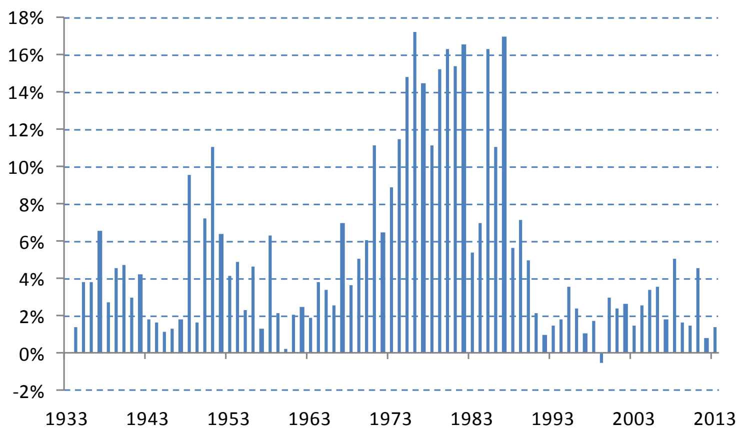
## Investing to manage inflation risks

One of the risks faced by investors is the impact of inflation on their wealth. Inflation means that the price of goods and services increases; $100 does not buy as much in the future as it did previously. This may be of less concern to a person who is still working and sees their wages rise. But for retirees and investors dependent on their savings to generate income, it can have a major effect and is a significant risk.

History shows that at times inflation is low and at other times inflation is high. In part, it depends on demographics, and government and central bank policies. The levels of inflation over the last 80 years have been:

### Chart 1 NZ annual CPI inflation (30 September years)




| Inflation level | Number of years |
|---|---|
| Less than 0% | 1 |
| 0-2% | 21 |
| 2-5% | 28 |
| 5-10% | 16 |
| 10%+ | 14 |
| | 80 |

Over the last 80 years, inflation has generally reduced the future value of $100. Chart 2 shows what you need "today" to buy the same goods as $100 bought 10-years earlier.

### Chart 2 What you need today to buy the same goods as $100 did, 10-years ago

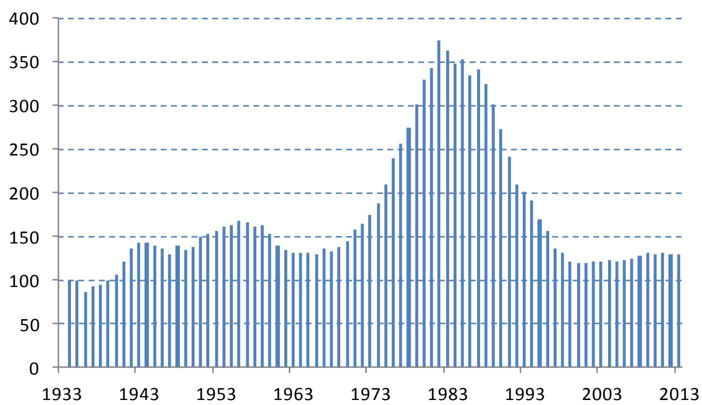



Chart 2 highlights that there is a range of outcomes. In some ten year periods, the amount required was less than $100 (mid 1930s) and for other periods it has doubled i.e. more than $200 (mid 1970s to early 1990s). Chart 2 also highlights how successful the RBNZ has been in recent years at targeting inflation to the 1% to 3% level. This has kept the 10-year accumulative effect below 25% ($125).



## Implication for savings

When saving for retirement, most people want to ensure that money saved will be able to buy as much in retirement, as it could at the time they originally saved it. Their goal is to maintain the savings in "real" terms. To maintain your savings in real terms, you need to earn an investment return that is greater than the inflation rate after allowing for costs and taxes.

In the context of inflation, the returns of each of the different types of assets have behaved differently, and will likely continue to behave differently.

If you invest in **cash**, you can generally expect a real return. History shows that the interest rate is above the expected inflation rate, so if inflation takes off, or there is unexpected inflation, the interest rates will normally rise. Therefore, when you reinvest the cash a few months later, you will get the higher return. The after-tax and after inflation returns from cash over the last 20 years have been:

### Chart 3

**NZ cash net real 1-year returns**

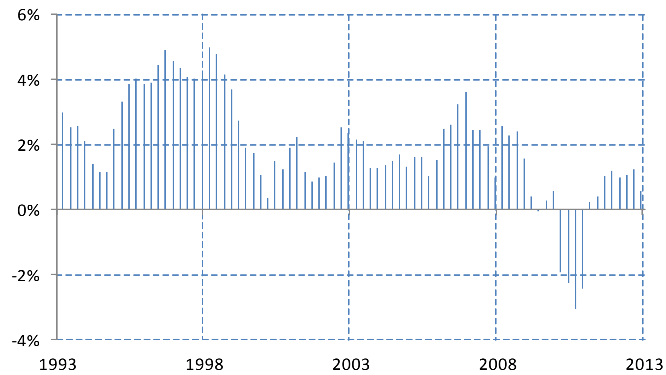



Chart 3 highlights that generally investors receive a real return, but are exposed to inflation risk when government policy changes, such as the GST rise to 15% on 1 October 2010.

If you invest in **bonds**, you expect the average return over the life of the bond to be above the average return from cash. However, bonds can provide less protection against increases in inflation. When you purchase a bond, the yield (interest rate) you receive, is typically above the expected inflation rate. However, having bought the bond, the yield is fixed for the duration of the bond. If inflation rises above what is expected, and therefore interest rates rise, you remain locked-in to the lower original rate. You have to wait until maturity of the bond before you can re-invest your money at the higher rates. This rule also applies when inflation falls. Bonds work well when inflation is as expected, but may not work as well at other times. Of course, if your focus is short-term (1 to 2 years), bonds may not be an appropriate investment.

Chart 4 shows the returns from NZ bonds over recent times, after tax and inflation. It plots the annual real return and also the 5-year average (annualised) return. For most bond investors, it is the longer term average that is more important and this has been positive.

### Chart 4

**NZ bond net real 1-year and 5-year returns**

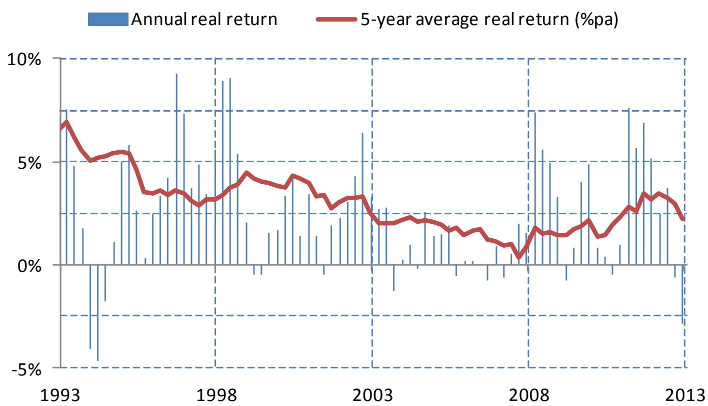



Chart 4 also highlights the recent positive environment for bonds, as yields and inflation were falling. This means that capital values have risen and real returns were higher than normally expected. This may not be true for the future. History shows they are normally closer to the 2% p.a. level.

When you invest in **shares**, you expect that inflation will lead to companies raising their prices and therefore raising their revenue and profits, at least in nominal terms. As a result, the share price and dividends are expected to rise also. There will typically be a lag between rising prices and increased profits as it is not a perfect correlation, but there has generally been an element of inflation protection in the past. Because share investments should normally be invested with a 10-year plus time frame, the real returns over the short-term will be very volatile. The average real returns from NZ shares over 3 and 10 year periods, after-tax, have been:

**Chart 5** **NZ shares net real 3-year and 10-year average returns**

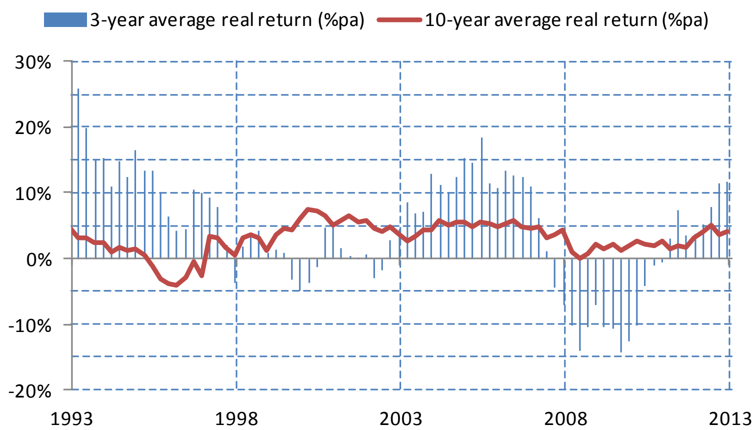
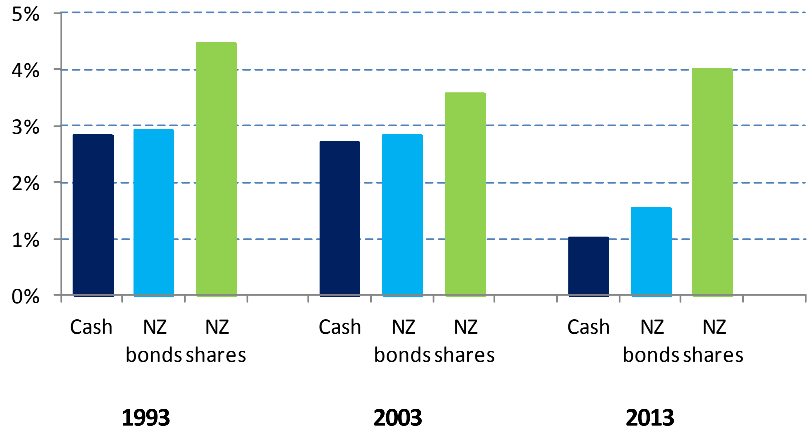



Chart 5 shows the subsequent 10-year average returns, highlighting the sharemarket crash, the tech bubble of 2000/2003 and also the more recent global financial crisis.

Chart 6 clarifies the nature of the real returns, plotting the average net real returns over each of the last 3 decades, to 30 September 1993, 2003 and 2013.

**Chart 6** **Average net real return last 3 decades (% p.a.)**




Charts 3, 4 and 5 highlight the relative volatility of the returns from cash, bonds and shares over the short-term. Chart 6 highlights the 10-year average real returns which are normally more important to investors. It reinforces the message that shares offer better investment outcomes for the long-term and because of the higher expected return provide greater scope for protection against inflation, but only if you are comfortable about the short-term volatility.