen don't like dealing with agents and even more reluctant to deal with body corporates because they take too long to pay. The people who rent my properties tell me how nice it is to have repairs completed quickly. Tenants can have problems if an agent is never in the office when they phone to report the needed repairs, or if the agent never returns calls. It can then take weeks to get something done. This is unsatisfactory. Any tenant is entitled to have the property maintained. This is part of the service they expect as a tenant, rather than a property owner.
- Pest control. Ensure the property is sprayed annually for pests such as cockroaches, fleas and spiders. Have rat baits been set out? In addition, have the property thoroughly inspected for signs of white ants, birds and possums in the building. These are all your responsibility. Just recently, I had a person relay to me the story of a possum that had eaten its way through the ceiling and stuck its head into the room. When the tenants contacted the real estate agent, they were told they would have to pay $300 to have the possum removed. This is nonsense. Firstly, it is the landlord's responsibility. Secondly, does this landlord or agent realize the enormous damage rats or possums in the ceiling can do? Apart from the risk of fire which could destroy the building and kill the people in it, the smell of urine and damage to electrical wiring and plaster board ceilings is enormous.

The choice to use an agent or not is a matter of whether or not you have the time and skills to manage the property. Those of you who are considering self-management should read my personal experiences and decide if this is a course of action for you. If you follow my recommendations, you shouldn't have too many problems.

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My personal experiences as a landlord

I have self-managed my rental properties with the help of an assistant for over 30 years. I have had the 'tenants from hell'; in fact, several types of 'tenants from hell'. To describe them all would take another book. Over the years life has become much easier for the self-managing landlord. It is not something everyone will want to do and there is value in paying a real estate agent to manage the property. Like all management fees, you simply need to decide if this is a cost you want to pay or if you want to take the time to do it yourself.

When I first started renting properties, I had to go and collect the money once a week in cash at the front door of the property and write a receipt. Fortunately, those days are long gone. Now you give your tenant either an agent deposit book or your banking details so they can make a direct deposit. If you have more than one property, as I do, I adjust the rent for the first fortnight so that all my rents are due on a Monday fortnightly. Then I can check to ensure that the rents are all paid on the Wednesday after the rent due date. If a payment is missed, I can quickly get off a polite text, email or letter reminding the tenant. By Wednesday, you will know if they are more than seven full days overdue and you can issue your first official notice for a breach of tenancy—failure to pay rent. I also deliver the notice to the letterbox rather than post, as this shortens by two days the time for the tenant to pay the rent or receive the final notice to vacate within seven days if the rent is still not paid.

As a member of the Property Owners Association, in my early years of property ownership I would attend many of their meetings, especially if guest speakers were invited. I would strongly recommend that the new property owner do the same. There is much to be learnt from guest speakers and from the personal experiences of other landlords.

The one thing I could never understand is people who came to the meeting and complained about their tenant not paying rent for months. Sometimes these properties were being managed by real estate agents who had not taken the correct action. Other times, the owners simply assumed the rent was being paid and didn't check their bank account. There is no accounting for people's stupidity.

You need to let your tenant know that receiving the rent is important to you and non-payment will be actioned immediately. Before a new tenant signs a lease, we make it clear what the process is if the tenant fails to pay the rent on time. We give them a list of the dates on which rent is due, the form notification to 'Remedy the Breach of Unpaid Rent' or 'Notice to Vacate' where the rent is not paid within the nominated time. We also make it clear that if we have to take them to the QCAT, the small claims court, for restitution, they will be listed on tenant default lists.

We are fortunate now, as there is the ability for private owners in Australia to access tenant databases. Fear of being listed on a tenant default database is a great motivator for tenants to pay their rent, and since that time, I have had virtually no problems with tenants.

Make sure that all prospective tenants are told in no uncertain terms that non-payment of rent and unacceptable levels of noise will not be tolerated. That tends to make potential troublemakers change their minds about renting. You will find that tenants with a history of poor performance in paying rent will prefer to rent through a private letting rather than an agency because the checks are likely to be less rigorous. Years of experience will give you the ability to sum up a person fairly quickly and I must admit, I tend to rent on face value. That said, I act swiftly if it is apparent that a mistake has been made.

Every state in Australia, and no doubt, other countries will have a set of government regulated rules on the management of tenancies, how unpaid rent or property damage is recovered, and how you give notice to remove a tenant.

I will give a description of what should be done in Queensland.

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Forms

The Residential Tenancy Authority (RTA) of your state will have a set of downloadable forms, together with booklets of information for both tenants and landlords. You should get a copy of each one you are likely to need and you should read them in detail. I would also suggest that you buy a copy of the Residential Tenancy Act for your state. This sets out the exact rules for both tenants and landlords. The major points are covered in the booklets, but it is good to be able to quote sections of the act if you are sending a notice to a tenant about unpaid rent or inappropriate behavior.

You also need to know what you can and can't do. For example, you can't seize property in lieu of rent. You can't have utilities disconnected. You can't enter the property without giving notification via the nominated forms, which all have set time limits before you can access the property. You have to respect the person's right to privacy. This includes not putting a notice under the door. Any notices must be delivered to the letterbox or the nominated place for notifications.

The main forms you will need are:

Start of Tenancy

Booklet of information for the new tenant: This book provides all the tenants' and landlord's obligations.

Standard lease: I would include your list of the specific items you want noted even if they are already in the lease. This is a list of the items I include:

- Nominate the number of people who can occupy the property.
- No animals of a temporary or permanent nature.
- Preferred repairer and maintenance companies. I have my own plumber, electrician and handyman who have been working with me for well over 20 years. We have a good relationship and they know what they can do or not do without discussing it with me. However, I make sure my tenants know that if they see one of the repairers on site and they have a problem, they can ask the repairer to fix it. Normally, I would have them contact me first. Often it is best for the tenant and the repair person to make arrangements for a suitable times between themselves. Sometimes you may need to give the repair person a key or be on site while the repair is undertaken.
- Cleaning and carpet shampooing at the end of lease. Nominate an hourly rate of charge if the unit is not cleaned adequately, together with the fee for cleaning. Make the rate high enough to ensure that the tenant either cleans it thoroughly or pays someone to do it. Cover the additional time taken for you to organize it and be on the property at the time. I also recommend a cleaning agency when the tenant gives notice to vacate.
- Use of nails or picture hanging hardware. I recommend you have an adequate number of picture hooks and only allow more with your permission. Otherwise you are likely to find someone who wants to put 20 photos on a wall and the next person might not want to see all the unused hooks.
- Removal of rubbish or unwanted items when leaving. Nominate a charge for removal of rubbish.
- Property inspections prior to the tenant vacating. Advise the tenant that you will be advertising the property from the time they give notice. I do not have property inspections on the weekends, but I nominate a time period (10.00 am to 3.00 pm) during the week. It is a rare occurrence when I don't have a tenant ready to move in on the day the previous tenant vacates. I would also suggest you have your handyman check to make sure all minor repairs can be done before the new tenant moves in.
- All notices to vacate should be on a Sunday, with you meeting the tenant at 9.00 am on the Monday to do a property inspection, sign an exit report, refund of bond form and exchange

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of keys. You can then do a handover to the next tenant later in the day. Always allow yourself a couple of hours to do 'that bit extra' in the way of cleaning as there are limits on what is expected of the tenant.

Bond form: You will both need to sign the bond form and you will have to submit the bond to the RTA within a nominated period. Do not allow the tenant to make the cheque payable to the RTA. If the cheque is rejected, they won't tell you about it for eight weeks, which is no use to you. In fact, I would suggest you ask for cash. If you are going to take a cheque, make sure you include in your terms of tenancy that if the bond is not paid in full prior to occupation, the lease is invalid. This may give you a little 'wiggle room' if you need to get rid of them quickly.

Condition report: There will be a copy for each party. I would suggest that you and the tenant complete the report before you give them the keys. Of course, they should be able to update it if they find something not working when they move in. I also include a statement to the effect that the property was cleaned thoroughly, listing the number of hours, if possible, that it has taken. I would suggest that if your property is only likely to be rented every few years that you arrange to have it professionally cleaned even after the previous tenant has cleaned the property. The tenants don't have to do those long-term cleaning items like washing walls. I would also suggest you have your handyman come in as soon as the tenant gives notice to check what needs to be fixed or painted. This way you can either get minor items done while the tenant is still there or have him booked for the day they leave. You can then tell prospective tenants what repairs will be completed before they move in.

Tenant's application form: This form is not provided by the RTA, but I would recommend you prepare one. I use two forms—one for people I don't want to rent my properties, so I ask the really hard questions. For the others I have a simple form which gets the information I need.

This is the best time to get any information you may require if you subsequently have problems with the tenant.

The following is a list of items you may want to consider:

- **Full name, date of birth, photo ID.** You need to establish they are who they say they are. Keep a record of their driver's license or passport number. This information may be necessary if you have a debt collector chasing unpaid rent or property damage after they vacate.
- **Next of kin not living in the tenancy.** This information may be useful to the debt collector. However, it can be important for a number of other reasons. The first is if you find the tenant has some medical or mental problems and is not coping. You may need to alert the next of kin of a potential problem and ask for their help. I have had an occasion where a person was suffering severe depression and the relatives had to come and have him hospitalized. I have also had long-term elderly tenants who were having problems managing and again, it was helpful to be able to alert the relatives that the tenant's capacity to live independently might be limited. You should also have this information in case of a fire and loss of life.
- **Rental history:** Try to get the rental history for the last two and preferably three tenancies. Remember that if someone is a bad tenant, the current landlord is not going to tell you because all he wants is to get them out of his property. There will be times when a tenant doesn't have a rental history and you will have to make a judgment call on that one. You can ask for references, but anyone can make up a reference or have a friend write one for them.
- **Outstanding court orders for non-payment of rent or property damage:** This is a wild card, and you may or may not want to include it. While the person is unlikely to admit to the court orders, it may be enough to make them think twice about renting the property. If it dissuades a 'high risk tenant' from wanting to rent your property, this is a good outcome. Keep in mind that these high risk tenants are more likely to try and rent from a private person.

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- **Occupation or income:** You may want to establish that the person earns sufficient money to rent the property. I usually include this on the form for people I think are suspect. However, I usually nominate two or three income brackets. Ask them if they earn less than $50,000 or more than $50,000. This will give you an indication of whether or not they can afford the property. You can adjust the income brackets depending on the cost of the rent.

After the start of tenancy

Entry notice: There will be times when you or your agent will need to enter the property and you need to supply a Notice of Entry form (9) to the tenant. There are different time periods for different reasons for entry.

Breach of tenancy: The two major breaches are failure to pay rent and behavior which disturbs neighbors, particularly within an apartment building. Read in detail the separate sections on 'unpaid rent' and 'tenants who behave badly'.

Termination of tenancy: There are strict rules as to when you can terminate a tenancy and you should ensure you understand these rules fully. The tenant can also give notice to vacate and they too must adhere to the rules. If the tenant wants to leave before a fixed term tenancy, they should be responsible for the cost until a new tenant is found.

I strongly recommend that when the tenant gives notice, you send out a letter reminding them of their obligations in terms of cleaning, rubbish removal, hand-over of keys and signing the exit report and bond refund. I would suggest at the same time, you provide notice of entry for times when you want to show the property to prospective tenants and when you or a handyman want to check for any repairs or touch-up of paint. A copy of the original condition report is also helpful.

Arrange a time to meet to do a final exit report, take back keys and sign the bond refund form. While you don't have to meet, I think this is the best way to conduct the hand-over.

Exit report: This form needs to be completed by both parties. I prefer to do this together, rather than have each person complete it separately. If I am satisfied with the state of the property, I normally write that the property has been returned in a satisfactory state. Otherwise these forms are quite long and can take some needless time for both parties.

Bond refund: If you are satisfied there is no unpaid rent or damage to be paid for by the tenant, you can sign the form for the tenant's bond refund. If you are both in agreement about who receives which portion of the bond, you should both sign it. You can choose to give the tenant the form if you have no claim on the bond. In other cases, I would make sure that you post the form yourself.

Unpaid rent

I would suggest you follow the protocol as listed below. Even when you have good tenants, their financial circumstances may change. You need to have a dialogue with the tenant so that if there is a genuine reason why the rent is not paid, you come to some arrangement whereby additional payments are made until the rent is paid. The thing about tenants who are bad money managers is they will pay the person whose demands are loudest. You need to keep your name at the top of the list of expenses which must be paid.

Don't be fooled into being the 'banker' for your tenant. They have family and friends for that. If they won't help out in a desperate situation, why should you?

This is my recommended list of things to do:

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- If the rent is more than two or three days overdue, send a polite reminder. It may have been a genuine oversight, or if the tenant is doing automatic payments, the bank may have missed a payment because of 'insufficient funds' on the day of transfer.
- If the rent is more than seven days in arrears, issue a Form 11: Remedy Breach of Tenancy. On this form you need to list the amount outstanding and give a date (seven full days if hand-delivered and nine full days if posted) as to when the payment is to be paid. Note that you need to mention on the form the method of delivery. Hand delivery will save you two days, but sometimes this is not practical.
- If the rent is not paid by the due date on the Form 11, wait until the next day and issue a Form 12: Notice to Vacate. Again, you will need to issue the date by which the tenant needs to vacate. This will be seven or nine days, depending on the method of delivery.

  I find, at this point in time, you need to be proactive. You need to prepare yourself for the 'worst case scenario', which is the tenant sitting in your property not paying rent until QCAT (small claims court) issues an eviction notice and even then they will be given further time before they have to leave. In this situation, you will have lost your four weeks' bond and probably another four to six weeks' rent depending on how long it takes to get a hearing with QCAT.

  An additional option is to apply to the RTA for Mediation of Unpaid Rent. In this case a representative from the RTA will phone you for more information about the problem and they will, in turn, contact the tenant.

  At the time of issuing the Form 12, include a Form 9, Notice of Property Inspection. You have to give seven days' notice, so the date will be about two days before the date to vacate. From my experience the last thing the tenant wants is a face-to-face discussion and in most cases the tenant will have either paid the rent or moved out before the date of inspection. At this point in time you might just break even if you have to have the place cleaned, advertised and rented.

  Another option is to include a Form 9, Notice of Entry, and a letter advising that you will be advertising the property on a nominated date and time, and that you will need access to show prospective tenants. While I would not recommend that you do show the property in this situation, it gives you a reason to be in the property to see if there is any movement in terms of packing up, and again, this type of action is likely to prompt the tenant to start making arrangements to move out. If you do nothing, chances are they will do nothing as well.
- If the tenant has not vacated or paid the rent by the due date, on the next day you must apply to QCAT for an Urgent Application to Evict the Tenant. I strongly recommend you take the time to go in person and complete the forms at QCAT to speed up the process. Sometimes there can be a wait of several weeks for a hearing and you don't want to waste a single day. Sometimes the forms are not clear and at least you can correct any mistakes on the spot, otherwise they will return the forms and you will have to start all over again. Once the court order is given, the tenant will be given further time to vacate. If they do not vacate by the due date, you will need to contact the police and a locksmith and make arrangements to have the tenant and his possessions removed and the locks changed.
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Tenants who behave badly

If your property is an apartment building, particularly where you own all the apartments, it is important that badly behaving tenants are dealt with quickly and effectively.

The most common problem is people making too much noise and disturbing neighbors. There can be other problems, such as petty arguments between tenants. If possible, keep out of the discussion in these cases. The same goes for arguments between tenants in the same apartment.

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If you don't live on site, which is the case for most owners, you have to rely on other people to let you know there is a problem. I always advise incoming tenants that we have a strict policy about noise which disturbs the neighbors. I tell them that if, at any time, they find themselves having to deal with that problem, they need to do two things. The first is to contact the police and make a complaint and the second is to write a letter advising me of the problem, providing full details. If it is not the first time, they should list other occasions when there have been similar breaches.

When I have received a complaint, I issue a Form 11: Breach of Tenancy, advising them I have had a written complaint (without identifying the person) and that the police visited the property to manage the situation. I include in my notice a quote from the Residential Tenancy Act which states that all residents have the right to the quiet and peaceful use of their premises without excessive noise from other tenants or their friends. Failure to observe this rule is considered a breach of your tenancy and you can be asked to leave once you have been issued with two Form 11s for Breach of Tenancy—excessive noise.

I send a copy of this letter to the person complaining, thanking them for their assistance, and ask them to report any further occasions. I also notify the other tenants in the building to let them know I have received a complaint, stating that it has been dealt with and if it occurs again they should contact me immediately. I also send a copy of this letter to the offending tenant.

There is a series of legal requirements I must follow to have a person evicted. These steps are:

- Issue two Breach of Tenancy notices. This is why I need the written complaint and involvement of the police.
- Request mediation through the RTA.
- Apply to QCAT to terminate the tenancy.

None of this is practical if you've got some person who wants to party or have a domestic fight all night. The normal tenant will realize their error, and give both you and the other tenants an apology, and generally it never happens again.

However, if you realize this person is not going to conform to acceptable standards of behavior, you are often better to cut your losses. If you have to issue a second warning, give the tenant the opportunity to break the lease and find alternative accommodation. Tell them they only have to give you 48 hours' notice and you will refund any outstanding bond and rent provided the property is clean.

It's going to cost you money, but believe me, this is the best outcome in the long run.

Buying an investment property

If you're buying your own home, you will be particular about where you live and the type of property you want to live in. The information in this section is directed mainly to the person looking to buy an investment property.

Buying an investment property is much easier now because you can pay for detailed information on property prices, find out how long a property took to sell, what was the initial asking price, and the final selling price. You can also access limited information for free on the internet. Some information can be personal, like when the seller bought the property and how much they paid for it. List prices for houses are advertised on the internet and now the sale prices are also available.

You make the most profit by buying well. I have discussed economic cycles and you should try to time the purchase when the market is a 'buyers' market'. That is, there are fewer buyers than sellers and those who need to sell will have to consider taking a lower price.

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To buy a good investment property, you should consider the following, although not all will be applicable to you:

- Can I buy at a discount of the current property prices?
- If I do pay full price, can I see future potential for increased rent and increased value?
- Is this a property easy to rent, manage and maintain?
- Is this a property I can keep and will never need to sell?
- Is this a property I can use as an investment property now, but maybe move into as a home at some point later?

If you are thinking of buying a property, give yourself a good six months to do the research.

The problem with the internet is there is no history of how long the property has been on the market or if the price has changed. However, you can now access this information for a fee. I would recommend you spend the money.

In addition, I would start inspecting properties to get an idea of what is in the marketplace. If you see properties on the internet, print out the details and keep a record. The alternative is to copy and paste the information into a folder of properties. You want to be able to come back and see if this property is still on the market and if so, you need to know if the price dropped. The longer the property is on the market, the more likely the price will drop. Also, unless you are in the marketplace and talking to people in the real estate business, you will not get a feel for whether or not it is a good time to purchase. By the time the news hits the front page of the papers, it is probably too late.

Talk to the real estate agent. You will be amazed about the information some indiscreet agents will tell you about the seller. There is nothing like a forced sale through divorce, illness or a deceased estate to motivate a quick sale that meets the market. In the right market you may be the only interested party, in which case you can go for the best price. On the other hand, make sure you tell the agent only what you want them to know about you and the type of property you are looking for.

The smart investor will usually have plenty of choices so try to pick the best value property at the time. If the market is overheated, sit back and wait for the next lull in the market. However, there is almost always someone who has to sell. Or there are people too silly to prepare their property for sale, so that other people don't consider the potential. Decide if a quick renovation will add much more to the value. Is it going to give you a much higher rent? Is it going to be a much more desirable rental property?

As you know by now, I believe you should try to hold property long-term to save on having to pay the capital gains tax. In fact, I would recommend that you try to keep at least one investment property for your estate. Most elderly people could live nicely off the pension and the rental income from one average home if they had to spend all their other investments in retirement.

Selling an investment property

If you are going to sell an investment property, make sure you prepare the property so that it will appeal to the marketplace.

If you have tenants, you must take into consideration their needs and any RTA rules relating to the sale of a property with tenants. If it is being marketed as a rental property, having paying tenants could be an advantage.

If you think the market is right and there is a high chance of a quick sale, you may consider waiting until the tenancy has finished. Give the property an inexpensive make-over and conduct a short intensive sales promotion. Be guided by the real estate agent for an achievable price. The real estate agent will most likely have a list of recommended 'things to do'. Be guided by these lists, as these

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are people who know what sells real estate. The best chance of a sale is in the initial stages where the property is just on the market and hopefully, there will be more people looking for what's new.

Finally, take the time to watch some reality television shows on buying and selling houses. There are lots of valuable tips given on these shows.

Costs involved with direct property ownership

Financial Mappers is a modelling tool and as such, income and expenses need to be expressed as a percentage. Without this, the program can't automatically recalculate as you change other factors, such as the value of the property. However, in the case of a rental property, you have the option to enter your current gross rent and expenses as dollar values and the program automatically converts this figure to a percentage.

In the quick handy cals, 'property expenses as a percentage of gross income' will allow you to convert your dollar values to percentages for use in Financial Mappers. You will need to enter the dollar values and the calculator will convert them to percentages.

Gross returns are the rent paid by the tenant. Typical gross rents for properties in a particular area can usually be obtained from the state rental authority or various private organizations who sell this information. Finding accurate net returns is more difficult because of the nature of the costs and the type of property.

Net return = gross return less average annual recurrent costs (excluding all loan costs).

Understanding the factors which will affect your net rental return is likely to make your calculations more accurate and your property management more effective. The following is a list of issues the private property investor should address.

1. **Maintenance costs:** If you want people to care for and respect your property, you have to demonstrate that you care about the property and keep it well maintained. It is shortsighted to leave your property in poor condition. Property owners need to prepare a realistic budget of repairs and maintenance. I recommend you set out a 10-year budget, listing all the items which are likely to be replaced or repaired in that time. Divide the amount by 10 to give you an approximate annual amount. If your property is a unit with a body corporate, you will have a fixed quarterly amount for recurrent and capital costs. However, you will be responsible for items that need to be repaired within the unit.
2. **Rental increases:** From my experience rents don't rise with inflation. You may wait two to three years before it's possible to increase a rent. Suddenly, you will find a high demand and lots of interest in the property and you can raise your rents substantially over a short time. You need to monitor closely what is happening to rents in your area and adjust accordingly. Occupancy rates in the area of your rental property will be the final factor for your rental price. Rental prices can be sensitive. If you advertise and present your property correctly, it should be rented within two weeks. If not, consider reducing the rent or improving the condition of the property. If you are renting a commercial or industrial property, the terms of the lease will determine rent increases.
3. **Interest costs on borrowed funds:** This topic has already been discussed in great detail. The interest but not the capital component of loan repayments may be claimed against the income on the property.
4. **Tax deductible costs:** The property investor can claim recurrent costs such as rates, insurance, agent letting fees, advertising, electricity, body corporate fees and repairs and maintenance. Repairs and maintenance can be a grey area and you need to consult with your tax accountant for advice in relation to this matter, particularly as changes have been made in recent times. Refer to the taxation department website.

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5. **Identifying the tax status of expenditure:** The taxation department treads a fine line between repairs and maintenance on a property and capital improvement. For example, you need to replace the floor coverings. If you replace the carpet with carpet this could be considered maintenance. If you replace the carpet with Italian marble tiles, tax-wise, it may be treated as a capital improvement. In the former case, you could depreciate the carpets over the life expectancy of the item. In the latter, you could claim 2.5% building depreciation for the next 40 years. Many repair items (such as plumbing, painting and electrical) may be written off in the year of the expense. Your tax accountant is best to advise you on the nature of deductions and costs.
6. **Depreciation:** Expensive items such as furniture, electrical items, floor coverings and curtains are written off over the life of the item. If you spend $1,000 on new curtains and you expect the curtains to last five years, you could claim 20% of $1,000 ($200) each year for the next five years. Small cost items can be written in the year of purchase. For taxation purposes, you will need to keep a schedule of your depreciation.
7. **Capital works deductions (building write off):** In July 1985, the taxation department introduced a new taxation allowance. New buildings would attract a 4% building depreciation allowance. This allowance was reduced to 2.5% in September 1987. If you purchase a building completed in 1990 at a base cost of $200,000, the owner of that building can claim $4,000 a year (2.5% of $200,000) for a period of 40 years. The allowance will expire in 2030. When you sell the property, the amount of building allowance is deducted from your acquisition costs. Therefore, your building allowance is not a true tax deduction. It is merely a tax deferral, unless of course you don't intend to sell the property. The base cost for building write off may not be the same as the actual building costs. You will need a quantity surveyor to assess and certify this value.
8. **Nontaxable deductible items:** Stamp duty and solicitor's fees are considered the same as the initial capital costs and have no taxation value. They can be included as part of the purchasing costs when calculating capital gains tax.

Note on changing government rules for landlords

I live in Queensland and in 2024, changes were made to how rental increases can be made. Currently, if you are in Queensland the rent on a specific property can only be increased every 12 months. I therefore now make all by leases for 12 months.

However, there is still a problem.

Say you have a tenant who rents for 18 months and then gives notice. The rent should have been increased at the end of the first 12 months. However, when you lease the property to the next tenant you cannot raise the rent for another 6 months. If you have given the tenant a 12 month lease you normally cannot raise the rent during that period. You should check with your government to ask if you can advise the tenant that rents can only be increased each 12-months on a property and the next rent increase will be in 6 months. I would suggest that you should also advise them what the next rent will be.

It is very important to check the current legislation in your state. Some states have a limit on how much you can increase rents.

Property trusts

The most common means of indirect property ownership is through a listed property trust. The trust manages a group of properties for its unit holders. Each unit holder is a part owner in all those properties. The ownership can be bought or sold on any day the stock exchange is open at the price the market is prepared to pay. Each property trust will have a different focus. Your choice may depend on the type of property investments, the diversification of investments or the location of the properties. The second consideration is whether you want a high income, low capital growth or a low income, high capital growth property. The choice will depend on your particular financial

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requirements. By choosing a high capital growth trust, you are deferring tax (in the form of capital gains tax), while on the other hand, you are limiting your current cash flow.

The financial details of listed property trusts can be found in the same section of the financial newspapers as shares. The type of information supplied about the trust will include the last sale price, net tangible assets, dividend per share, dividend yields, earnings per share, P/E ratio.

You can also purchase properties that are unlisted property trusts. That is, they are not listed on the stock exchange for sale of units. You should consult your financial advisor or tax accountant on the risks associated with this product and their suitability for you.

Long range forecasting of property values

As discussed in the chapter on capital growth, it is impossible to predict how assets will rise and fall in value. However, it is useful to construct scenarios which can assist you in looking at possible outcomes. Outcomes are always optimistically predicted with a constant rate of growth and a constant CPI. However, there is nothing constant about either figure, nor is it possible to predict the variation in these figures for more than a matter of months ahead at most.

Rises in income, costs and capital values can all increase at varying rates for the same period. Listed below are some of the reasons for varying rates of change:

- **Income:** The demand to live in a specific area may rise or fall at a greater rate than rental incomes in general. As housing costs are part of the CPI, the general rent rise across Australia may be closely related to the CPI, but not reflected in specific areas. For example, a recent trend has been for people to live within the CBD. This increased demand for a limited supply of rental units has increased the rental return greatly. If demand for living on acreage on the outskirts of cities slowed, then the rental price for these properties could decline in value, resulting in a negative growth.
- **Cost:** A large rapid rise in interest rate costs will change the rate at which costs rise. Other factors, particularly for new buildings, could be increased building costs, and government taxes and charges. A fall in the Australian dollar could cause the price of imported building materials to rise. A shortage of skilled labor may increase the building costs.
- **Capital growth (or loss):** While the Established Houses Index will give you the average growth in each capital, state and Australia overall, it does not give you the index of a specific area. You may find that due to changes in government policy, property rapidly increases or decreases in value for different reasons. For example, areas such as Noosa and Byron have councils which have restricted the amount of development. As the demand in those areas cannot be fulfilled, the prices have risen at a far greater rate than other holiday areas. If the government were to announce the development of an airport or toxic waste dump in a specific area, the capital values in that location would probably fall rapidly.

Capital growth is often related to the increased rental. The smart property investor may attempt to predict which areas are likely to have increased rents and/or capital growth. Unless you own a ‘magic crystal ball’, have inside information on government plans or believe your predictions on where the next mini-boom will take place, you should use CPI increases for all the above when making long-term predictions, as most investors do. While all of the above will move at different rates at different times, the most likely outcome is that over a long time, say 30 years, average prices should move approximately at the same rate. Even if they don’t, we don’t have the skills to make a more accurate prediction. If you study the capital growth of both equities and property over the last 25 years, you will find both have performed better than the rate of inflation. However, this should not be taken as a guide to future increases.

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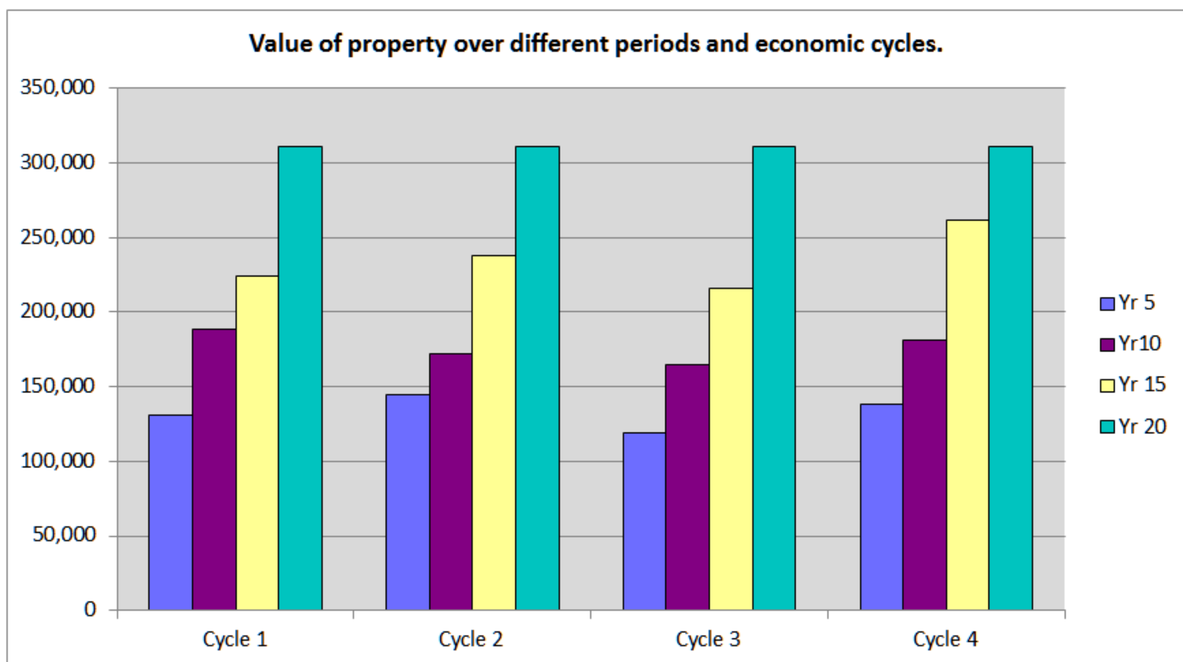
If you use any of the internet calculators for predicting your capital growth, the calculations will assume a single average rate over the time being measured. In real life, this does not happen. In your study of investment, you may have heard the term ‘Timing is everything’.
To demonstrate this concept, I have calculated the approximate rate of property growth (and loss) above the CPI in each year over a period of 20 years.

Consider four separate economic cycles over a 20-year period in which the housing index rose 60% above the CPI index. The rises and falls in price during those 20 years occurred at different times, hence the outcomes at the end of each five-year period are different. The following graph shows the value of a property purchased for $100,000 after each five-year period, based on the four different economic cycles when the inflation rate
(CPI rate) was 3%.



At the end of the 20-year period, each property in the four different economic cycles has increased to the same value. However, in each of the five-year periods, different economic cycles have achieved a better result. If you intend to sell in the short term rather than keep your property as a long-term investment, the time of the economic cycle when you buy and sell is critical. Unfortunately, past economic performance is not an indication of future performance. There have been many times in modern history where the value of assets, both shares and property, has remained unaltered for 10 to 15 years. Predicting the economic cycle is more akin to ‘wishful thinking’ or ‘reading the tea leaves’.

Financial Mappers has both the capital growth modulator and historical data to allow you to consider changes in the rate of capital growth for real estate.

Capital gains tax

With the prospect of future capital gains tax (in Australia) absorbing about 20% of all profits (for most investors), the rate of inflation will have a greater effect on your after-sale profit. Using the example above, the value of your $100,000 property may have risen in 20 years to $453,000 (5% inflation), $658,000 (7% inflation) or $940,000 (9% inflation) depending on the average rate of inflation over the 20-year period. However, inflation rates will change in various economic cycles. Like interest rate changes, inflation is often caused by factors beyond the control of the Australian government.

Alternatively, the government may see inflation as a ‘necessary evil’. A planned government policy of high inflation while the baby boomers retire and spend their assets could result in an enormous

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windfall for the government in increased capital gains tax. In fact, it may be essential to fund the services required by the baby boomers. Since 1960 annual inflation rates have varied from 0.2% to 15.8%.

Financial Mappers offers three methods of calculating capital gains tax. The Australian method is to tax 50% of the profits as income. Financial Mappers will make this calculation and assign the estimated value to capital gains tax. It will also calculate the average capital gains tax paid in any one year. The other methods of calculating capital gains tax are no capital gains tax and a flat rate tax.

Keeping records for taxation

While Financial Mappers is a useful modelling tool for making plans and projecting profits, you will also need to keep accurate records for the purpose of taxation.

There is a range of inexpensive accounting software packages which can be purchased for general business accounting and property management. This program does not attempt to replace these software packages.

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Chapter 14: Understanding our Investments

The wonderful thing about the Financial Mappers is the design which caters for all investors, regardless of personal knowledge or experience in the world of finance. The graphs are designed by me to give you a picture view of your finances. As they say, 'A picture is worth a thousand words.' Nothing could be truer when you have the choice of a sea of figures or a graph. I have tried to make the data tables easier to read by limiting each page to five columns of data. You may just want to look at the first and last five years of data.

Some people rely on their financial planner to create a long-term plan. For those with limited experience this may be a good idea. Take the plan provided and enter the data into Financial Mappers and carefully read the reports generated by Financial Mappers. You can then back-test this against historical data. This will give you an idea if the projections or the financial plan are within a normal range of expectations. It is better to err on the side of caution than be overly optimistic. This chapter will help you gain these skills.

Your financial well-being for the rest of your life is far too important to leave to one person or organisation. Most people are going to live 30 to 40 years after retirement. This is almost as long as one's working life. Look upon financial planning now as an apprenticeship to your retirement. If you have no experience, make an effort to read at least one good book each year. Start with books that give you a good overview of the basic investment classes. From there, drill down and get a better understanding of each of the major market sectors. If nothing else, read the information provided by your government on investments. In Australia, we have excellent information provided by Money Smart, the consumer arm of ASIC.

A sample of all the reports for a 20-year plan can be found on the Financial Mappers website. Even if you are using other software to make your plans, check them out, because there are lots of ideas of how to manage your finances in those reports. The following is a brief description of the reports and how they will help you.

Debt Servicing Ratio (DSR)

The Debt Servicing Ratio is the percentage of your after-tax salary which is committed to your loan payments.

For example, if your after-tax salary is $100,000 and you spend $30,000 of it on loan payments, your DSR will be 30%. That is, you are spending 30% of your after-tax salary on repayment of debt.

My recommendation would be that if you are doing a detailed analysis of debt, use the Interest Rate Modulator and raise your variable interest rates by 2% and re-evaluate your DSR. At the current time, the world is experiencing some of the lowest interest rates for the last 40 years. This cannot go on forever.

Only you can look seriously at your lifestyle, your employment security, your future health prospects and other future financial commitments and make a decision as to what is a suitable amount of debt for you to carry at any one time. In previous chapters I discussed in detail the subject of personal, home and investment debt. However, it doesn't take too much common sense to know that personal debt should be avoided if you are serious about building wealth for the future.

Income as a percentage of benchmark salary

Almost all general books on financial planning will suggest that by the time you reach retirement, the income from your investments should be a percentage of your retiring salary. They normally suggest that for a modest retirement, you have an income of 65% to 70% of your final salary. It is assumed that you will require less because you are not funding loans or saving for retirement.

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However, I think most people who have had a lifelong plan of saving will want to have more than a modest income in retirement. Therefore, you need to decide what percentage is your target percentage. For example, if your expected salary at the time of retirement is $100,000, do you want to live on $70,000 in retirement? You may believe that you will be able to replace the expenses of loan repayments and employment expenses, with a whole new range of activities and lifestyle choices that may require even more than what you needed while working.

In the program you are asked to nominate your benchmark salary for comparison. This salary will be inflation-linked. The program is pre-filled with a benchmark salary of $100,000. You may change this to your personal final salary or simply choose a figure which is easy for you to relate to.

To my mind, there is a major fault with using investment income as a percentage of salary. It does not consider that most people cannot save sufficient to live off the income of their investments for the rest of their life. Hence, the figure may not be a reliable gauge of what you need to spend.

That said, there are still ways you could use this calculation to your advantage. One way is to set yourself a target for each five year period as to where you want to be in terms of having an income equivalent to a certain benchmark. Let's say you keep the $100,000 benchmark. You may say that by age 40, you want an income of 40% or $40,000 from your investments. You can then build a financial plan with the aim of meeting this target. You may find that the target is unrealistic, unless you are prepared to take excessive risks to reach that goal. Those risks may be too much debt, which can be measured from the DSR ratio, or that your returns are far higher than the norm. Generally, the higher the return, the greater is the risk. The returns on your investments will be considered next.

Nominal return on investments

The nominal return is the return which includes the consideration of inflation. The real return is the nominal return discounted for inflation.

Calculation of investment return can use different income sources to measure the percentage. I have chosen to include the net income from investments, the anticipated capital growth, and net income from retirement accounts. This figure is a percentage of average net investments, including retirement accounts. It does not include the home.

The good rule of finance to remember is the higher the return, the greater the risk.

So next time you are offered a high returning investment, simply say 'No, thanks. I can't afford to risk losing my investment.' As a general rule, be cautious of structured investments such as hedge funds or real estate seminars that offer high capital growth. The way to get rich is SLOWLY.

Real return on investments

You will often read in books on personal finance, a reference to real return being the nominal return less inflation. This is a general description, but does not accurately portray real return.

Without confusing you with complex formulae, this is best described with an example. If you have a nominal return 7% and an inflation rate of 3%, the above description would give the incorrect impression that the real return should be 4% (7% less 3%). In fact, the correct real return is 3.88%. It doesn't seem much, but it is when you start using large amounts over long periods of time.

The age old question is: 'What is a relatively safe return for investments?' This is usually quoted as a real or after inflation return. The general consensus seems to be that one should expect between 3.5% and 4.5% real return for a relatively conservative, but diversified portfolio of investments.

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Carefully monitor your real return and try to keep your returns within a band of say, 3.5% to 6.0%. You can probably afford to take a little extra risk when you are younger and have time to recover from any losses. However, as you approach your retirement years, you should be look carefully at the real returns of your investments and whether the figures may imply that you are either being too optimistic on your nominal returns or choosing investments with high returns which reflect the additional risk for that investment.

Also take an active role in the management of your finances, making sure you attend seminars and read widely. With added insight you have far less chance of falling into the common traps which occur, particularly in times of ascending bubble type prices. Thus you can probably safely manage a higher real return.

Asset allocation

A common thread through all sound investment advice is that you should diversify your investments across a range of asset classes. So too should you diversify within each asset class. However this is more difficult to do with say, real estate, as most people will only own a small number of properties, if more than one. Likewise, you can't diversify your retirement accounts, as most people will only have one account. However, you can ensure that within the one account you diversify the investments in that account.

It is much easier to diversify when investing in the share market or managed funds

Every investor will have a preference for investment in a particular class. However, you should try to ensure that there is some representation across all four categories. The categories listed in the Financial Mappers are:

1. **Cash:** This category includes all interest earning accounts such as the bank account, cash account, term deposit and bonds.
2. **Shares:** This category will include managed funds. This is because their values tend to rise and fall in a similar manner to the share market. Depending on the investments within the managed funds, the volatility may be more or less.
3. **Investment property:** While some people choose to have their real estate invested through property trusts, this section is reserved for direct ownership of real estate.
4. **Retirement accounts:** These accounts are kept separate from your other investments because your access to the funds is generally limited until retirement. In addition, most people will have limited input as to how the funds are invested.

Investment profile

I don't think this is a concept you will find elsewhere. Its origin come from the managed fund industry which will often refer to a fund as a balanced fund or an aggressive fund. Generally, they will have many more investment categories than in Financial Mappers. So we need to understand that the investment profile will not be exactly the same as those terms referred to in brochures about investments.

The investment profile only relates to investments excluding retirement accounts and the value of the home. That is, it relates to assets held in the general categories of cash, shares and investment property. The profile is dividing those assets into cash and growth assets, which is the combined value of all shares, managed funds and investment property. The aim is to assign a descriptive word based on the percentage of cash type assets held.

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Thus a group of investments which are 100% held in interest earning accounts or the general category of cash will be a no growth fund. In general terms, these accounts, apart from bonds, have no ability to grow in value. In fact, with Inflation, they will be losing value over time.

From no growth, I have divided the scale into five categories, each with a variation of 20%.

Our descriptive terms suggest that the greater the cash percentage, the more conservative the investment. Thus we have the following categories:

- No growth 100% cash
- Low growth 80% to 99% cash
- Conservative 60% to 79% cash
- Balanced 40% to 59% cash
- High growth 20% to 39% cash
- Aggressive Less than 20% cash

I used the same format when creating an investment profile for the self-managed pension (Superannuation) fund. That account is quite complex in that the calculations of each asset class are separate, but interlinked.

Generally, you can afford to be more aggressive in the earlier stages of wealth creation. As you approach retirement, you need to consider a lower level of risk. However, you need to recognise that there is as much risk in having no or few growth assets as there is in having too many. The risk of no growth is that inflation will eat away the spending value of your money.

If you leave $100,000 in a bank account and spend the interest each year, at the end of 10 years, with an inflation rate of 2.5%, your $100,000 will only purchase the equivalent of $78,100.

Assets and liabilities

The figures in the summary can be displayed as either future or present value. You may also convert to the rounded view, in which case, the figures are rounded to the nearest $1,000. This allows for a quick overview of large figures.

Assets and liabilities are presented in three groups:

- Investment assets and liabilities
- Home assets and liabilities
- Retirement accounts (net value only)

The graphs will give you a single view of each group.

If you want to view all the assets and liabilities of each group for one year only, you should select the financial statement.

Income and expenses

The summary will again divide the income and the expenses for the same groups:

- Investment income and expenses
- Personal income and expenses for the home loan
- Retirement income

Capital growth

Capital growth is displayed for investments and home as separate items.

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Taxation

A number of items are displayed in relation to both personal and investment taxation. These are:

- Total tax due
- Tax due on investments
- Tax due on capital gains
- Tax due on personal income
- Total income after tax and expenses
- Investment income after tax and expenses
- Personal income after tax and expenses

Personal loans

While all the costs associated with personal loans are accounted for in the personal budget, the loan payments are included in the debt servicing ratio. Therefore, I have chosen to display personal loan payments and the balance at the end of the year for each personal loan in the summary.

Plan Map (Illustrated)

This comprehensive report will record all the changes you have made to your planning, giving you a year-by-year results in both Future and Present Value.

Financial statement

As with the summary, you may elect to show the results for any nominated year in either the rounded or non-rounded view.

The financial statement will list all the assets and liabilities in their various categories. The financial statement is shown in present value format to give more meaningful figures. There is not much point in knowing the value of assets in 30 years' time will be $2,000,000 if you can only purchase $1,250,000 in today's dollar value.

In addition, the financial statement will show the statistics, asset allocation and investment profile for the nominated year.

Tax estimator

Given the complexity of every country's tax rules and the special rules for individual tax payers, it is impossible for a financial modelling tool such Financial Mappers to give anything but the broad brushstrokes of possible tax liabilities or credits.

Therefore, you should never act on the results of the software when making decisions relating to taxation. You should consult a person qualified to give tax advice and who is familiar with your personal circumstances before making any investment decisions relating to taxation.

The Tax estimator will group your net income into three groups:

- Income to be taxed at the nominated tax schedule you have selected.
- Income to be taxed at a specified rate
- Tax free income

From the income to be taxed at the nominated tax schedule, the program will deduct any tax deductible expenses, tax deductible interest on loans and non-cash tax deductions related to investment property. These are depreciation and building write-off.

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The program will calculate the tax due on each of the categories and add them together to give the total tax due on income.

In relation to capital gains tax, you will have chosen the method of taxation in your tax schedule. The choices are no tax, a flat tax, a percentage of the profit taxed as income (Australia) and a nominated progressive tax rate.

The capital gains will be taxed accordingly. If by chance you suffer a capital loss, it cannot be written off against income. The program will hold the loss until you make another profit, from which the loss will be deducted.

In addition, the program will calculate both refundable and non-refundable tax credits. The non-refundable tax credits are deducted first. If the non-refundable tax credits are greater than the tax due, then these additional tax credits have no value. If the refundable tax credits are greater than the tax due, you will receive a tax refund.

The program allocates the tax due on investment income and personal income proportional to both incomes. Tax due on investment income and all capital gains tax are paid by the bank account. Tax due on personal income is paid by the budget.

The program will calculate, for each year, the average tax due on investment and personal income as one percentage and the average capital gains tax paid on profits.

Progress report (statement of financial position over 3-time intervals)

If you select this option, the program will give you a printed report for both the savings and retirement phase. Each phase will comprise of one A4 page of information showing values at the start and end of the time period, together with three evenly spaced time periods within the time period.

On the second page, there will be a selection of graphs highlighting the important data over the length of the plan.

Insurance Needs—Self Evaluation

Financial Mappers is not designed to give you advice on your insurance needs. It is recommended that you seek professional advice from your financial advisor or insurance broker as to what is an appropriate level of cover for various stages of your working life.

What this risk assessment report is designed to do is to give you an idea of what you need to consider if you suffer an illness which will take you out of the workforce for a considerable time, are permanently disabled, or you die and need to provide financially for your loved ones. It is looking only at the figures for the first three years of your plan and what will happen if in any one of those years you are unable to work for 12 months.

Snapshot of finances

When calculating your expenses, the report tries to exclude items of expense which can be limited if your financial circumstances were to change. These would include any additional loan payments and personal budget expenses listed as optional.

Liquid assets

Liquid assets are assets which you could sell in an emergency situation if you need the funds to replace your loss of income. While you could sell real estate, it is not considered a liquid asset.

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Current life insurance protection

In this section you will be asked to nominate the value and cost of each of the following types of insurance:

- Life cover
- Total and permanent disability
- Trauma insurance
- Income protection

It is difficult to know whether or not the trauma insurance or income protection will be activated if you are unable to work through illness or accident. It will depend on the terms of your policy and the type of illness or accident that occurs in your unexpected event.

When looking at life cover, you have to consider if you have dependants or loved ones you want to provide for in the event you are no longer there. In tragic circumstances, there will usually be a traumatic time with unexpected additional expenses in the first year. You can make an allowance in the program for these additional expenses. Thereafter, you need to determine if your partner can go back to work or needs to remain at home to care for dependants. You and your family should take time to consider what needs to be in place if either of you should die. Even the main income provider is going to have additional expenses if children have to be cared for.

Another important consideration with all insurance policies is that once you reach the age of 50, the costs are going to rise rapidly each year because the older you are, the greater the risk. There will come a time when you simply cannot afford the same level of cover you had when you were younger.

When making your financial plan, I think it is wise to have sufficient investments in place so if you are in the unfortunate situation of not being able to work for any reason, you have some income from investments, which will allow you to survive on a modest income. You also need to look at the level of debt you are carrying after age 50 for the same reason. If the debt is high, are you able to sell something and reduce the debt quickly?

Short-term risks

The two short-term risks are unemployment or illness. You will be asked to include some further information such as adjustments to income and expenses together with any social security benefits to which you may be entitled.

The program will include previously entered data relating to your insurance policies. It will calculate your income less expenses. It will also list the income which may be available from your liquid assets and in the case of illness, the possible availability of trauma insurance.

Long-term risks

Two risks are considered here. The first is total and permanent disability. Not only would you be unable to work, but you almost certainly would experience much higher health costs.

The second is the financial risk to your loved ones and dependants should you die and not be there to provide for them.

Each calculation is made separately. You will need to consider the following:

- How much of the lump sum will be required for immediate financial obligations?
- How much of the lump sum can be invested for future income?
- Can you rearrange your investments to give a net investment amount? That is, can you sell assets with debt to give you a positive income?

From this information the program will calculate the estimated income available for either yourself and/or your dependants.

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Five year savings strategy

This report will give you a detailed overview of your immediate financial plans and where you may be at the end of three years.

Debt Management Report

This report will give you a detailed overview of all your loans over the first five years of your plan. It will give you strategies for debt reduction.

Wealth Guidance Report

This report takes everything in your plan and presents it in an easy-to-read report of about 30 pages. This is a report you may want to take to your financial adviser so that he can see what your priorities are. The report includes information on your personal spending habits and savings goals such as when you what to take time off work to raise a family or save to buy a boat or caravan. All these lifestyle choices are important so your financial planner can craft his professional plan appropriately.

Once he has given you his professional opinion and his plan, you can adjust your plan accordingly and then using the modelling tools in Financial Mappers to evaluate the plan and see if it will suit your long term needs. For example, will you have enough income in retirement to meet all your anticipated living expenses, including those extra holidays, painting the house or buying a car every 10 years or so? Don’t forget, you have to plan for a 30-year retirement and there will be large, lumpy expenses along the way which will not come out of your regular annual retirement income.

Check your critical results

When you have completed your plan or are reviewing the plan from your financial planner, it is a good idea to have a checklist of critical data which you should review before you sign off on the plan.

For each item on the checklist, the information from you plan will be displayed. The questions are:

1. Have you reached your financial targets at the end of your savings and retirement phase?
2. Have you achieved your personal savings goals?
3. Is your Debt Servicing Ratio too high?
4. Do your investment returns reflect the risk/reward you want to achieve?
5. Are you relying too heavily on one asset class, or do you need to rebalance your asset allocation?
6. Does your investment profile meet your risk tolerance?
7. Are your savings from salary sufficient for the first five years?
8. Do you have a realistic budget for personal living expenses?
9. Is your investment bank account overdrawn?
10. In your nominated yearly drawdown in retirement, are you spending your investment capital in retirement funds too quickly?
11. Is your insurance cover adequate?

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Chapter 15: Financial Mappers: Modelling Tools

The basic flaw of any internet-type calculator, which is used to calculate both how much you need to save for retirement and how long your money will last in retirement, is that calculations are based on long-term averages. For every asset class there will be a natural economic cycle of rising and falling values and changes in income. Within any cycle of 20 to 40 years there will almost certainly be periods of excessive growth. This is usually followed by a rapid and severe decline in values. The use of averages helps to smooth out these variations.

However, in the real world, this is not the case. Having a severe drop in either share or property values just prior to your retirement can have a devastating effect on your wealth for the remainder of your life. It is also common, where severe falls in capital values occur, the time period for recovery of prices can be much longer than the normal cycle.

This fluctuation of asset values is called sequencing risk.

The modelling tools have been designed specifically to make a detailed analysis of this risk. You should pay particular attention to rises in interest rates at a time when you have high levels of debt and falls in capital values around the time of retirement.

The modelling tools are divided into these two categories and sub-categories within each type. You can see a sample of each type on the website. They are referred to as modelling tools overview reports.

- **Modulators:** Modulators are designed to let you examine specific changes in nominated time periods, together with changes according to economic cycles provided by the program. The Modulators are called:
    - Loan modulator
    - Income modulator
    - Capital growth modulator
- **Historical data:** The program has pre-loaded a sample of historical data which approximates that of the Australian market from the Year 2000. You have the option to edit the figures, using data more appropriate to your needs. This historical data has been designed for two specific and different purposes:
    - Back-test your plan
    - Asset allocation tested against historical economic cycles

While Australian data has been used, the general changes in returns and interest rates are a common thread through all economies. While you can enter data from your specific country, it is not necessary.

You may select any of the above modelling tools, make a detailed selection, and view the results on graphs which show the before and after effect on a $100,000 value. You can also go to the individual asset and loan accounts to view the change, together with the changes which will flow through to your bank account and all reports.

However, the modelling tools overview page is what I call the 'jewel in the crown' of the Financial Mappers.

On this page you can select options within each of the modelling tools and apply them to your total plan.

The graphs will show in grey columns the values before the activation of the modelling tools with a line or column showing the change in value as you activate the various modelling tools. Each change

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may be saved as a report to review later. You can see samples of these reports on the web site for Financial Mappers.

Loan modulator

The loan modulator is intended to alert you to the dangers of rising interest rates. It is recommended that once you have activated your loan modulator, you review your cash flows in the bank account and ensure you have sufficient funds to service your loans. You will recall that any changes in the loan payments will directly affect how much you may allocate to other investments from your salary savings allocation. Increased loan payments will reduce the amount you can invest in your financial plan unless you increase the amount you want to allocate to savings from salary. This will, in turn, impact on the funds available in your personal budget.

Default/custom

The program comes pre-loaded with a set of interest rate changes. You can select the pre-loaded (default) changes or overtype the values to customize the changes. This will allow you to consider the risks you feel are most appropriate to your plan. You can reset the values to the default entries at any time.

This modulator may be difficult for some people to understand and I urge you to take the time to understand what the loan modulator for default/custom values is doing.

There are two types of interest rate changes. When you create a loan, you are asked to nominate the period of fixed interest. In the real world, the rate can't be changed as long as it is fixed. For example, if you have a 10-year loan at an interest rate of 7% fixed for five years, your interest rate will remain at 7% regardless of whether the current interest rates have risen or fallen. If you try to change the loan to take advantage of lower interest rates, you will be charged a substantial fee. If interest rates have risen, you will pat yourself on the back as you think 'How clever am I?' Come year six of the loan, you will be charged whatever the current interest rate is. Thus, if the rate is either 5% or 9%, the bank will calculate the new loan payment amount dependent on that interest rate. For the remainder of the loan period, your loan payment amount should be changed every time interest rates rise or fall. However, from my experience, banks seem quick to raise your payments when interest rates rise but don't lower the payments if interest rates fall unless you make a request. You are, however, being charged the lower interest rate, so this is probably a good thing because it means you are making additional payments. This will mean your loan is repaid more quickly than the original five years.

In Financial Mappers we are dealing with a long time period. Currently, our interest rates on loans are the lowest they have been for the last 40 years. Therefore, we should look sensibly at our interest charges and evaluate what is likely to be the interest rate in 10 years' time. The current 5% home loan may be closer to the long-term average of 7.5%.

For this reason, the loan modulator will allow you to raise all interest rates, including fixed interest rates, for future years. In the above example you may raise all interest rates by 1.5% from year 11. You may leave this permanently on or just activate it if you want to consider the effect if your prediction is correct.

The second type of interest rate change is that of interest rates which are not fixed. These are called variable interest rates. When interest rates change, so too will the loan payments on all variable interest rate loans. All interest rates tend to move above and below an average rate over any time period. This additional change to variable interest rates adjusts variable interest rates only. It is important to remember that both variable and fixed interest rates are changed when the modulator for all interest rates is activated and only the variable interest rates have an additional adjustment if both are activated at the same time.

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Economic cycles

When economic cycles are selected, all interest rates, including fixed interest rates, are changed by the nominated percentage.

After considerable research, I have created three sets of economic cycles which allow you to consider the normal rhythm of interest rate changes. While you cannot change the percentage in interest rates in the cycle, you can nominate the year in which the selected economic cycle commences.

The data used in Financial Mappers is the average home loan interest rate over the 30-year period between 1981 and 2011. For each year, the actual interest rate is deducted from the average to create a cycle of interest rate changes. If you are from a different country, it does not matter. The message the program is trying to convey is that all interest rates on loans will vary over time. There is no guarantee that future interest rate changes will be the same as they were in the past. It is only demonstrating what happens when interest rates change. The one thing you can be sure of is that interest rates will change. Given the extraordinarily low interest rates on loans in most advanced economies at the current time, it is almost impossible for them not to move upwards towards the long-term interest rates. We have all been protected since the GFC by strict government controls of interest rates.

Remember that Financial Mappers displays the change in interest rates, not the actual interest rate. The change in interest rate will be applied to the interest rates in each of the loans used in the program. Home loans, investment loans and personal loans will be adjusted by the same percentage, but the actual values will be different because they will most likely have different interest rates.

The three economic cycles are:

- Rising interest rates, followed by falling interest rates (30-year cycle)
- Rising interest rates (first 15 years of the 30-year cycle)
- Falling interest rates (last 15 years of the 30-year cycle)

The income modulator

Income from interest earning accounts has been at its lowest level for the last 40 years. For those relying on the income for their retirement, this should be of grave concern. I would hope that gradually the income will rise, just as the interest on loans will also rise.

While falling income is normally a danger for someone constructing a long-term financial plan, it is hard to imagine that interest rates on cash accounts, term deposits and bonds could get much lower than rates in recent years.

Use caution if both income and capital growth are modulated

Except for real estate rental income, income is usually calculated as a percentage of the value of the fund. Therefore, you must use extreme caution if you are using the income modulator and the capital growth modulator at the same time. For example, if you reduce the rate of capital growth and the rate of income on shares, the income will be reduced twice. Income is calculated by the rate of income times the value of the fund.

It is recommended that you do not activate both the income modulator and the capital growth modulator at the same time unless you have a specific purpose for doing it.

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The only time where this may be a good idea is in real estate, where the income is inflation-linked after the first calculation of gross income. The gross income in the first year is based on a percentage of the value of the investment property.

Normally, I would suggest you use the capital growth modulator rather than the income modulator.

Custom/default rates

If this option is selected, the program is pre-filled with changes. You may customize your changes and then reset to the program's default rate. Do not forget that the figures are the changes in income, not the actual return. Positive percentages are an increase in income and negative percentages are a fall in income.

The program allows you to nominate a separate rate of change for the following categories:

- Real estate (investment property)
- Shares
- Managed funds
- Cash (all interest earning accounts except bonds)

The default rates chosen by the program have the same change for each category. The program has elected to demonstrate the effect of falling and rising prices.

Economic cycles

As stated before, the real risk for investors is the reduction in income. Given the current low rates, there is not a lot of risk at the moment. However, this program is designed for all situations, which may change rapidly, or vary from country to country. Therefore, the emphasis on choosing economic cycles has been to concentrate on the effect of falling income. If interest rates were to rise, this would be a bonus.

The first economic cycle considers the average income earned on the Australian 90 day bank bill for the 20-year cycle from 1992 to 2012. The program calculates the variation from the average over that time period.

In the second economic cycle, the program considers the change in income from the average for 20 years prior to the last 20 years. Given the much higher interest earned, the difference is dramatic. It demonstrates the dangers of relying on current interest rates for future returns.

Capital growth modulator

Capital growth is the rate at which assets increase in value. If an asset falls in value, it is called a capital loss.

The aim of every investor should be to maximise capital growth and minimise capital loss. With time, study and experience you will start to recognise the life cycle of various assets and your financial plan should benefit enormously if you pay attention. You won't always get it right. However, you will have a much better chance if you can recognize when asset prices are rising or falling faster than the norm. You must have extreme patience because sometimes these bubble and bust cycles extend far longer than you would expect. Just when you think it can't possibly fall or start to rise again, it happens.

From my experience, you won't know unless you are in the market. By the time the change has hit the newspapers, it is all over.

The capital growth modulator won't predict these rises and falls, but it will demonstrate the effect. Like the other modulators, there are two types and each has a different purpose.

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Default/custom

The default/custom modulator allows you to nominate a change in capital value. You may activate independently or have different rates of change for the following categories of capital growth:

- Real estate (home and investment property)
- Shares
- Managed funds
- Pension funds

The default rate shows a decrease of approximately 15% over five years, starting in three years' time. That is, the value of each asset category falls 3% each year from year four to year eight.

You may customize these values for each asset class and activate each item separately. I strongly recommend you consider the effect of a large fall in prices over one or two years and then see how long it takes for the price to recover, when capital growth returns to the long-term average.

Loss of capital at any time will have a severe effect on your financial plan. However, its effect may be more severe if you are reaching the early stages of retirement and you are reliant on that capital value to provide you with an income on which you are dependent.

Economic cycles

The economic cycles of real estate and equity (share) orientated assets will vary. Sometimes they are counter cyclical and at others, they will move together. Although managed funds and pension funds are unlikely to be affected as severely as funds held directly in shares, the program will apply the same rates to all three categories.

When you choose economic cycles, you can choose a different cycle for real estate and shares.

I have elected to use economic cycles from the USA. When preparing the software for development, a number of observers made the comment that Australians would not use a modulator with cycles from a different country. This is a misconception. Because a price change happened in America does not mean a similar change could not occur in Australia or any other country. Likewise, just because the listed economic cycle occurred in the USA it does not mean that it is more likely to occur again in the USA.

Past historical data cannot predict the future. However, it is useful in understanding the rhythm of economic cycles and how patterns of rising and falling prices tend to recur. The volatility of each pattern and its length will vary depending on the unique economic pressures of that particular time period.

All historical data in Financial Mappers has been selected using the calendar year. If one were to use a 12-month cycle starting in April, July or October, the rate of change would be different.

I elected not to use the Australian data for a number of reasons. Using the calendar year masked some of the variation in prices from year to year. I could have chosen a different year format, but I chose not to.

With regards to the share market, Australia was protected to some degree because of the mining boom created by supplying minerals to China and the strength of our Australian banks. These two sectors comprise a major part of the ASX200.

In relation to real estate, while property prices slowed, they did not suffer the collapse seen in USA. By international and historical standards, Australian domestic real estate is still overvalued. Many

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Australians think that demand for real estate is strong. However, many of the high prices are reliant on overseas investors and extremely low interest rates. International investors tend to move as a herd. Once word gets out that prices are falling, you are likely to see a rush for the door. Domestically, many investors have over-committed to real estate. A rise in interest rates of 4% would see many people unable to fund their mortgage and thus create a fire sale of real estate.

I want Australians to be aware that while we have recently been the lucky country, there is no guarantee this will continue. This is why I choose to use the economic cycles from the USA.

For both real estate and shares, there are three cycles:

- Bubble and bust
- Rising prices
- Falling prices

You cannot change the percentage of change but you can nominate the year in which to start the economic cycle.

Historical data: back-testing

When using the historical data for back-testing, you may edit any of the data to use figures which are more suitable for you. For example, you may prefer to invest in mining shares, and therefore, you are likely to change the share index to one related to resources. Alternatively, you may come from a different country and prefer to overwrite all the data with data from your country of origin.

The data used in Financial Mappers is currently limited to an approximation only of Australian data from the year 2000. It is anticipated that, in the future, data from other countries will be included.

There are a number of options for the selection of data. You can nominate the start year and the number of years of data you want to use. For example, you could use all the data from 2000 or you could use the data starting in 2005 for five years (2005 to 2010). Once you have selected the date range, you can opt to use either the average rate of that time period or the year by year data. When you opt for the year by year data, the program will revert to the average of that time once the nominated time period is completed.

When you elect to use historical data, the average inflation rate will be applied to all indexation. You may choose to override that rate with the default rate of inflation you are currently using.

The economic cycles

I have created four ten-year economic cycles. To demonstrate which assets are performing better or worse than inflation, I have made a graph of each economic cycle using real returns. That is, nominal returns discounted for inflation.

Often the Inflation Rate will mask returns which are less than Inflation.

While the graphs display the economic cycles in real returns, the returns applied to each asset will be the nominal return for each asset, and the average inflation rate for that economic cycle will be applied.

So as not to give an unfair advantage to either investment property or shares, I have nominated a net return of 4.25% for both property and shares. The cash rate is the risk-free rate of the 90 day bank bill.

For pension funds, instead of using the economic cycle, I have created a rate which is inflation rate plus 4%. The aim is for you to evaluate what your pension should return using the long-term

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expected returns. History shows that pension funds usually give a real return of 3.5% to 4.5% over the long term.

If you study each of the economic cycles which cover a period from 1986 to 2011, you will see that at various times, cash, investment property and shares outperformed each other. On some occasions, property and shares will have both moved in the same direction.

One of the difficulties for the investor is picking the time to both buy and sell assets. Where capital values are volatile, investors will often keep their investments in cash. The returns may be lower, but they can protect their capital to some degree.

The problem with real estate is that the buying and selling costs and long-term accumulation of capital gains tax liabilities are so high it makes it almost impossible to buy and sell in the short-term. To do so, you will need to be an astute investor. Finding a seller in a fire sale situation who has to sell to the first or best offer is extremely difficult. As a buyer, you should be able to see the potential for future capital growth in a particular area. Most people don't have these skills. I think it is a safer option, where possible, to choose your property purchase wisely at a time when there has been a fall-back in prices and look to hold the property long-term, if not forever.

With shares and managed funds, the cycles are shorter and more volatile. With some courses on charting and fundamental analysis of shares and markets, one can make substantial profits by actively managing your portfolio in the medium-term. I am not talking about short-term trading, but trying to buy sound companies returning good profits that are likely to rise and fall with the enthusiasm of the market. Buy when the prices are rising and sell when they have fallen by a pre-set amount. The chapter dedicated to the share market will give further insight into views on managing a share portfolio.

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Chapter 16: Top Ten Tips for Investing

I would like to pass on to you what I think are the 10 most important things to do if you want to improve your understanding of finance and build a better financial future for yourself. While reference is made to how Financial Mappers will help you, you don't need Financial Mappers to follow these tips.

1 Write a financial plan and start today

It has been proven that a written plan plays an important role in financial success.

Any financial plan is better than no plan. Studies have shown that the person who writes down an investment plan is far more likely to be successful.

One long-term study of a classroom of business school undergraduates showed that 3% of the students had a written financial plan. 30 years later, that 3% held 80% of all the group's wealth.

Set goals and monitor your progress with a systematic and methodical investment plan.

When budgeting, your first priority is to allocate a dedicated amount for savings. These savings should be allocated to the purchase of your home and investments and personal savings goals.

One can never underestimate the power of compound interest. Saving $1,000 a year for 20 years at 5% interest will grow, with compound interest, to $55,207 at the end of 30 years. However, if you double the amount to $2,000 a year for 10 years from year 11 to year 20, you will accumulate only $33,676 at the end of 30 years.

In both cases you have saved $20,000, but by saving earlier and consistently, you will have an extra $21,531 or 39% more at the end of the 30-year period.

The same principle applies to debt reduction by saving interest costs. Repaying a home loan of $300,000 at 7% over 20 years instead of 30 years will produce a saving of $160,312. The monthly loan payments will increase by $330.

There is no time to waste. Start today by either reducing debt or increasing your savings for investments, or a combination of both.

Financial Mappers will assist you to create a dynamic financial plan.

2 Diversify assets and buy in favorable cycles

Buy value when the opportunity presents. Over time, you should develop a diversified portfolio of investments.

Over time, you should develop a diversified portfolio of investments. If you can't find value, either save cash for future investments or reduce your debt.

The three basic classes of investment are interest-earning assets, shares and real estate. It is sound financial practice to accumulate a spread of assets over these three investment formats. In addition, one should consider a diversification of investment platforms, such as direct ownership, managed funds for investments not available to the solo investor, and dedicated retirement accounts.

Each asset class will move through its own economic cycle depending on the supply and demand at any one time. These cycles are usually three to seven years, but have been known to extend to 15 to 20 years. Therefore you need to be patient.

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Generally, one of these asset classes will offer better value than the other two at any one time. Success in investing comes from recognizing when it is a favorable time in the cycle to start investing in an investment class.

When a particular asset's value is rising rapidly and everyone is optimistically buying and promoting, it is likely to be a 'bubble event'. While difficult to pick the peak, once the trend is reversed, it is usually rapid and can end in tears for many investors.

While diversification is the key to a sound investment portfolio, do your research and purchase the best value you can find at any one time.

Financial Mappers have created both historical data and economic cycles which allow you to test your financial plan against what may have happened in past time periods. The timing of purchases and asset allocation are the key to a successful financial plan.

3 Determine your risk tolerance

The three major risks are loss of capital from falling prices, the risk Inflation will devalue your purchasing power for cash assets, and that interest rates on loans will rise.

These are the major forms of investment risk you must address:

1. The risk of losing your capital with falling prices
2. The risk that Inflation will devalue your cash assets
3. The risk that interest rates on loans will rise

Loss of capital
Returns on investments are usually priced so that the investor is rewarded for additional risk. The greater the risk, the higher the return.

A risk-free investment would be a 90-day government security. When governments or companies are offering comparatively higher returns, consider the risk of their failure.

There are times when a whole asset class or market will fall, while at other times, only specific assets in that class will fail or go bankrupt. By diversifying your assets, you reduce this specific risk. Don't have 'all your eggs in one basket'.

Inflation
The purchasing power of your money decreases with inflation over time. That is, the higher the inflation rate, the more expensive it will be to buy items of equivalent value. At 3% inflation, a $30,000 car will cost $40,317 in 10 years. If you don't have the additional funds, you would be only able to buy a car costing $22,323 in today's dollar value.

It is important to hold some growth assets, such as shares or real estate, which are growing in value at a rate greater than inflation.

Interest costs on loans
Rising interest rates will increase loan costs and can cause financial stress. While you can fix the interest rate for a set time period, this prevents you from taking advantage of any reduced interest rates, and will incur penalty costs if refinancing the loan. When borrowing, see if you can afford an interest rate rise of 2% to 4%.

Financial Mappers provides a range of risk assessment tools. The major tool is the use of modulators which will allow you to vary future interest costs of loans, income and growth in asset values. By

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having a personal budget to include living expenses and personal debt, integrated with the change in income and costs, the program will demonstrate at which point your plan may come under stress.

4 Don't rely on average returns

Consider unfavorable returns at critical periods, rather than relying on long-term average returns.

Many of the calculators used to project investment returns rely on long-term average returns and do not take into account the rhythm of the economic cycle or sudden major changes.

Sequencing risk is the effect of unfavorable returns at critical time periods. This is more realistic than using long-term average returns.

FINSIA (Financial Services Institute of Australia) released a report in 2013 titled *Sequencing Risk: A Key Challenge to Creating Sustainable Retirement Income*. To quote from FINSIA:

> *The research reveals that, contrary to conventional wisdom, it is the realized sequence of returns rather than the accumulated average of investment returns which largely determines the sustainability of retirement incomes. An unfavorable sequence is observed when large negative returns are experienced during the retirement conversion phase—the final 15 years of working life and the first 10 years of retirement. As an increased proportion of the working population enters this critical period, sequencing risk poses a unique challenge for industry and policymakers*.

Using past historical data has limited value in that there is no guarantee if and when the same historical returns will repeat. Financial Mappers allows you to consider the outcome for a range of economic cycles. Thus, you can determine if your financial plan will be viable within a range of future unknown economic cycles.

A different consideration may be the future estimations based on demographics. This research tries to forecast the effect of changing demographics on future economic cycles. *Financial Mappers* allows you to change the pre-programmed historical data to estimations based on the demographic impact to investments.

Financial Mappers provides a range of risk sequencing tools through the use of modulators for investment returns and interest on loans, together with historical data and pre-programmed economic cycles.

5 Choose good debt over bad debt

Good debt allows you to build wealth by using other people's money. Bad debt reduces your ability to save and invest by paying interest on items which do not build wealth.

Good debt allows you to build wealth by using other people's money for investment. Provided the cost of servicing this debt is manageable and the asset purchased is solid, it is a sound financial tool.

Bad debt is debt used to purchase consumer items such as household furniture and appliances, holidays and credit card debt. It is usually far more expensive and ties up valuable resources which do not build wealth.

Car loans are often unavoidable but are still bad debt. If you must borrow to purchase a car, the loan should be payable within three years. Before you buy your next car, start saving a sizeable deposit.

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Home loans are a lifestyle choice. If you want to be successful in building wealth and your income is not extremely high, you should choose a home you will not need to replace. Don't buy a house worth more than four to five times your salary. Only buy a house with a minimum of 20% deposit, and one where you can repay the loan within 15 years. By having a 20% deposit you may avoid paying high mortgage insurance.

Investment property loans are a powerful force in building wealth provided they are used sensibly. Deposits should be substantial and the income after tax advantages should support the majority of the loan payments. Any savings from your salary can be used to make additional payments. Thus, if your circumstance changes, you are protected from a fire sale.

While margin loans for purchase of shares are an option, this option should not be considered until you have proved your ability to manage a share portfolio efficiently in both rising and falling share markets. Interest only loans rely on increasing profits which are realized when the shares are sold.

Financial Mappers allows exploration of various loan formats together with interest rate risk assessment.

6 Buy property to hold long term and manage shares and cash

To maximize tax advantage and reduce costs, holding real estate long term will usually deliver a sound long-term income. The volatility of share markets and bonds require that you actively manage these assets, resulting in shorter time periods of investment.

To me, buying property when no one wants it and then holding for the long term is a good strategy. The cost of both buying and selling real estate is usually 4% to 5% of the purchase and sale price. Thus, the value of the property, discounted for inflation, needs to rise considerably before a real profit is made.

In addition, many of the non-cash tax advantages are tax deferrals rather than tax deductions. Thus, the taxation advantage is lost at the time of sale.

Capital gains tax will become a serious liability over time. If you never sell a property, you never have to pay capital gains tax and will never lose the advantage of the building write-off deductions. Rental income is a sound source of retirement income and is less sensitive to short-term market forces.

Every investor should take the time to understand the art of investing, not trading, in share markets. Never rely on black box software. The share market is made up of different sectors, all of which will be either rising or falling at times. The secret is to identify which sectors are rising and purchase shares in that sector which are also rising in price and are in economically sound companies. Once the sector or the share price displays a trend downwards, start to sell down those shares.

While every portfolio should hold some cash, the allocation will often depend on your risk tolerance. Cash is a safe haven when the share markets are falling or volatile.

Returns on bonds are reliant on cash rates set by governments. If you purchase a long-term bond when cash rates are low, the price of the bond will fall if you sell it after interest rates have risen. If you hold the bond to maturity, your capital is returned, but you lose the opportunity of higher returning investments.

Financial Mappers is designed to have multiple asset types and test various scenarios of buying and selling different classes of assets in a dynamic and integrated format.

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7 Know your expenses

With the increase in managed investment products and retirement accounts, the multiple combinations are almost impossible to calculate or understand.

Often you will be tempted to choose an investment for its tax advantage, only to find the management fees are far greater than the tax saved. A common fallacy is that the expertise of the fund managers will deliver better returns after costs. Complicated investment structures may be riskier.

Management fees can be a minefield to calculate. This is particularly so when the information supplied by the company may state a range of 2% to 4% without advising how the percentage will be calculated for your funds unless you ask. You should have these situations clarified before you invest.

Performance fees are often charged when a nominated benchmark is reached. This benchmark can sometimes be as low as the 90-day bank bill. In this case, you will almost certainly be charged this performance fee, although the fund managers have performed little more than the risk free rate of return.

You may be tempted to invest in structured investments such as hedge funds because of the reported high returns. However, when all the costs are calculated, the net returns may not be much better than your standard managed fund but with the added risk.

There has been a rise in the number of real estate investments where small strata titled units or rooms are managed by in-house building managers. Again, you need to consider the net return and exit strategy.

For many people, managed investments are a sound way to build wealth because they may not have the expertise to self-manage or they want access to investment categories which are not readily available in the retail market.

Financial Mappers is designed to calculate detailed costs for all asset accounts. Depending on the asset, there could be a range of costs, including management fees as both a percentage of the fund and dollar value, performance fees, in addition to rebate of fees for high balances, and entry and exit fees.

8 Set targets for financial independence

Future-proof your financial plan through the use of insurance, building income producing assets and reducing debt as you approach retirement years.

Eighty percent of people are likely to suffer an illness which requires six to 12 months off work during their working life. As you age, the risk increases. For this reason, it is important to consider your need for accident and sickness insurance and death or total and permanent disability insurance.

Once you reach the age of 50, the cost of insurance becomes prohibitive and you may need to reduce the level of cover. Therefore, you should be in a financial position where if a medical disaster occurs, you will have an independent income which will allow a lifestyle above dependence on government handouts.

In addition to potential health problems, an independent income will guarantee a less certain future when it comes to employment. If you lose your job, it may take six to 12 months to find another.

To overcome these problems consider the following:

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1. If you have a home loan, try to have it repaid by age 45. Make additional payments to your loan so that you are at least 12 months in advance of your home payment schedule. Make arrangements with your bank to ensure that, should you be unable to work for any reason, you will have a year's grace from home loan payments without any penalty where these additional payments have been made.
2. If you have investment loans, have the income generated by those investments sufficient to repay the loan. Thus you will not have to support the loan if you are unemployed.
3. Ensure you have liquid assets in the form of cash or shares which can be used in an emergency.
4. Don't waste your sick leave by taking 'sickies'. If you are in a long-term employment, you can easily build up a year's sick leave if you don't waste it. The same applies to long-service leave.

Financial Mappers has integrated living expenses into the personal budget so they can be monitored as the various financial scenarios, including not working, are explored.

9 Prepare a retirement drawdown strategy

Your financial plan should include the ability to fund your retirement and protect the income against inflation. Consider how and when different assets will be sold.

By the time you reach retirement you should have a balanced portfolio of assets which will include cash, term deposits, bonds, property, shares, managed funds and retirement accounts. Rather having a specific lump sum amount at the start of retirement, consider how you can build an index-linked income stream to sustain your lifestyle for many years.

Property held for the long term may have incurred substantial capital gains tax. Choosing property which will provide an ongoing income in retirement may be a better strategy than resale.

As you approach retirement, your risk profile should become more risk adverse. Thus, you are likely to sell down more of your shares and managed funds and convert them to interest-earning accounts or annuities with guaranteed income.

If you choose the path of annuities, remember the guarantee is only as good as the company providing that guarantee. The income is determined by the interest rates at the time of purchase. Buying annuities when interest rates are historically low will lock in relatively low rates for the life of the annuity. Inflation-linked annuities will cost more to purchase.

Financial Mappers will give you the opportunity to change the amount of money you spend in each year of retirement and to nominate different drawdown periods for each of the asset accounts, excluding real estate. Real estate must be sold and then the proceeds reinvested in suitable accounts for retirement income and security. By using the modulator for returns and back testing with historical data and economic cycles, you can consider the effect of adverse conditions just prior to or after retirement.

10 Invest in yourself through education

Improve your financial knowledge so you can make intelligent financial decisions.

If you don't understand it, don't invest in it, or do some research and reading so that you do fully understand what you are investing in. With life expectancy increasing, you are likely to be retired longer than your established career path. Thus, retirement should be considered a new career where you become the employer, paying your own wages. You need to build skills that will allow you to take control of your finances. This will be your final career.

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There is a wealth of free information on the web, hundreds of inexpensive books on all forms of investments, as well as numerous courses you can attend or watch on webinars. Set aside some time each year where you actively engage with learning how to invest. Sign up for a range of free investment newsletters so your education is always current and ongoing. With such a large proportion of retirement accounts invested in superannuation or pensions, you may opt to have a self-managed fund. Education will be the key to success.

Financial Mappers will give detailed help files and sample plans which will assist you to understand the art of investing and managing your retirement accounts

In the blog section of Financial Mappers, you will find a set of Book Reviews called **Good Financial Reads,** written by myself.

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Chapter 17: Financial Literacy

Financial literacy scores in Australia have proven to be very low. This needs to change.

About 50% of men couldn't answer a simple set of five questions asked by Melbourne of University researcher for the HILDA Report. More disappointing, was that only 35% of women answered all questions correctly.

Looking more closely at the results, this is the breakdown of how many people got all questions right according to age.

- 24.0% of people aged between 15 and 24
- 38.3% of people aged between 25 and 34
- 38.2% of people aged between 35 and 44
- 49.2% of people aged between 45 and 54
- 55.0% of people aged between 55 and 64

It was found that after age 65, financial knowledge decreases to about 40% of seniors being about to answer the questions. This is very worrying because people are living much longer and need to manage their money efficiently. If they don't, they are likely to be reduced to relying on social security. Lower incomes will impact on the quality of their life.

It is not surprising the standards are so low when our education system does not seem to place financial literacy as a priority in the education system's curriculum. Lack of basic financial knowledge may be leading people to make poor financial choices that result in poor financial outcomes.

As part of research, I conducted on financial literacy, I did a quick Google search. These three comments give some idea about the state of financial literacy.

Who Needs Financial Literacy Skills?

The lack of financial literacy can lead to owing large amounts of debt and making poor financial decisions. For example, the advantages or disadvantages of fixed and variable interest rates are concepts that are easier to understand and make informed decisions about if you possess financial literacy skills.

Why is Financial Education Important in Today's World?

Financial education is important in today's world. Any improvement in financial education will have a profound impact on your ability to generate abundant wealth and create a sustainable future. It is never too early or too late to improve your financial education.

Can Financial Issues Impact on a Person's Well Being?

Money and financial issues can be significant sources of stress for people. A person's problems with money may produce such overwhelming negative feelings and self-criticism that his or her mental and physical health can be adversely affected.

The good news is that the millennials have taken notice and are actively addressing the problem. Recent studies suggest that over half of millennials in North America do not see themselves as 'emotionally and behaviorally' connected to their job and company.

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Exhausted from high-pressure jobs and with a growing sense of burnout, some millennials are following a personal finance strategy that allows them to quit their day job and retire decades early

For them, the new definition of retiring is *"You have a choice"*.

In 1992, Vicki Robin and Joe Dominquez wrote the defining work "Your Money or Your Life". With the last edition updated in 2018, this book is still a best-seller almost 40-years later.

This book is responsible for the F.I.R.E movement, meaning "Financial Independence, Retire Early".

The basic premise is that you can retire, not on your age, but the income you generate from investments. The F.I.R.E. formula for retirement is:

You need 25 times your annual spending to be able to retire early.

This means doing your savings over a 10 to15-year period early in life rather than extending it out over 30 years. The basics of the F.I.R.E. movement is:

- Live more frugally
- Reduce debt
- Budget carefully
- Increase your income
- Start an investment plan

Some will think that they love their job, even after attaining retirement age. That's great, but it may be wise to ensure that you have a choice. Sometimes poor health or employment opportunities may force early retirement.

One of my recommendations is to ensure you have enough saved for a modest living by age forty in case circumstances force you to stop work. At least you won't have to rely entirely on an invalid pension or unemployment benefits.

Financial stress is costing the nation lost productivity at work

There is an overwhelming body of research demonstrating that financial stress, caused by a lack of basic financial literacy skills is costing employers millions of dollars.

In America, Best Money Moves, in their article "How Financial Stress Impacts Job Performance" is a must read for every employer. They estimated that in America, reduced productivity costs the employer $1,900 a year, per employee. That's a lot of lost productivity. This was supported by more evidence from Neighborhood Trust, in their article, "Is Financial Stress Affecting your Workplace".

Employers found that the issues likely to arise from financial stress are:

- The inability to focus on work
- Plummeting productivity levels
- Increased absenteeism and tardiness, and
- Deceased morale overall.

The good news for employers is that Financial Wellness Programs bring tangible benefits to employers:

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- Lower employee turnover
- Less absenteeism and tardiness
- Fewer requests for loans and advancements and
- Increased employee happiness and company reputation.

The employee "health" umbrella is now merging mental, physiological, and financial stability. It is estimated that one in three Australians suffer from significant financial stress.

Financial Mappers software has changed the Financial Literacy Landscape

As the designer of *Financial Mappers*, I have ensured that financial literacy is integrated into the software. These programs are supplemented with automated email support, highlighting how to use the software but more importantly, leading users to access the financial literacy content in an orderly manner.

There are now three versions of the software. Check out the website for Financial Mappers, finding the section "Software". Here you will find the three types of software so you can determine what is best suited for you personally or for your business. The software is supported with videos for each type of product. Additional videos can also be found on the YouTube channel for Financial Mappers.

- Financial Mappers for DIY Investors
- Financial Mappers PRO for Financial Professionals
- Financial Mappers LITE which can be upgraded to PREMIUM for Enterprise
- Advice Online for Financial Advice Industry

Do it yourself investors

Financial Mappers is a one-of-a-kind dynamic modelling tool that provides projections for up to 50 years. The plan is supported with over 20 reports that can be generated and saved. Some of the reports are designed for you to bring to meetings with your financial adviser, accountant, or mortgage broker so that they understand your current financial situation and the plans you have for the future.

Financial Mappers provides a Financial Literacy Program aimed to improve your basic financial knowledge. Once you buy Financial Mappers you will be sent a set of automated emails to assist you in the process.

The software is designed to help those who

- Want to create a savings or investment plan
- Want to manage their debts
- Want to manage their Self-Managed Superannuation Fund
- Want to manage their income in retirement

Financial Professionals

While Financial Mappers Pro is primarily designed for financial advisers, both accountants and mortgage brokers can use the software. This is important in multi-disciplinary practices where team members may want to share information about a client who is being advised by different members of the team.

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Cyber-security is an important issue for both clients and advisers. With Financial Mappers Pro, there is a client portal where the adviser and the client can exchange information, share financial plans and documents. This means that sensitive information is not shared using email.

The cash-flow modelling part of the software and reports are the same as Financial Mappers. But advisers white label their platform and create additional customized reports. These reports may be for adviser use such as writing a Statement of Adviser or report detailing the intended plan created by the adviser. Where the adviser chooses to share the software with their clients, they may create reports specifically for client use.

Enterprise

This software is designed for the exclusive use of account holders. The initial product was called Financial Mappers Lite and was limited to a 5 year Savings Plan, with a limited number of reports and no modelling tools. Due to popular demand, the product now allows the user to upgrade to Premium. With Premium, the user has all the features in Financial Mappers.

These programs are sponsored by organizations wishing to provide their employees, members or clients with access to a financial literacy program which includes cash flow modelling software. There is an option for the organization to fund the ongoing cost. The second option is for the sponsor to fund a copy of Financial Mappers Lite for the first 12-months and thereafter the account holder pays the annual fee. At any time, the account holder can upgrade to the Premium version for a small additional fee.

Some accountants and mortgage brokers prefer Lite to Pro, as they don't want to be sharing plans or giving advice. The advantage for both these groups is that account holders can generate reports and share the information. This allows both the accountants and mortgage brokers to keep their name in front of the client and helps to maintain long term relationships with clients.

There is a growing number of organizations entering into the financial literacy space and this is a great tool for them to use with clients. Employers are also finding the benefits of having financially literate employees. Reduced financial stress is highly correlated with better financial management skills.

Financial Mappers also provides Bespoke products for organizations with specific needs.

Advice Online

Advice Online was developed to allow financial advisers to give affordable financial advice for all. This is achieved through a collaboration between client and adviser.

Conclusion

My initial motivation for creating Financial Mappers was to provide everyone with the opportunity to have simple to use tools for managing and understanding their finances. The product has been designed for use regardless of which country you live in.

Since this book was published in 2016, Financial Mappers has developed many new features and has incorporated a financial literacy program within the software. It has also developed a very sophisticated product for use by the financial services industry, together with products sponsored by organizations to promote financial literacy.

If you enjoyed my book, please tell your friends about Map Your Finances and Financial Mappers.

You can send me a message through the contact page of Financial Mappers.

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