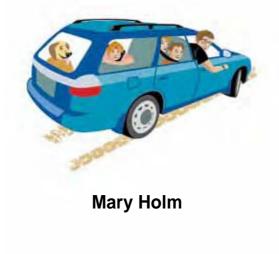


Upside, downside

a guide to risk for savers and investors



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Foreword by Dr Alan Bollard

Welcome to *Upside, downside*, the latest edition of the Reserve Bank of New Zealand's popular and valuable guide to risk and return for savers and investors.

This is the second edition of the book, which was first published in 2004 as *Snakes and Ladders*. More than 70,000 copies have since been distributed to the public, financial planners, accountants and organisations.

The book's basic messages are timeless – namely that risk and return go hand in hand; that a full understanding of risks is critical; and that risk is not necessarily bad when properly understood.

Upside, downside includes updated figures and information, and covers the contribution KiwiSaver makes to savings.

We expect this edition to be as valuable and sought after as the first.

Alan Bollard Governor Reserve Bank of New Zealand



First, some important points

The one high-return, low-risk 'investment'

"Wealthy people miss one of life's greatest thrills – paying that last instalment."

– Anonymous

Pretty much all investments come with some risk. This small book guides you through the different types of investment risk, explains why investment risk is not necessarily a bad thing, and gives tips on how to reduce risk.

Before you launch into investing, though, consider the one financial move that offers what seems to be the impossible: a fairly high return and virtually no risk. It applies if you have a mortgage or other loans, such as credit card debt. The move: put your savings into paying off debt as fast as possible.

Start with high-interest loans such as credit cards and hire purchase. Paying off a loan on which you are being charged 20 percent interest improves your wealth in exactly the same way as receiving an investment return of 20 percent after tax and fees, with no risk. It doesn't come much better than that!

Once you've got rid of high-interest debt, it's also good to reduce your mortgage. This is equivalent to making an after-tax return on an investment that is the same as your mortgage interest rate. So if you are paying 6 percent on your mortgage, repaying it is like earning 6 percent after fees and tax. This is a deal you won't be able to beat without taking some risk.

Aside from equivalent returns, repaying debt is good 'insurance' against hard times. If you find yourself facing ill health, redundancy or a forced early retirement, having a low mortgage or a mortgage-free home makes it much easier to cope. And if a family member needs financial support, having low debt will make it easier for you to borrow more if necessary. Repaying debt is also simpler than investing. You don't have to select an investment or monitor it.

How effective is repaying your mortgage faster than

necessary?

Let's say you have a \$200,000 25-year loan, at 6 percent. If you pay back an extra \$50 a month, you will save about \$17,500 in interest over the life of the loan, and pay it off two years early. If you repay an extra \$200 a month, you'll save more than \$54,000 in interest and pay the loan off in less than 19 years.

For other amounts, interest rates and mortgage terms, use one of the internet mortgage calculators; for example, at www.sorted.org.nz, www.theshapeofmoney. co.nz or www.emortgage.co.nz. Each site offers different features.

If you receive a lump sum of money, such as an inheritance, bonus or redundancy payment, it's also a good idea to use that to repay debt – perhaps after using a small portion for fun!

Note, though, that with fixed rate mortgages, there is usually an early repayment penalty. While some lenders permit you to increase your regular mortgage repayments by a relatively small amount without incurring that penalty, most won't accept large regular payments or lump sum payments without penalty. If you face a penalty, it's often better to put extra mortgage repayments in term deposits and transfer the money to loan repayment when the fixed term ends.

In KiwiSaver

Despite the above, there have always been good arguments in favour of not putting every cent of your savings into repaying your mortgage, but also investing a small amount – perhaps \$50 or \$100 a month – into a balanced fund, share fund or similar.

Doing this helps you learn about the way markets work, and gives you a better spread across different types of assets, rather than just your home. Also, you've got another investment up and running, which makes it easy to transfer more money to it once you've repaid your mortgage.

The introduction of KiwiSaver strengthened this argument. Because of the kick-start and tax credits from the government, and also, in many cases, employer contributions, KiwiSaver is a particularly good investment. But does it

beat mortgage repayment?

Yes. It's clear that everyone who is eligible should join KiwiSaver to get the \$1000 kick-start. After that, if you are an employee, you have to contribute for at least a year, while the self-employed and non-employees can stop contributing at any time.

The question then becomes: Should people with mortgages keep contributing to KiwiSaver or take a contributions holiday and concentrate on reducing their mortgage?

That depends on several factors, some of them unforeseeable, such as future returns on your KiwiSaver fund and future mortgage interest rates. But if we make some reasonable assumptions about those, the answer then depends on your employment status, as follows:

- For middle- and high-income employees, continuing to contribute to KiwiSaver will probably be better than mortgage repayment. However, you should put in only the minimum employee contribution. Beyond that, put any further savings into repaying the mortgage.
- Lower-income employees will also probably be better off by continuing to contribute to KiwiSaver. And if your employee contributions total less than \$1043 a year, it's worthwhile to make extra contributions to reach that level, so you receive the maximum tax credit. But you should also put any further savings, after that, into mortgage reduction.
- For the self-employed, and beneficiaries and other non-employees who don't receive employer contributions – it's six of one and half a dozen of the other. You may be better off stopping your KiwiSaver contributions and concentrating on paying down your mortgage. However, if you like the idea of diversifying your investments and learning about markets, you probably won't go far wrong by continuing to contribute up to \$1043 a year into KiwiSaver to get the maximum tax credit. Further savings are probably best put into mortgage repayment.

Having said all this, anyone with a mortgage that's close to the value of their home would probably be wise to concentrate on getting their mortgage down. That puts you in a much more secure position if your income is reduced or your expenses rise in future.

What to do when?

Here's a suggested order of what to do with your savings:

A) For those eligible for KiwiSaver (You must be living in this country and either a New Zealand citizen or entitled to live in New Zealand indefinitely. You must also be under New Zealand Superannuation age, currently 65):

- 1. Pay off credit card and other high-interest debt.
- 2. Join KiwiSaver.
- 3. If you have a mortgage and you are an employee, contribute only enough to KiwiSaver to get maximum incentives (see above) and put further savings into mortgage repayment. If you are not an employee, consider suspending KiwiSaver contributions and concentrating on mortgage repayment, as explained above.
- 4. If you haven't got a mortgage, your decision on how much to contribute to KiwiSaver depends on your personality and circumstances. If you want to maximise your access to your savings, put only enough into KiwiSaver to get all the incentives, and put further savings elsewhere. But if you like locking away your money so you won't spend it – and you think it's unlikely you will need money for other purposes before retirement – put most of your savings into KiwiSaver. It's probably best if you still keep a few thousand dollars accessible in other investments.

B) For those not eligible for KiwiSaver:

- 1. Pay off credit card and other high-interest debt.
- 2. If you have a mortgage, put most or all of your savings into repaying the mortgage. But consider also putting a small portion into other types of savings, such as a share or bond fund.
- 3. If you haven't got a mortgage, save through investments such as diversified shares or bonds, managed funds or property.



Risk is not a dirty word

"Fortune favours the brave." – *Terence, c. 195-159 BC*

Every now and then, stories emerge in the news media about investments that have gone horribly wrong. In far more cases, though, the stories don't make the news. One individual or family realises, perhaps with shock, that their savings are worth much less than they expected.

The people involved would have started out the investment confident it was going to work well. They may have been enticed by high projected returns, and perhaps exciting graphs or comforting words from whoever was selling the investment, such as 'guarantee' and 'secured'.

Rest assured, though, that – despite what any adviser, seminar leader, author, sales agent or broker tells you – no investment that is expected to pay high returns has low risk.

The data used in graphs can be carefully selected to give a false impression, or promoters can pick a few successful past investments and present them as typical when they are not. And comforting words can be pretty meaningless if the company that uses them goes bankrupt.

It's common for investors to not fully appreciate the risks they are running.

First, though, an important point: investment risk is not necessarily bad.

Higher-risk investments tend to bring in higher returns – basically, because nobody would be prepared to take on the extra risk if they didn't expect to be rewarded for it. For more on this, see The Two Rs, overleaf.

Investing in shares, for instance, tends to be riskier than investing in property. And – despite recent history in New Zealand – returns on shares in most countries over most periods are higher than returns on property, which in

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turn are higher than returns on high-quality bonds.

Note, too, that fairly small differences in returns can make a big difference over a long period. Let's say, for example, that shares have a long-term average annual return of 8 percent, while for property it's 7 percent and for bonds it's 6 percent. Over 30 years:

- \$100,000 in shares at 8 percent would grow to a little more than \$1 million.
- \$100,000 in property at 7 percent would grow to just over \$800,000.
- \$100,000 in bonds at 6 percent would grow to nearly \$600,000.

Investment risk and the returns that tend to go with it, then, can be good for people investing over long periods. In fact, taking too little risk can be harmful. Those who keep their long-term savings in bank term deposits or low-risk KiwiSaver funds will probably end up with a much smaller total than those who take on some investment risk. Sometimes they might even find that, because of inflation, the buying power of their savings decreases over time.

It's crucial, though, to understand the risks you face in an investment. You can avoid or reduce some risks without lowering your expected return, while other risks are unavoidable if you want a higher return. Knowing about unavoidable risks, you might decide to give the investment a miss, or to modify it. You might, though, decide to forge ahead anyway, while planning what you will do if things go wrong. Planning can make a huge difference to your ability to cope.

One last point: when we say shares tend to be riskier than property, that's assuming we haven't borrowed to invest in either one. However, it's common for people to take out a mortgage to invest in property, but not to borrow for share investment. And borrowing increases risk. It's quite possible, therefore, that a mortgaged property investment will come with higher risk and higher expected returns than an ordinary share investment. For more on this, see Overdoing Borrowing on page 20.

In investment, knowledge is power.

What follows in this book are descriptions of various types of risky investment behaviour, and tips on how to avoid or reduce the risk.

The two Rs: risk and return tend to go hand in hand in investment

Firstly, let's look at returns – what you get back from an investment. Returns can include interest, dividends or rent. On some investments, you can also get capital gains – the difference between what you pay and what you get back when you sell.

The return on investments such as property and shares depends, to a considerable extent, on what you pay to get in.

If you pay \$8 for a share and, over several years, its price rises to \$12, your return is 50 percent plus any dividends. But if you had paid \$9, your return would be only 33 percent plus dividends.

Similarly, if you pay \$200,000 for a property and the price rises over time to \$300,000, your return is 50 percent plus rent net of expenses. But if you had paid \$250,000, your return would be only 20 percent plus rent.

The rule: the lower the initial price, the higher the return – everything else being equal. And the higher the initial price, the lower the return.

Okay, so why are high-return investments often risky, and why do risky investments tend to bring in high returns?

With a fixed-interest investment – such as a bond, debenture or term deposit – the company issuing it will always want to pay as little interest as it can.

If it's paying high interest, that's because it's risky, and potential investors won't be willing to take on the risk unless they are compensated with a high return.

With shares or property, it's a bit more complex.

If a share was expected to bring in a high return and was regarded as low risk, everyone would want to buy it.

Whenever lots of people want to buy something in short supply – for example, tickets to a concert or sporting event – the price tends to rise. The same with shares. The demand would push up the price to the point where the expected return was no longer high. (Remember our rule: a higher initial price means a lower return.)

But if that share was regarded as risky - perhaps because the business

was new and its prospects unknown – fewer people would want to buy. The price would stay low because of the uncertainty, and the expected return would stay high.

Those who buy risky shares are, on average, rewarded with higher returns – although it's important to note the "on average". Some risky shares do extremely well, while others bomb out.

The property story is similar. If a certain type of property was seen as high-return but low-risk, demand would push up the price to the point where the return was not particularly high.

But if the property was regarded as risky – perhaps because there was difficulty in finding good tenants in that area – the initial price would stay low, and the expected return high. As with shares, though, some risky properties will do really well while others won't.

What about comparing different types of assets?

In general, over the long term, shares pay higher returns than property, which in turn pays higher returns than high-quality bonds. That's because shares are the riskiest, then property.

Consider Typical Company, which has raised some of its funding by issuing bonds and some by issuing shares. Before its shareholders get any dividends, it has to pay interest and repay principal to its bondholders, and also rent on any property it leases.

If you own shares in Typical, then, there's a bigger chance your investment will perform badly than if you own Typical bonds or lease property to the company. You can also expect the share return to fluctuate much more – doing well some years and badly in others.

On the other hand, if Typical grows healthily over the years, the sky's the limit on your return. And there's a pretty good chance it will grow. Over the long term, more listed companies do well than do badly.

Still, shares are quite risky. If most shareholders weren't rewarded for taking on more risk than bondholders and property investors, demand for shares would fall.

That would lower share prices. And - it's that rule again - that would

boost returns, bringing people back into the market.

Generally speaking, because of the way market forces work, practically all high-return investments are risky at least over the short term, and all risky investments have high expected returns over the long term – even though some don't fulfil that promise.

In KiwiSaver

Many KiwiSaver providers offer a choice of low-, medium- and higher-risk funds.

The returns on higher-risk funds – which hold a larger proportion of shares and often also property – are likely to fluctuate more than on lower-risk funds. But we expect their average returns over the long term to be higher.



Risky Behaviour

Investing in something you don't fully understand

"We work on the KISS system. KISS is short for 'Keep it simple, stupid'." – Ray Kroc, former Chief Executive, McDonald's Corporation.

Many investments are quite complicated. Examples include options, futures, hedge funds, some capital-guaranteed products and some property investments.

Complex investments are not necessarily bad. Some, indeed, work well for some people. But it's vital that you know what you're getting into.

In the current environment, with bank term deposit interest at historically low rates, savers and investors are tempted by offers with high projected returns. It's easy to focus on bottom-line figures and just assume that whatever leads to those returns is not important.

Often, though, complicated investments involve considerably more risk than investors realise. And promoters or advisers are in no big hurry to make sure potential investors understand that. In some cases, the salespeople themselves don't seem to fully understand what they are selling, if you ask them probing questions.

When considering an investment, get a copy of the official documents and read them carefully, particularly the sections on risk. If you can't understand them, stay away. If the documents are not readily available, stay even further away.

There are plenty of relatively simple investments available.

In KiwiSaver

Most KiwiSaver funds invest fairly simply, buying a range of assets – usually cash, bonds, shares and/or property – and receiving returns on them.

However, there are a few more complex KiwiSaver funds with major investments in instruments such as options. Read the literature, and if you don't understand the way a fund invests, choose a simpler fund.

If there are any other aspects of your KiwiSaver investment that you don't understand, ask the provider. If their answer isn't clear to you, consider moving to another provider that communicates better.

How do you judge the quality of a potential new provider's communications? Check out their website, and perhaps email or phone and ask them to mail information to you.

Investing in companies that get into trouble

Perhaps the best recognised investment risk is that the company you invest in may go belly up. If that happens, whether you own the company's shares, bonds or debentures, you will probably lose some or all of your money.

But a company doesn't have to go bust for you to lose. Its financial condition may deteriorate, even though it's still operating.

Obviously, that means the share price will fall. But what happens if you have a bond, debenture or similar (we'll call them all bonds here for simplicity) issued by the company?

If you sell the bond before maturity, others will be less willing to buy, so you will probably get less for your bond than you paid for it. And if you hold the bond until maturity, there's a risk the company won't meet interest payments, or repay your money on time.

How can you tell how risky a company is before investing?

To some extent, you can get an idea from the interest rate it is willing to pay you. If a company is paying a relatively high rate, that means it can't raise enough money by offering a lower rate. The market won't lend to it unless it is rewarded for taking on the company's riskiness.

Note, though, that if a company wants to raise money in a hurry, through a

new bond issue, it will often pay a higher interest rate than its level of risk would normally justify.

On the other hand, relatively low interest doesn't necessarily mean a bond is low risk – as some finance company investors discovered. So how else can you tell riskiness?

Many larger bond issuers are rated by international agencies Standard & Poor's, Moody's or Fitch. These organisations look beyond public information, and their ratings are usually fairly accurate – although, occasionally, even companies with high ratings get into trouble.

Some experts say it's best to confine your fixed interest investing to bank term deposits and 'investment grade bonds'. These are bonds with a credit rating of BBB minus or better. A good stockbroker or financial adviser can tell you which bonds have which ratings – although not all bonds are formally rated. The lack of a rating might be because the company is just too small, but it might be because the company fears the rating it will get! Be wary around unrated bonds.

Table 1

	Strength	S&P Scale	Moody's Scale	Fitch Scale	Approx. probability of default over five years*
nake ient	Extremely Strong	AAA	Aaa	AAA	1 in 600
y to make payment	Very Strong	AA	Aa	AA	1 in 300
Capacity to make timely payment	Strong	А	А	А	1 in 150
Cap	Adequate	BBB	Baa	BBB	1 in 30
	Less Vulnerable	BB	Ва	BB	1 in 10
ty to ient	More Vulnerable	В	В	В	1 in 5
Vulnerability to non payment	Currently Vulnerable	CCC	Coo	CCC	1 in 2
Vuln non	Currently Highly Vulnerable	СС	Caa	СС	1 in 2
	Default	D	С	D	

Credit ratings

* The approximate median likelihood that an investor will not receive repayment on a five-year investment on time and in full based upon historical default rates published by each agency.

Source: RBNZ. Note that while a B rating might sound reasonable, it's not when it comes to credit ratings. It means the agencies think there's a one in five chance of default.

In KiwiSaver

KiwiSaver funds are run by professional managers, but they make mistakes too. There will always be some investments that turn out badly. That's part of the territory.

However, practically all KiwiSaver funds are widely diversified, holding many investments. So if a few investments in a fund perform badly, that's often offset by others that perform well, unless markets are going through a major downturn.

In a market downturn, many KiwiSaver funds and other investments will perform badly. That's when you need to hang on to your hat, and hope the recovery comes soon.

Having said that, if your KiwiSaver fund frequently performs badly – particularly when that's not the case for most other KiwiSaver funds with similar investments – it suggests the managers are not good at picking investments. You might want to switch provider. For more on this, see Expecting Past Performance To Continue, on page 39.

There's another issue here too. What if your KiwiSaver provider gets into trouble?

It's important to understand that you're not investing in the KiwiSaver provider company. Rather, the company, as the appointed manager of the KiwiSaver scheme, simply accepts your money, and it is invested in a range of investments. The trustee – the scheme's overall supervisor – will ensure that this happens.

If the KiwiSaver provider is run poorly and goes out of business, your investments should still exist. In this case, one of two things could happen:

- the trustee of the scheme, acting in its supervisory role, could apply to the High Court for directions to protect investors' interests, which could include replacement of the KiwiSaver provider; or
 - the Financial Markets Authority could wind up the scheme. Your member interests would be transferred to a default scheme managed by another KiwiSaver provider.

If you didn't like the new provider, you could always switch to another one.

Note, though, that KiwiSaver is not government guaranteed. It's always possible that something could go wrong with this process. You should choose a provider you trust.

Overdoing borrowing

"You cannot expect to make large profits without taking the risk of large losses."

- Economist Peter Bernstein

There are two types of borrowing:

- You borrow to buy things with little or no lasting financial value, such as entertainment or travel, or with deteriorating value, such as cars, furniture and appliances. Borrowing to make these purchases, as opposed to saving for them before you buy, is a backwards step financially. You pay interest, rather than earning it on your savings, and you'll end up with less.
- You borrow to make investments that you expect to grow in value. This
 is called gearing (or sometimes leveraging). You can gear into any
 investment, including shares, managed funds, forestry, collectibles and
 so on, but most people gear to buy property.

Gearing makes a good investment better and a bad investment worse. Given that more investments succeed than fail, most people gain from gearing, and some investors have built fortunes by using it. It's important to understand the downside, though.

As Table 2 shows, the more you gear, the more you stand to gain - or lose.

How gearing works

Look at Table 2 opposite. Note that it doesn't include repayments of principal and interest. This is so you can see simple gearing without muddying the waters.

If we included interest, that would reduce the gains from gearing, and increase the losses. However, this is often offset by income from the investment, such as rent (net of rates, insurance and maintenance) or dividends.

What about principal? If you repay principal during the course of the investment – and in most cases you would – that is really a separate savings programme. Every dollar of principal you repay adds a dollar to your equity.

Back in the 1970s and 1980s, when inflation was high, the sad investor scenario was highly unlikely in many investments, such as property. These

Table 2

The happy geared investor starting with \$10,000

	No gearing	Light gearing	Heavy gearing
Amount invested	\$10,000	\$10,000 + \$10,000 loan = \$20,000	\$10,000 + \$90,000 loan = \$100,000
Value after <u>20% gain</u>	\$12,000	\$24,000	\$120,000
Value after you sell and pay off loan	\$12,000	\$24,000 - \$10,000 loan = \$14,000	\$120,000 - \$90,000 Ioan = \$30,000
Your \$10,000 has	Grown 20%	Grown 40%	Tripled!

The sad geared investor starting with \$10,000

	No gearing	Light gearing	Heavy gearing
Amount invested	\$10,000	\$10,000 + \$10,000 loan = \$20,000	\$10,000 + \$90,000 loan = \$100,000
Value after <u>20% loss</u>	\$8,000	\$16,000	\$80,000
Value after you sell and pay off loan	\$8,000	\$16,000 - \$10,000 loan = \$6,000	\$80,000 - \$90,000 loan = debt of \$10,000
Your \$10,000 has…	Lost 20%	Lost 40%	Disappeared, and you still owe \$10,000!

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days, though, it's more likely. In recent years, some investors have been forced to sell at a bad time, losing their savings and perhaps still owing some money to the lender.

So when does gearing work well? Whether you gear up to buy your home, a rental property, shares or emus, three rules apply:

Rule 1:

Be wary of going into a geared investment when everyone else is. If an investment is popular, that's because it has grown fast lately. But that doesn't mean the growth will continue. Nobody can accurately forecast growth in investments such as shares and property.

If you were making an ungeared investment, and drip-feeding your savings into it over time, you wouldn't have to worry much about what the market was doing when you started. You would buy some of the investment at top dollar, some at cheaper prices. But with gearing, you buy the lot at once. If it turns out that you bought at a market peak, that can cut your total return considerably, or even produce a loss.

Rule 2:

Make sure you will have enough income to pay at least the interest. Will you be able to cope if rents or dividends fall, or interest, insurance, rates, maintenance or other costs rise? And have you allowed for an extensive period of no rent or dividends? If you're relying on other income to make up shortfalls, what would happen if that other income stopped?

Gearing disasters often occur when cash flow problems force you to sell at a time when market prices happen to be low. And the very time borrowers get into trouble is often during a downturn in prices. Economic growth may be weak, and unemployment rising. If other geared investors have also been forced to sell, that pushes prices down.

Geared investors always say at the outset that they will simply not sell if their investment loses value; they'll wait until the value rises again. But sometimes that's not an option.

Rule 3:

You need to make a higher return than the after-tax interest you are

paying, or you will go backwards financially – even if you're not forced to sell. Think through how a rise in interest rates would affect the investment. (For help in calculating after-tax interest, see The Interest Deduction, on page 60.)

"Return" here includes the money you make along the way, such as rent or dividends, minus all non-interest expenses, including tax, fees, commissions etc. Add to that any capital gain at the end, converted into an annual return.

That capital gain is, of course, unknown when you start the investment. But beware of assuming it will be high. Over short periods, it's anybody's guess. What about long periods? Since the early 1990s, house prices have risen about 4 percentage points above inflation – which is not too bad. But before that, for several decades, they rose only about 2 percentage points above inflation.

Sometimes – especially over fairly short terms – investors suffer capital losses. It's a good idea to work through an example in which you suffer a loss, just to see how you would cope with it.

Some notes on gearing in different types of investments:

Fixed interest

Generally, it doesn't make sense to borrow to invest in fixed interest investments.

As stated above, you need to make a higher return than the interest you are paying on the loan. And if the return is only a little higher, it's hardly worth the bother.

To make a return that's considerably higher than the interest on your loan, you will have to go into pretty risky fixed interest investments.

Property

It's easier to borrow to invest in property than in shares, because property is less volatile. But that could be a mixed blessing.

Banks may lend you 90 percent, sometimes even 100 percent, of the value

of the property. But don't be lulled into thinking that if the bank lends you the money, you must be able to handle such high debt. Lenders don't always assess that well.

In recent times, people have ended up with negative equity. This happens when the value of the property falls to below the mortgage. If you're forced to sell during such a period, you will end up owing extra money to the lender, with no asset to show for it – like the sad investor in our table.

Note, too, that while property is less risky than shares, gearing raises risk. This means that a heavily mortgaged property investment is often riskier than an ungeared share investment.

Let's look more specifically at different types of property:

(a) Your own home

Almost everyone borrows to buy at least their first home, and many also borrow to buy every subsequent home.

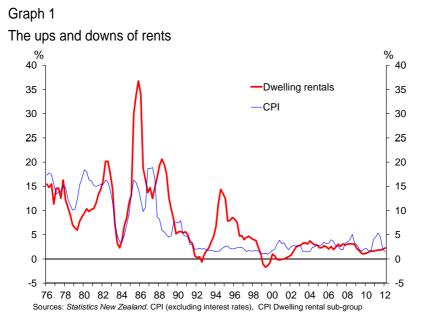
Usually, the main reason for borrowing is not because you want to gear the investment, but because you want to own your own home as soon as possible – often, at least partly for non-financial reasons such as security and the ability to decorate and alter as you please.

Nevertheless, taking out a mortgage to buy a home is gearing. And you run the same risks as with other geared investments. If you find you can't meet mortgage payments and have to sell and buy a cheaper home when prices have fallen, you could lose part or all of your deposit, and possibly more – plus real estate agent's and legal fees.

To minimise this risk, pay a bigger deposit and borrow less of the purchase price. Then pay your mortgage off as fast as possible. The more equity you have – house value minus mortgage – the less likely that you could end up in debt if you have to sell, and the easier it will be to cope with unexpected events such as ill health or redundancy.

(b) Investment property

Some property investors are comfortable with what is called negative gearing – their cash outgoings are larger than their rental income, and they have to put other money into the investment. This gives them a tax break on



Landlords shouldn't count on rents increasing strongly. Sometimes rents grow more slowly than inflation (whenever the red line is below the blue line). And, in these low-inflation times, rents sometimes fall (when the red line goes below zero). Note, too, that this graph makes no allowance for periods when you have no tenants. Whenever there is a shortage of tenants, some dwellings remain untenanted for weeks or even months. Every landlord should allow for such possibilities.

their other income.

Over the long run, this works fine if you make a large capital gain at the end. But, for the investment to be a good one, the gain needs to be considerably more than all the extra money you've put in over the years. That's because \$1 earlier is worth more than \$1 later – you can earn interest on the earlier money.

If your gain isn't big enough to recompense you for that, you would have been better off taking the deposit you put on the property, plus all the extra money you put in over the years, and investing it elsewhere.

Negative gearing is actually just another way of saying the investment is currently losing money. You can only hope the losses will turn into a profit when you sell. Otherwise, it makes no sense as an investment.

Shares and share funds

"He that goes a borrowing goes a sorrowing." – Benjamin Franklin

Although it's much more common to borrow to invest in property, you can do the same thing with shares or share funds.

Note, though, that because shares are more volatile than property, they are riskier before gearing. Many New Zealanders borrowed to invest in shares in the market boom of the mid-1980s, only to lose badly in the October 1987 crash.

Only those in a strong financial position, with a high tolerance for risk and with plans to stick with their investment for the long term, should borrow to invest in shares. And they would be wise to reduce their risk by not gearing too heavily and holding a widely diversified portfolio, or investing in a diversified share fund.

Even then, many experts don't recommend geared share investment.

If you insist, the cheapest way is to raise a mortgage on your home or other property. If you want to use the shares themselves as security, mortgage lenders are more reluctant. However, some stockbrokers permit this, through what is called margin lending.

How much they lend depends on how risky your shares are, but often it's 50 to 70 percent of the share value. You can reinvest dividends, which will help to cover your interest payments.

If the value of the shares falls by more than a little – raising the possibility that the loan will become higher than the share value – the broker will make a margin call, asking you to immediately deposit money with them or sell some shares.

That's one of the advantages of a geared share investment. If things get tight, you can always sell a portion of the investment. That's not so easy with property.

Having said that, though, you're most likely to have to sell when share prices have fallen – hardly a road to riches.

A further note of caution: some companies themselves borrow heavily to make investments. So if you borrow to invest in them, you are 'double gearing', which can be really risky.

In KiwiSaver

Gearing is not a common feature of KiwiSaver funds. In most funds, the managers simply buy investments with contributed money. They don't borrow to invest. However, some higher-risk funds – which may also be called growth or aggressive funds or similar – may use gearing to increase risk and expected return. And some funds may use what are called 'derivatives', which can have a similar effect.

You can check what the provider says about the riskiness of a fund in the investment guidelines in their literature or on their website. If in doubt, ask the provider.

Investing in too few different types of assets

Some people aren't too concerned when the value of their long-term savings drops considerably. They expect it to rise again in due course.

For many people, though, a drop in value is alarming. Worry in itself is not good, and it's even worse if it leads you into bailing out of investments when their price is low. Buying high and selling low is a sure-fire way of losing money.

You can considerably reduce the volatility of your total investments by spreading your money across different types of assets, such as shares, property, bonds, other fixed interest investments, cash, and perhaps also forestry, collectibles, gold and so on.

There will be times – when one type of investment is doing particularly well – when this strategy seems unimpressive. Surely, you're better off concentrating on winners? The trouble is, winners don't necessarily stay winners. Looking ahead, there's no way of knowing which type of investment will perform best. (See Expecting Past Performance to Continue, on page 39.)

If you hold a range of investments, when one type is doing badly, there's a good chance another will be doing well, so the value of your whole portfolio of investments doesn't fall, or at least doesn't fall as far.

An easy way to spread your investments is to invest in a balanced fund that, in turn, holds a variety of investments. Some of these funds, however, charge quite high fees, so you may be better off to do it on your own.

If you own your own home, how does that fit into the picture?

UPSIDE, DOWNSIDE: A GUIDE TO RISK FOR SAVERS AND INVESTORS

Table 3

Investment period	Investing in 100% share fund	Investing in fund holding 50% shares, 50% bonds
1 year	1 in 4	1 in 7
3 years	1 in 8	1 in 27
5 years	1 in 14	1 in 96
10 years	1 in 54	1 in 1,846

Chances of your account balance falling

Source: MCA. Returns are before tax. Based on New Zealand and international data over 30 years to 31/12/11.

If you spread your money across even just two asset types, shares and bonds, the chances that your balance will fall are much lower than if you stay 100 percent with shares.

Some people reckon that home ownership gives them enough exposure to property, and put all their savings in bonds, shares and perhaps other areas.

Others own their own home and also invest largely or solely in rental property, giving them poor diversity. They may say that they don't regard their home as an investment, and in some ways that's fair enough. The fact remains, though, that house prices sometimes fall – as we've seen in the last few years.

If a sustained price fall happened here, people with all their money in houses would be hit particularly hard, especially if they are highly geared.

In KiwiSaver

Most KiwiSaver funds hold a mix of assets, such as cash, bonds, shares and perhaps property, but the proportions vary, as follows:

- Conservative, cash or lower-risk funds hold mostly cash and bonds.
- Balanced funds hold a balanced mixture of higher- and lower-risk assets.

• Growth, aggressive or higher-risk funds hold mostly shares and property. See Deciding Where to Save, on page 62, for guidelines on which asset mix to choose.

Failing to diversify within each type of asset

Some economists claim, "There's no such thing as a free lunch." You can't, for instance, get a high return with low risk. Others disagree. There is one free lunch, they say. By diversifying across lots of shares, lots of properties, lots of bonds or whatever, you can reduce the total risk of all your investments without reducing your expected return.

Let's say, for example, that the annual returns we might expect on a single share range from minus 40 percent to plus 60 percent, with an average of 10 percent. On a portfolio of 20 shares, we might expect the same 10 percent average return. But the range would be narrower – perhaps minus 20 percent to plus 40 percent – because when some shares do badly, others do well.

Market crashes do occasionally happen, when practically all prices drop. But generally, while a single bond or share can become worthless, and a single property can lose much of its value, it's much less likely that a whole lot of them will do badly at once.

Every big institutional investor always diversifies its holdings. You're silly if you don't take advantage of it.

You can gain good diversification through managed funds specialising in bonds, property or shares. You also benefit from the savings gained from the managers' large-scale operations. For example, a fund manager will pay much lower brokerage per share than you would pay if you bought individually. But, as noted earlier, you do have to pay fees, which can partly offset the advantages.

Fixed interest

If you're investing in investment grade bonds (see *Investing in Companies That Get into Trouble*, on page 17), the bond issuers are not very likely to default. It's still possible, though, so it's a good idea to invest in several different companies.

And if you're investing in higher-risk fixed interest instruments, where default is more likely, it's particularly important to spread your money around – although

even that didn't save some finance company investors. It's best to stick with high-quality fixed interest.

Property

In direct investment in property, it's hard to diversify across many properties unless you have lots of money or are willing to take on the risks of gearing heavily to buy several properties – and can find a lender who will let you do that.

If you insist on direct investment and you can afford only one investment property, keep in mind the following:

- It's not a great idea to buy a residential rental property near your home. Sure, that means you can keep a close eye on it. But if house values fall across the neighbourhood – and that can happen – you lose on both properties. Lower your risk by purchasing a property some distance from your home, and perhaps in a different type of neighbourhood, such as inner city.
- Along the same lines, it's rather risky to own more than one property in the same small town, especially if the town is dependent on one or a few industries. If there's trouble in a local industry, all property values are likely to fall – and you might even lose your job as well.
- It's also better if you buy a different type of structure, such as a unit or apartment. The house and apartment markets are somewhat different.
- You can get better diversification still if you invest in a commercial property, such as a shop, office building or factory. Their markets differ even more from the housing market – although all property markets are affected to some extent by common factors such as interest rates.

Best of all, however, is investment in a broad range of property types in different regions. For many, the only way to do this is via a property fund or shares in a company that invests in many properties.

Shares

Some investors "look on investing as a game, and...fail to diversify; diversification is boring. Well-informed investors diversify because they do not believe that investing is a form of entertainment."

- Economist Peter Bernstein

Many New Zealand shareholders own shares in just one or a few companies. That's not clever. Holding just two shares gives you considerably more diversification than one. Three is better, and 10 is better still. Some experts say that, to get the full benefits from diversification, you need to hold 20, or even 50, different shares.

The easy way to do this is via a share fund or several funds. If you prefer direct share investment – which tends to be cheaper – make sure you spread your holdings across different industries and company sizes.

Concentrating on just one industry, as some investors did during the tech stock boom of the late 1990s, is highly risky. Many tech stock investors saw the value of their portfolio reduced to a fraction of what it had been before the inevitable bust came.

And technology is not the only volatile industry. In worldwide sharemarkets in 1999, the top four performing industries out of 10 broad categories were IT, telecommunications, consumer cyclicals and basic materials. Six months later, they were the bottom four.

People who invest in a wide range of industries tend to have a much less bumpy ride.

Going offshore

With all types of assets, you can boost your diversification considerably by holding international investments as well as New Zealand ones. It's not uncommon for international investments to be rising while local ones are falling, or vice versa.

The easy way to invest offshore is via managed funds. And it's common for even small investors to hold units in an international share fund. As it happens, international shares have had a really up and down ride in recent

Graph 2 International and New Zealand share prices don't always move together



While the long-term trend in both New Zealand and world share markets is upwards – and over the period 1970 to 2012, the two markets have ended up in roughly the same place – at times the two markets perform very differently.

years, growing extremely fast in the late 1990s, dropping an unusually long way in 2000 to early 2003 and growing again since then, only to plunge in the global financial crisis and recover somewhat since.

Over the long term, though, average returns on international shares have been high. And you can invest in many industries that are under-represented on the New Zealand share market.

Because the New Zealand and world share markets sometimes move quite differently, as our graph shows, you can broaden your share diversification considerably by including an international share fund in your portfolio.

Similarly, you can invest in international bond or property funds. (See Taking Foreign Exchange Risk, on page 47.)

In KiwiSaver

Almost all KiwiSaver funds hold a wide range of investments in the asset types in which they invest. For example, a predominantly bond fund holds many different bonds, and a predominantly share fund holds many different shares. Your provider should be able to give you information on their range of investments.

Failing to diversify over time

It's a good idea to spread your investing over different time periods.

In most market conditions, you will receive higher interest if you tie up your money for longer. So if you are sure you won't need the money in the meantime, longer-term investment is usually better.

On the other hand, putting all of a lump sum into five-year deposits has its worries. If interest rates rise soon after you make that investment, you're stuck for a long time with a lower rate.

To get around this, if you want to hold substantial savings in fixed interest investments over a long period, you could set up what is sometimes called laddering.

At the start, invest, say, one fifth of your money in a one-year investment, a fifth for two years, a fifth for three years, a fifth for four years, and a fifth for five years. Then, as each one matures, put it into a new five-year investment.

Table 4

	201Z	:45	'14	115	'16	-17	-18	119	'20	-21	222	28	24
\$20,000		x					х					x	
\$20,000			x					x					×
\$20,000				x					x				
\$20,000					x					x			
\$20,000						x					x		

Fixed interest: laddering \$100,000

An example of laddering. The Xs in the table are maturity dates.

That way, you'll have one investment maturing every year – which is helpful if you need emergency money. Also, if market rates rise, at least some of your investments can be renewed at the higher rate. And if rates fall, at least some will still be running at the old higher rate for a while. You're diversified across different interest rates.

Shares or managed funds

If you have a lump sum to invest in shares or a managed fund, consider spreading the investment out over, say, a few months. That prevents you from putting the whole lot in at a time that turns out to be a market peak.

Note, though, that you will probably be holding the money, in the meantime, in a term deposit, and the chances are that that money will earn a lower return. So it's best not to muck around for too long.

Dollar cost averaging

When you don't have a lump sum, but instead you're saving a regular amount every week or month, you take advantage of dollar cost averaging. Here's an example of how it works:

On the first day of each month, you put \$240 into a unit trust.

During the course of a year, you find that the unit price is \$4 for four months, \$10 for four months, and \$16 for four months. So the average price is \$10.

- In the months when the units cost \$4, you can buy 60. Over four months, you get four lots of 60, or 240 units.
- When the units cost \$10, you can buy 24. Over four months, you get 96 units.
- When the units cost \$16, you can buy 15. Over four months, you get 60 units.

In total, you buy 396 units.

Your total payments are \$240 x 12, or \$2880.

But, with an average price of \$10, you would expect to pay \$3,960 for 396 units. You've saved \$1,080! How come?

You've bought 240 units when the price was low, compared with just 60 units when it was high. So your average price is actually lower than the average market price.

Confused? Don't worry. You can benefit from dollar cost averaging without understanding it. It happens automatically whenever you invest a regular amount into an investment whose value varies over time – such as any managed fund that includes shares and/or property.

It can take discipline to keep investing when the price has fallen. You may be worried about putting good money after bad. But, if your investment is well diversified, you can be fairly confident its value will rise again.

Those who persist with regular investing even through market downturns are usually very glad they did when the market recovers. Partly because of dollar cost averaging, they have done very nicely, thank you.

In KiwiSaver

Most members of KiwiSaver apply dollar cost averaging – whether or not they realise it! As long as you invest regularly, whether it's every pay-day or with weekly or monthly contributions directly to your provider, and as long as your KiwiSaver fund includes some assets whose values fluctuate, you will benefit from this.

Putting short-term money in volatile investments

If you're investing money for just a short period, it's risky to put it in investments with fluctuating values, such as shares or property. There's too big a chance that you will lose money, or at least not do well.

Over longer periods, though, you'll go through some good times as well as some bad times, and chances are high that you will do well.

How short is short-term? Some experts say five or seven years, many say 10 years or even more.

As our table Chances of Your Account Balance Falling (on page 28) shows, in a single year, you have about a one in four chance that an investment in shares will lose value. Over three years, it's about one in eight, but over 10 years, it's about one in 54.

UPSIDE, DOWNSIDE: A GUIDE TO RISK FOR SAVERS AND INVESTORS

Your definition of long term will depend not only on your risk tolerance but also your circumstances.

In some situations, such as saving for an overseas trip in five years, you might be willing to risk putting some of your money in shares or a share fund. After all, if you're unlucky, you can always make a cheaper trip. But if you need a certain amount to fund your education or your child's education, you might take less risk.

Certainly, if it's money you plan to spend in just one or two years, you're well advised to keep it in bank term deposits.

In KiwiSaver

For most people, KiwiSaver is a long-term investment. In many cases, you don't expect to spend the money for decades.

However, if you are within, say, 10 years of withdrawing money, either to buy a first home or to spend in retirement, it's a good idea to move money from higher-risk funds into lower-risk funds.

Some providers offer KiwiSaver funds in which the risk is adjusted for your age. Your money is automatically invested in higher-risk funds when you are young, and the risk is gradually reduced as you approach retirement. This can work well, but avoid such a fund if you plan to withdraw money to buy a first home, as you will be put into too-risky investments.

Older people should keep in mind that they may not spend their KiwiSaver money soon after they reach New Zealand Superannuation age. They may fund their early retirement with other savings and use KiwiSaver money in their 80s or 90s. In that case, they are likely to receive higher returns, and get better protection from inflation, if they leave the money in higher-risk funds until they are within about 10 years of spending it.

Buying investments that are hard – or expensive – to get out of

When you tie up money for a period, you think you won't need to draw on it before that period expires. But it's surprising how often things change, and you suddenly need the money.

Obviously, one way to avoid having to sell an investment early is to maintain an emergency fund in a bank account. But you can overdo this, as the emergency money is likely to earn a lower return than in alternative investments.

Before committing to an investment for a particular period, it's wise to understand what would happen if you need to get out early.

Fixed interest

Issuers of some fixed interest investments, such as bank term deposits, charge a penalty if you want to get your money before maturity.

However, with bonds listed on the New Zealand Exchange, you can sell before the term ends if you want your money out early. Usually, though, you'll find that you get either more or less than you put in.

If it's less, that may be because the company's credit rating has fallen. On the other hand, the company may be in fine shape, but market interest rates have risen since you bought the bond.

Let's look at an example. You bought a \$5,000 five-year bond with a 6 percent coupon rate. That means you get 6 percent interest a year, and \$5,000 back at the end. But since you bought the bond, interest rates have risen, and other companies with similar risk profiles are now issuing bonds at 8 percent.

If you decide to sell your bond before maturity, nobody will want to buy it for \$5000 when, for the same money, they could get an 8 percent bond. They will buy yours only if they get it more cheaply, perhaps for \$4,500.

You always have the option, though, of holding the bond until maturity.

Note, too, that the reverse can also happen. If market interest rates fall since you bought your bond, everyone will be keen to buy it. In our example, you might get \$5,500 for your bond.

Property

Direct investments in property are illiquid, meaning they are not easy to sell. Sometimes, you're lucky and can find a buyer quickly, at a good price. But don't count on it.

Property prices go through cycles. In between the booms come periods of slow sales. If you have to sell at such a time, you may be forced to lower your price to well below what you had hoped for – and even then it may take months to sell.

Some indirect property investments can also be much less liquid than the promoters claim. Firms that run property syndicates or similar, which usually own one or several commercial buildings, often say they will help you to find a buyer if you need to get your money back before maturity. Investors often find, though, that there are no buyers on the horizon, or that buyers offer them much less than they originally put into the investment.

You can reduce such problems by investing in property vehicles that are listed on the stock exchange.

Shares and share funds

Most shares are listed on a stock exchange, and so can be traded fairly easily – although some smaller shares are traded quite infrequently. Some share funds are also listed, and even the unlisted ones are usually fairly easy to get out of.

Unlisted shares, perhaps in a family company, are usually much less liquid.

In KiwiSaver

In most cases, KiwiSaver money is tied up until you withdraw it to buy a first home or to spend in retirement. Note that, for a first home withdrawal, you can take out the money you have contributed, any employer contributions, and returns earned on all money in your account. But you have to leave the kick-start and tax credits in your KiwiSaver account, to grow for your retirement. You may also be eligible for a first home subsidy of up to \$5,000, or \$10,000 for a couple.

In retirement, you can take out any or all of your KiwiSaver money whenever you want to, or leave it there until you die.

In some other circumstances, you may be able to withdraw some or all of your KiwiSaver savings. These include: significant financial hardship, serious illness, and leaving New Zealand permanently. Also, people who have owned a home before but don't currently own one, and who are in a similar financial situation to a first home buyer, can withdraw some of their money to buy a home.

When you die, your KiwiSaver money goes to your estate. The money is available to your heirs then. They don't have to wait until you would have reached New Zealand Superannuation age.

Expecting past performance to continue

"More people get killed chasing after a higher yield than looking down the barrel of a gun." – Investment analyst William Le Fevre

In most facets of life, you expect whoever or whatever did well in the past – the star athlete, the fastest car, the bestselling author – to continue to perform well.

But with investments, it's often not the case. And that's true whether you're comparing shares vs property vs bonds vs emus, or whether you're comparing one share with another, or one property with another, and so on.

Note that we're not talking here about long-term trends. While our graph shows that shares and property are more volatile than bonds, over the long haul they have performed better. We expect that to continue.

But investors who switch from shares to property or vice versa, or from one share or share fund to another, because the new one performed well recently, are frequently disappointed with the future performance.

Let's say that, in 2002, you had \$10,000 and a choice of the following assets to invest in: cash, New Zealand bonds, overseas bonds, commercial property, New Zealand shares and overseas shares. If you had great foresight and, at the start of each year, you moved your money into the asset that was going to perform best that year, you would have \$44,100 by the end of 2011.

But, of course, you don't have such foresight. So, instead, you move your money into the asset that performed best in the previous year. By the end of 2011, you would have \$25,900.

High performers often don't stay high performers. If anything, there's sometimes a tendency for last year's investment winner to do worse than average this year, and last year's loser to do well this year.

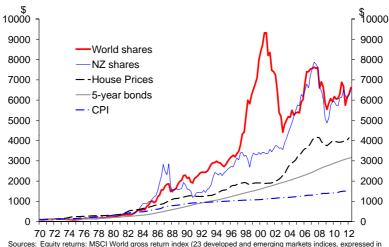
When you think about it, this is not surprising. The top performer last year might have been at the peak of a cycle and so it falls this year. And the worst performer may have been in a trough, with values unusually low and about to start rising.

Perhaps, then, it would pay to do the opposite, and transfer to last year's loser. There are two problems with this, though:

- The expense and hassle of trading. In New Zealand, this includes the possibility of having to pay tax on your capital gains if you trade frequently.
- Psychologically, many people would find it difficult to move from recently successful investments to recently unsuccessful ones.

As long as you have selected your long-term investments wisely, you're better off to stick with them than to try to chase winners.

Graph 3



Accumulation of \$100 from March 1970

TO 72 74 76 78 80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12 Sources: Equity returns: MSCI World gross return index (23 developed and emerging markets indices, expressed in \$NZ), and the NZX50 gross return Index. Pre-2001 NZ data supplied by *Russell Investment Group Ltd. RBNZ* (bonds), *Statistics NZ* (CPI); Property IQ (*house prices*). Note:5-year bond and 6-month deposit rates compound quarterly.

Shares usually produce the highest returns over the long term, although you get a bumpy ride, especially compared to bonds. Property is usually in between when it comes to returns and bumpiness. All the investments have grown considerably more than inflation in recent times.

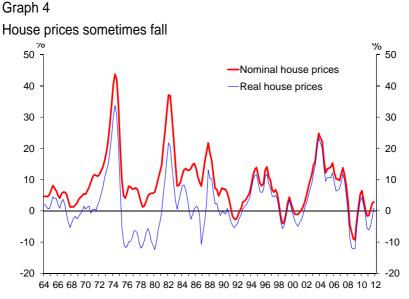
Note that the house price line shows just capital gains. If net rental returns were included, the total return would be higher, but there is no good rental returns data available over this period.

Property

"Don't try to buy at the bottom and sell at the top. This can't be done – except by liars." – US presidential adviser Bernard Baruch

Property prices go through fast-growth and slow-or-no-growth periods, and occasional declines. And despite some people's claims that property cycles are easy to predict, there's wide variability in how long and strong they are. If house prices rose fast last year, they may continue to do that this year, or they may not.

When house prices are booming, keep in mind that some international experts say New Zealand's houses are overpriced.



Sources: Property IQ, Statistics NZ, RBNZ.

The lines on the graph go down whenever house price rises are slower than in the previous year. When the lines cross below zero, prices have fallen. From 1961 to 1990, nominal house prices – the prices that are normally quoted – never fell. That was partly because inflation was high during much of that period. However, real house prices – after adjusting for inflation – fell frequently. And since 1990, with lower inflation, even nominal prices have fallen at times. With future inflation expected to stay fairly low, nominal house prices are expected to grow fast at times but also to fall at times.

Shares and share funds

Research shows that people who chase high returns often lose out. In one study, for example, investors in US share funds earned 2.6 percent a year between 1984 and 2002 compared with more than 12 percent for the S&P500, the main American share market index.

Why the big difference? The researcher found that people consistently moved their money into funds that had performed well in the previous 12 to 18 months, quitting funds that were often just about to do well. They ignored the fact that particularly big gains are often followed by losses.

With some shares or share funds, the ups and downs can largely be put down to riskiness. The price of shares in an oil company, for example, will zoom up if the company looks likely to strike a rich new oilfield. Then, if that promise is unfulfilled, the price will plunge.

Share fund managers that invest in lots of high-risk shares, or perhaps shares in a particular industry, will sometimes have a run of luck, boosting their unit prices. Other times, though, the value of many of their holdings will drop fast, and so will the fund.

This explains why, when comparing different share funds, you often find the ones that do best some years are also among the ones that do worst in other years. They are the risky funds.

But even the shares in much lower-risk companies don't always perform the way you might expect.

Let's say a company in a stable industry announces that it has a huge new contract, and it expects its future sales to double. Its share price is likely to leap. Then, in the following years, sales are, indeed, twice as big. Does the share price continue to grow fast?

Probably not. When the contract was first announced, analysts realised the company would be stronger in the future. Wanting to get in while the price was still low, they bought lots of shares immediately, pushing up the price straight away. Once the price reached its new higher level – which would reflect all the expected future growth – it's unlikely to continue to grow particularly fast unless it performs even better than expected. If its performance is okay but not as good as expected, its price is likely to fall.

So even the prices of shares in a low-risk company that is doing pretty well won't necessarily follow a steady path.

In KiwiSaver

Some people tend to move their KiwiSaver money from one provider to another, switching to whichever provider has turned in a good performance recently. This is a hassle, and you probably won't benefit from doing it.

As stated in Investing in Companies That Get into Trouble, on page 17, if your KiwiSaver fund consistently performs worse than most other similar funds, that suggests poor management. But reserve judgement over short periods. Many funds that perform badly for a year or two later perform well.

Note the words "similar funds" in the previous paragraph. Whenever you compare the performance of KiwiSaver funds, make sure you are looking at funds with similar risk. For example, compare several conservative funds, or several high-risk funds. Also, make sure all results are presented after fees and taxes, which can make a big difference.

If you do want to switch provider, all you have to do is contact the provider you want to move to. They will contact your current provider and arrange to move your money, and also tell Inland Revenue that you have switched.

Take care, also, before switching within your provider's range of funds. Let's say the share markets have performed badly recently. You may be tempted to move to a lower-risk fund – perhaps just before shares are about to recover, bringing in great returns.

You should shift your risk level only for one of two reasons:

- You realise you can't cope with the volatility of a higher-risk fund. You can't sleep from worrying about it.
- You are getting nearer to the time you will spend the money.

In both cases, make the switch regardless of what is happening in the markets at the time. And don't move back again later. That's losers' behaviour!

Listening to old timers

It seems extraordinary, now that we're used to inflation being around 1 to 3 percent, but in the late 1980s it was higher than 18 percent. And for most of the mid-1970s and 1980s, it was well into double-digit territory. At the same time, interest on term deposits was usually lower than inflation.

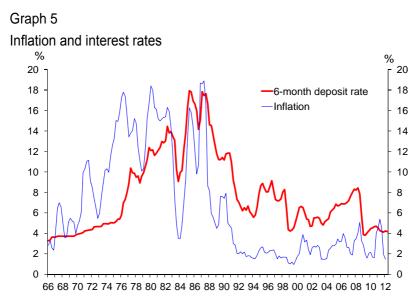
In that environment, wise investing was very different from what it is today.

It made little sense to save. If you put \$100 in the bank one year, you could buy less with it the next year, even after adding the interest. Prices had risen more than your deposit earned.

At the same time, it made lots of sense to borrow, especially to buy property. Mortgages became easier and easier to pay off as, over the years, your income rose rapidly and the real (inflation-adjusted) value of your loan fell fast. And while house prices sometimes rose fast and sometimes rose slowly, they rarely fell.

People who invested at that time 'couldn't go wrong in property'. And some of them still think that's the case.

However, with low inflation and interest rates above inflation, the rules have changed. These days, you can make progress by saving in a bank account. And borrowing is much riskier, as we discussed under Overdoing Borrowing, on page 20.



Sources: RBNZ, Statistics NZ. Inflation is CPI excluding interest rates over the full time period (interest rates were removed from the CPI regimen from June 1999).

In the 1970s and early 1980s, interest on term deposits was lower than inflation, as shown by the CPI. Since the late 1980s, that has been reversed – with one brief exception recently.

In KiwiSaver

If someone tries to tell you that investing in property is likely to be better than investing in KiwiSaver, be sceptical. Rental property isn't the virtually sure bet it used to be.

Meanwhile, KiwiSaver is really hard to beat – whether it's compared with rental property or other investments. That's because of the extra inputs from the government and, in many cases, also your employer. It's common for an employee's own contributions to KiwiSaver to be more than doubled by government and employer contributions. And twice as much going in means twice as much coming out the other end.

Forgetting about inflation

While we should no longer count on inflation to reduce the value of our debts, we shouldn't ignore it – especially if we're looking at periods of more than a few years.

Inflation of 2 percent over just 10 years will reduce the buying power of \$1000 to about \$820. At 3 percent, it will reduce \$1000 to about \$740. More than a quarter of the value has gone! And over 30 years, 3 percent inflation will reduce the buying power of \$1,000 to just over \$400.

This becomes particularly relevant when you're working out how far your savings will stretch over your retirement.

During retirement, there are ways to inflation-proof your savings to some extent:

- If you invest in term deposits or bonds, and expect inflation to be, say, 2 percent, you can reinvest 2 percentage points of your return each year.
 For example, if the return is 5 percent after tax, you can spend 3 percent and reinvest the rest.
- If you buy an annuity a monthly income until you die, regardless of how long you live – you can often specify that your payments will rise by, say, 2 or 3 percent a year. However, not many providers currently offer annuities in New Zealand.

These measures don't work well, however, if inflation is considerably higher than expected. For some degree of protection from unexpected inflation, you're better off to invest the portion of your savings that you don't plan to spend in

What is it worth now?

To see how much inflation has affected the value of an item, you can use the CPI Inflation Calculator on the Reserve Bank's website:

www.rbnz.govt.nz

The calculator tells you, for example, that a basket of goods that cost one pound (\$2) in 1862 – the furthest back the calculator goes – would cost \$109 150 years later, in early 2012. It also tells you that inflation averaged 2.7 percent a year over that whole period.

Or you can find out that, while house prices have roughly doubled in the last 10 years, the price of clothes has barely changed. And that wages have grown a bit faster than prices over the same period. You can also check out changes in the prices of transport and food.

If you look at average inflation between any two quarters, some interesting numbers emerge. For instance, in the period of roaring inflation, between the start of 1975 and late 1986, it averaged 13.9 percent a year. Frightening!

The calculator automatically adjusts for the change to decimal currency in July 1967.

flation Calculator coleculate: the details on the right, go the category, distanced cost below	A basket of goods and services that cost \$1.00 in quarter 1 of 2000 would have cost \$1,38 in quarter 1 of 2012	
Centragony Central ICPN 12 Court \$ 1.00		
A CONTRACTOR OF THE OWNER	Total percentage change	38.19
Date of cost above 2000 Q1 48	Number of years difference	12.0
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the next 10 to 12 years into assets that generally grow with inflation, such as diversified shares, a share fund or property.

This is partly because average returns tend to be higher in shares and property than in bonds, regardless of inflation. Also, companies' prices and profits will tend to rise with inflation, and so will returns on shares. And property values tend to rise a bit faster than inflation.

In KiwiSaver

Be aware that when you spend your KiwiSaver money in retirement, it probably won't go as far as it does today.

For example, somebody joining KiwiSaver at age 18 might save \$1 million by the time they are 65. But if inflation averages 3 percent over the years, the million dollars will buy only about as much as \$250,000 buys today. Still, it's not bad!

Taking foreign exchange risk – or not taking it when you should

Investments in overseas assets usually include foreign exchange risk. If you own US shares – either directly or via a managed fund – and the value of the Kiwi dollar rises relative to the American dollar, you will get less money if you sell up. If the Kiwi dollar falls, you will get more.

The rule of thumb: the value of your offshore investments moves in the opposite direction to the Kiwi dollar.

That sounds worrying. But it can actually be a blessing. When you consider your whole financial situation, you take more foreign exchange risk by not having any of your retirement savings in international currencies.

To understand this, consider what you will buy in retirement. A lot of items – such as cars, electronic equipment, many books, and clothes – are imported. You also pay for overseas travel with overseas money.

Let's say the Kiwi dollar falls between now and when you retire. Imports and overseas travel will therefore become more expensive when you are spending in your retirement. If all your savings are in New Zealand investments, you might lose out. But if you have international investments, their value will have risen in Kiwi dollars, giving you compensation for the rising prices.

The reverse happens too, of course. If the Kiwi dollar rises, imports and overseas travel will be cheaper. If you have offshore investments, their value will fall, but you won't mind too much, because a lot of your purchases will be cheaper than they would otherwise have been.

What it all amounts to is this: with no overseas investments, you might win or you might lose the currency game. With overseas investments, your gains and losses will, to some extent, cancel out one another. It will be a draw, or at least closer to it.

How much of your investments should be offshore? That depends partly on how much of your retirement money you expect to spend on imported goods and travel. Don't forget that if you expect to have a mortgage-free home in retirement, you won't have to spend much on accommodation.

You probably won't be able to predict this precisely. But, in any case, it's not the only issue.

As we said earlier, some international investment is good for diversification and access to industries not represented in New Zealand. All in all, some experts suggest that at least half your long-term investments should be international.

Hedging

The above ignores hedging. Some international share funds are fully hedged, which means they are set up so that the value of your investments doesn't move with foreign exchange changes. And some are partly hedged, so the exchange movements are moderated.

If you want lots of international diversification but don't feel you need a great deal of protection against the price of imports or travel moving against you, these funds are useful.

Otherwise, you may be better off with an unhedged fund.

In KiwiSaver

It's good to invest in a KiwiSaver fund that includes some offshore shares, bonds and/or property.

If your provider offers a choice of hedged or unhedged international

investments, you might want to include at least some unhedged investments to line up with your expected purchases of imports or travel in retirement.

Responding to ads or offers made in phone calls, seminars or courses

"Better to be certain of a good result than hopeful of a great one." – investor Warren Buffett

Many investments that feature in advertisements are fine. But it's a mistake to conclude that just because a reputable newspaper, magazine, radio or television management has accepted an ad, the investment is as good as it seems, or even legitimate. News media don't routinely check the credentials of everyone who advertises.

There are even bigger worries with investments offered by strangers making phone calls to you – sometimes called cold calls. Some experts say they have never heard of a sound investment being promoted by phone. Ask yourself why the callers are using this method of selling, and hang up on cold callers.

Then there are seminars and courses. It's possible that those running the programmes will recommend sound investments. Again, though, it's common for highly risky investments, or even outright scams, to be marketed this way.

Sometimes, those running the course or seminar will try to sell you CDs, videos or computer programmes purporting to help you profitably trade shares, options, futures, foreign exchange, gold or other financial instruments. The presentations are usually highly persuasive. But follow-ups by independent people show that while a lucky few people might do well with these programmes, many lose large sums.

Frequently, in all these situations, high returns and large tax deductions are emphasised, and the risks are downplayed. Frequently, too, members of the public are put under time pressure to sign up. You may be told, for instance, that there are only a few opportunities left, and if you don't hurry you will miss out. Or that fees or other charges are lower for a limited time only.

Never let others pressure you into making an investment hastily. Chances

are that it's not a sound investment. Even if it is sound, there are always many other good alternatives.

Other features to be wary of:

- Promoters selling you 'undervalued' property or shares. Why don't they just resell them themselves, at a profit?
- Promoters' claims that they are letting you in on a secret, or their requests that you keep the investment confidential. What are they hiding?
- Claims that an investment has been approved by a government agency. The government doesn't do that.
- A money-back guarantee, which is often later denied, perhaps because you didn't follow every instruction exactly. Not infrequently, the company offering the guarantee has disappeared.
- An endorsement from someone you know or know of perhaps a community or church leader. The 'investment' may well be a type of pyramid scheme, in which the first participants are given money invested by later participants, although they think that they are receiving genuine returns and innocently recommend the investment to others. Later participants get nothing.
- A recommendation that you check with your lawyer or accountant made in the hope that many people won't bother to do it. Do do it! And use your lawyer or accountant, not someone they recommend.
- Guaranteed rent for a few years on a property you are buying. After the guarantee runs out, investors often find that market rents are much lower. The promoter was subsidising the rent for a while to make the investment more attractive.

If you are considering any investment in which the promoters have come to you, rather than you independently deciding you want to make an investment, ask yourself why the promoters are bothering to make this offer to a stranger. If it's so good, why don't they keep it to themselves, and make themselves extremely rich? Probably because they are, in fact, making themselves extremely rich at your expense!

In KiwiSaver

The government monitors the way KiwiSaver is sold. Still, some providers

promote their schemes more heavily than others. Don't choose your provider on the basis of who has approached you. Check out the options, and make your own selection.

Being overconfident about your ability to trade investments or time markets

"There are old traders around and bold traders around, but there are no old, bold traders around." – Bob Dinda

It's great to invest with confidence. But many people think they are better than they really are at selecting shares or property, or working out when markets are going to rise or fall.

They tend to remember their good investments and give themselves credit for them. The mistakes? Bad luck, of course!

Overconfidence often leads to too little diversification. If you know you're on to a winner, why would you water that down with other shares or property? The answer is that your choice might not win.

Another common result of overconfidence is frequent trading, which can be expensive in terms of fees, commissions, legal costs, sometimes even expensive computer trading programs – which have not been shown to work by independent researchers.

In New Zealand, too, frequent traders must pay tax on their capital gains. This makes a huge difference. If you pay 30 percent tax on your gains over 20 or 30 years, you might end up with about half what you would have accumulated if you made the same returns untaxed. If you pay 33 percent tax, it's even worse.

That wouldn't matter so much if you made much higher returns before tax. But there's no evidence to suggest that frequent traders' returns are usually higher than those who buy and hold. In fact, after taking fees and commissions into account, they tend to be lower. Generally speaking, investors are better off to invest widely and then stick with their choices. And there's a bonus: it takes much less time and effort.

In KiwiSaver

The trading – or lack of it – is done for you by the managers of your KiwiSaver fund.

Still, some members of KiwiSaver frequently switch their money from one provider or one fund to another, usually chasing whichever one has recently performed well. This is similar to frequent trading. It's usually unsuccessful.

You might miss out

Overconfident share investors tend to be in and out of share markets, trying to avoid the crashes but catch the booms. Such behaviour can be costly.

Let's look at what might have happened to a frequent trader in US shares over the 20 years from January 1992 through December 2011.

If he (it's usually a 'he' who trades frequently!) started out with \$10,000 and had stayed invested for the whole period, he would have ended up with almost \$43,700, says Standard & Poor's.

But if he happened to be out of the market for just the five best days in 20 years – out of a total of more than 5000 trading days – he would have ended up with less than \$29,000.

And if he missed the 30 best days – just 30 out of 5000 – he would have ended up with just over \$9000. In other words, he would have made a loss.

You could argue that, if he were in and out of the market, he would also miss some of the worst days.

Over the long term, though, share markets trend upwards. There are more good days than bad. You're better to be in the market the whole time.

Taking on more volatility than you can cope with

"The essence of long-term investing is patience – and discomfort." – US investment strategist Jack Gray

People often make their first investment in a particular type of asset after it has performed unusually well. Examples of this are international shares in the late 1990s and property in the middle of last decade.

The trouble is that the types of investments that sometimes grow fast are also the ones that go through periods of no growth or even large losses.

We're all aware that share prices can drop fast. We watched New Zealand prices plunge following the 1987 crash, and international prices plunge in 2001–03. And pretty much all markets slumped in the recent global financial crisis.

What about property? While prices are less likely to fall fast, if you have borrowed to invest in property, you may find that a small fall in market prices translates into a much bigger percentage drop in the value of the money you put in. In some cases, your deposit will disappear or worse – as some people have discovered in recent years (see How Gearing Works, on page 20).

Before you invest, try this test:

- In shares or a share fund, imagine opening a letter a year after you first invested that shows the value of your investment has halved.
- In rental property, imagine an annual review in which you find several of the following: rents have fallen; insurance, rates, interest or maintenance costs have risen fast; your ability to cover expenses, including mortgage payments, is in doubt; and/or property values are going nowhere or sliding. Or imagine that your tenants don't pay or damage the property, or you have long periods with no tenants.

What would you do? If you would get nervous and bail out, you shouldn't make the investment. You could end up buying high and selling low, and that's no path to wealth. Look for something less volatile.

But if you feel confident you could hang in there – in the knowledge that long-term investments usually regain their losses as long as you are in a welldiversified share investment or a sound property in a good area – the investment is right for you.

In KiwiSaver

Before choosing a higher-risk fund, think about how you will handle the inevitable downturns.

Letting your emotions rule your investment

decisions

People often make unwise investment decisions because of their emotional reactions. Understanding common reactions can help you guard against bad decisions. Reactions include:

Responding to how things are presented

People tend not to like an investment that loses money one year in 10 as much as one that gains money nine years in 10. Think about it!

Employees in a super scheme, offered a choice of five different fixed interest funds and one diversified share fund, put 43 percent of their savings in the share fund. Others in the same workplace were offered a choice of one fixed interest fund and five different share funds. They put 68 percent of their savings in share funds. And yet you would expect the two groups to have had the same desire to be invested in shares.

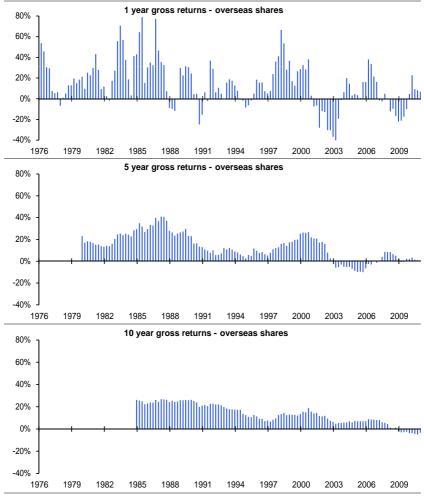
Don't let the range of options influence you.

Sticking with the status quo

List your investments and their approximate value. Then ask yourself: "If I were starting out now, would I spend that money on those investments?"

In many cases, the answer will be no. So why don't you sell and buy what you would prefer? That's not to say that you should flick in and out of investments because of what the markets have done lately. But it is to say that you should review your investments every now and then to see if they are still well spread across different asset types, and still suit your tolerance for risk and how close you are to spending the money.

Graph 6 Take a long-term view of long-term investments (rolling annualised returns from overseas shares in NZ dollars)



Source: MCA and MSCI. Returns are before tax.

The three graphs show annual average returns on international shares, including dividends, over one-year, five-year and 10-year periods. One-year returns were sometimes extremely high or low. When you average the returns over five years, though, the extremes are watered down. And over 10-year periods, the average has usually been less than 20 percent, but losses are also small. Given that shares are a long-term investment, concentrating on the short term is worrying and misleading.

Responding to terminology

A super scheme changed the title of one of its funds from "Junk Bonds" to "High-Yield Bonds". The investments in the fund didn't change, but many more people invested in it.

Following the crowd

Almost all of us are creatures of fashion to some extent. If everyone else is getting into an investment, we're inclined to join them. Besides, if it goes bad, we'll have plenty of company. That doesn't make any difference to a loss, though. It leaves you just as badly off as if you were the only one who suffered it.

What's more, you're probably more likely to do well if you buy an investment when everyone else is selling, and sell when everyone else is buying.

Emotional attachment

You may have investments you have inherited or been given, and you would feel disloyal selling them. But wouldn't the person who gave them to you prefer to know you have moved your money into more suitable investments for you?

Being overwhelmed with information

Too much information can leave a would-be investor doing nothing. If you're stuck, try to zero in on two or three good options, and then divide your money equally among them.

Fear of regret

You may have good reason to get out of an investment. Perhaps it's too risky, or too undiversified. But you don't want to sell unless you get more than the purchase price. This can lead to sticking with a poor investment for years. Once you're in an investment, it's irrelevant what you paid for it. The only question should be: Is this a good investment for me, going forward?

Not considering the whole portfolio

Let's say you've put some of your savings in shares or a share fund, but watered down that volatility by putting some in bonds. When you check how

well you're doing, don't dwell on what's happened to each type of investment. Concentrate on the results for the whole lot.

In KiwiSaver

Be aware of how some of these factors might affect your investment choices.

Taking on more work or worry than expected

"Buying residential property as your sole investment is like planning an outdoor wedding – great if it comes off, but horribly disappointing if you get unlucky!"

Russell Investment Group

Owning a rental property can be more like running a business than holding an investment. As well as maintaining the property, you have to select tenants, keep track of rental payments and take steps if they become overdue, and take care of all the financial details. New investors in rentals are sometimes surprised at how much time – and hassle – is involved, and how frequently problems can arise.

For example, in the year ended April 2012, the Department of Building and Housing received more than 33,000 applications to the tenancy tribunal regarding rent arrears.

While some people enjoy the landlord's role, others strongly dislike it. Consider, before investing, whether you have the right personality as well as the right financial circumstances.

To a lesser extent, running a share or bond portfolio can also take time, keeping track of dividends, interest payments and so on.

You can always pay someone else to manage your property or monitor your investments, but that eats into your return.

Investing in managed funds considerably reduces your investment management, although this can be offset by the management fees you pay. Look for well-run funds that charge lower fees.

In KiwiSaver

KiwiSaver funds are run by their managers, so there is very little work for investors.

Counting on dividend income

Share investors sometimes get so used to a company paying regular dividends that they start to count on that income as if it were interest on a term deposit.

But a company can cut its dividends quite drastically and quite suddenly – and not necessarily because it is doing badly. It may be retaining more of its profits because it needs the money for expansion.

Note that dividends tend to be lower on Australian shares than on New Zealand shares, and lower still on shares in most other countries. This doesn't necessarily mean they are inferior investments. In an environment in which most companies keep more of their profits for growth, their share prices are likely to grow faster. What you lose on the dividend swing, you gain on the share price roundabout.

In KiwiSaver

Receiving dividends, and planning around dividend expectations, is taken care of by KiwiSaver fund managers.

Paying too much in fees and other expenses

Fees and expenses can make a big difference to investment returns. Let's say, for example, that you are investing in a higher-risk managed fund – in or out of KiwiSaver. Deposits into the fund total \$250 a month and average returns are 6 percent a year.

If fees are 0.5 percent a year, your money will grow in 20 years to about \$108,000. But if fees are 1.5 percent, it will grow to only \$97,000. And over 40 years, there's an even bigger difference. With 0.5 percent fees, you will have

about \$428,000. But with 1.5 percent fees, you will have only \$332,000.

Investors are not always aware of how much they are paying in fees, commissions, brokerage or other expenses. This is particularly true of managed funds. When returns are high, this may not seem to matter much. But if your return is low or negative and you're still paying several percentage points in fees, it really hurts.

Always ask for information on all fees charged by a managed fund in which you are considering investing. When this booklet went to press, the government was working on big improvements in the way investors get information on managed funds – both before they invest and during the investment. This will include clear information on total fees charged.

Fees tend to be larger on higher-risk funds that hold largely shares and/ or property than on lower-risk funds that hold largely bonds and cash. This is because they cost more to run. Usually, over the long term, the higher returns that come with higher risk will more than offset the higher fees.

If you're looking at share funds, fees are generally lower on index funds (sometimes called passive funds), which invest in all the shares in a share market index, changing only as the index changes.

Index funds are cheaper to run than active funds, in which managers choose which shares to hold. In active funds, management expenses and higher brokerage – from more frequent trading – boost the fees. Whether active funds perform better, to justify the higher fees, is debatable.

In KiwiSaver

It's important to be aware of the fees and other expenses you are paying in KiwiSaver. If you don't know, use the KiwiSaver Fees Calculator on www.sorted.org.nz. If your provider is amongst those charging higher fees, consider moving to one that charges lower fees.

UPSIDE, DOWNSIDE: A GUIDE TO RISK FOR SAVERS AND INVESTORS

Being tax-driven

There's no denying that tax has an important effect on investments. It's a mistake, though, to let tax issues drive your investment decisions. Tax laws change. The investment needs to stack up in other respects.

Take care, too, not to get carried away with tax deductions. Here's a way to test yourself on this. Which would you prefer:

- an investment that provides income of \$1,000 and tax deductible expenses of \$500; or
- an investment that provides income of \$700 and deductible expenses of \$100?

Many people would opt for the first choice. The income is higher, and so are the tax deductions. And – as many a promoter of property investing will tell you -- deductions are good, aren't they?

Of course it's good to be able to deduct some investment-related expenses. But note that you have to spend much more money than you get back from Inland Revenue. Spending just so you can get a tax deduction is like using \$20 worth of petrol to drive across town to buy something that is \$5 cheaper.

In our options above, with the first investment you have taxable income of \$500, and with the second you have taxable income of \$600. The second is better. After paying tax, you're left with more.

In KiwiSaver

Almost all KiwiSaver funds are portfolio investment entities, or PIES. This means tax rates are lower than on many other investments. Beyond that, don't worry about it. Your provider takes care of paying the tax. And if you don't otherwise have to file a tax return, being in KiwiSaver won't change that.

The interest deduction

If you borrow to invest, you can usually take a tax deduction for the interest you pay (but not the principal). This is great. But don't get carried away. Even after the deduction, most of the interest still comes out of your pocket, as our table shows. For different interest rates, use the same multipliers. For example, with 10 percent interest, multiply 10 percent by 0.895, 0.825, 0.70 or 0.67, depending on what tax bracket you are in.

Note that you can deduct interest only if you have borrowed specifically to invest. If you borrow to buy a new home and then rent out your old home, your interest payments on the new mortgage won't be deductible because you used the money to buy your own home.

Table 5

How much does 6% interest cost you, after you've taken the tax deduction?

Taxable income	Tax bracket	Multiply 6% interest rate by:	After-tax cost
Up to \$14,000	10.5%	0.895	5.37%
\$14,001 to \$48,000	17.5%	0.825	4.95%
\$48,001 to \$70,000	30%	0.70	4.2%
More than \$70,001	33%	0.67	4.02%



Conclusion Putting it all together - don't be put off

In case you're feeling overwhelmed by all the Dos and Don'ts, here's a summary of the main points:

- Allow for inflation.
- Understand your investments.
- High returns always come with high risks, and therefore need more research.
- Borrowing to invest can boost possible returns, but it also boosts risks.
- To reduce volatility, invest in a variety of asset types.
- Diversify across many different shares or different properties, bonds and so on, and across different time spans.
- For the short term, use non-volatile investments.
- For the long term, consider diversified volatile investments and stick with them through downturns!
- Past performance is a poor guide to future performance.
- It's a cliché because it's right: If an investment looks too good to be true, it probably is.

Deciding where to save

There are three main factors in deciding where to save. Base your decision on:

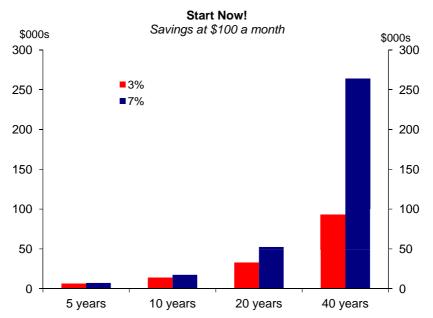
- 1. When you will need the money. The sooner you will need it, the more conservative should be your investments. You don't want to be cashing them in at a time when the markets happen to be down.
- 2. Your tolerance for ups and downs. You need to be able to sleep at night
- 3. The investments you have already. It's a good idea to spread your money across different types of assets.

Once you've decided on where to invest, start as soon as possible.

As our graph shows, those who save for 40 years accumulate much more than four times as much as those who save for 10 years. That's because of the power of compounding returns over long periods. Even so, if you have only five years to play with, you can still save lots.

Graph 7

Start now!



The returns are after fees and taxes. Note that, with 10 years of saving, you have more than double the 5-year total; with 20 years, it's much more than double the 10-year total; and with 40 years, it's a great deal more than double the 20-year total. If you save \$50 a month, your total savings will be half the amounts in the graph. At \$200 a month, your totals will be twice the amounts in the graph, and so on.