

THE HOUSING MARKET AND THE RETURN TO HOUSING

This article looks at the factors which have influenced the relative return to owner occupied dwellings in recent years. It shows that housing performed relatively well because interest rates were generally slow to adapt to inflation and because it was favoured by the tax system. It concludes, however, that with the increased financial sophistication in the community, interest rates will be much more responsive. Housing is less likely to be significantly advantaged in future.

Introduction

Investment in dwellings has shown surprising resilience over the past year and a half in the face of historically high nominal interest rates, declining real incomes and a net migration outflow. While there are a number of reasons which may help to explain this strength, one of the driving forces has been a widespread belief that homeownership is a good investment in inflationary times.

This article presents data which show that historically in New Zealand this belief is well-founded. It identifies the particular factors — house price inflation, low nominal interest rates and a favourable tax treatment — which have contributed to the relatively good performance of homeownership as an investment over the last two decades. It then goes on to demonstrate that when financial markets are free from regulation and future inflation is reasonably well anticipated by the holders of financial assets, then much of the financial advantage of homeownership may be eroded. Indeed, some homeowners could be disadvantaged relative to holders of financial assets, at least for a period.

Housing Investment — Recent Developments

The demand for dwellings, as measured by the number of building permits issued per month (in seasonally adjusted terms), increased to an average of around 1,800 per month towards the end of 1983 and, apart from some month-to-month fluctuations, generally held at this level until May 1985 when there was a further sharp upward surge. Since August 1985 there has been a sustained downward movement in the number of permits issued, but current levels are not significantly below those which were maintained over most of 1984 and 1985 and are still some way above the low point of the 1982/83 recession.

There are a number of factors which may explain the strength and durability of the demand for housing over

the last eighteen months or so. First, there has been a strong demand for flats. This may reflect in part an increased demand by the growing elderly community for accommodation more suitable for retirement and in part a renewed interest in flats for investment following the removal of rent controls. A second factor has been the prospective introduction of the Goods and Services Tax. At present very few inputs into housing bear wholesale sales tax and consequently there is a strong incentive to build before GST is imposed.

A third explanation for the strong demand for housing is the rapid growth in Post Office Savings Bank and Housing Corporation lending during 1985. The interest rates on Housing Corporation loans were well below those prevailing in the rest of the market, while the POSB also pitched its lending rate somewhat below market-clearing levels and experienced a surge in demand as a result.

While the greater availability of finance helps explain why a previously pent-up demand became effective, and the imminence of GST explains why some of this demand may have been brought forward, these factors still do not fully explain why the demand for housing loans has held up so strongly in the face of mortgage interest rates of 20 per cent or more. At these sorts of interest rate levels, the debt servicing costs must have represented a substantial part of total disposable incomes for many households and certainly would have exceeded the cost of renting a comparable house in many cases. Part of the reason may have been that inflationary expectations were still generally quite high over this period, so that mortgage rates of 20 per cent plus may have been perceived as representing real interest rates of less than half that level. There may also have been a general expectation that the high real interest rates were a temporary phenomena and that rates would fall substantially over the life of the loan. More fundamentally, however, it would appear that there is a strong demand in the community for homeownership independent of the above considerations, and people seem prepared to undergo considerable short-term financial hardship to reach that goal.

The Rate of Return to Housing Investments

While there certainly seems to be a very strong bias towards homeownership in New Zealand, this bias is not purely a matter of social custom. It also reflects the fact that, at least for the last two decades, homeownership has been a very good investment proposition. Indeed, for many it has been the best investment they could have made. This is clearly illustrated in tables 1 — 3, which show estimates of the real post-tax rates of return to investments in housing, to shares and to interest-bearing deposits with a typical financial institution over the period from 1961 to 1985 for an individual on the average marginal tax rate. The rates of return shown are averages for periods of seven years, which is about the length of time a typical house is owned in New Zealand. Over the period considered the return to housing was always positive and outperformed both the principal alternative investments.

There are two main reasons for the relatively high real rates of return to housing over this period. The first is that mortgage interest rates did not fully respond to the high rates of inflation over the 1970s¹. To see why this had such an effect on the real rate of return to housing it is useful to look at the major factors which influence that return. Figure 1 presents a simple profit and loss statement for an 'average' \$60,000 house which is 75 per cent financed from mortgages and 25 per cent financed from equity. Initially it is assumed that there is on-going inflation at a steady and moderate rate of 5 per cent and that the value of houses is increasing in line with the general price level.² The mortgage interest rate is 10 per cent implying a real interest rate of 5 per cent. It is also assumed that the net imputed rental return (the rent the housing would have earned if rented out, less non-financing expenses)³ to owner-occupied housing is 5 per cent per annum.

Figure 1

	\$
Income	
Net imputed rental value (5 per cent of \$60,000)	3,000
Appreciation of the value of the house (5 per cent of \$60,000)	3,000
	<u>6,000</u>
Expenditure	
Interest	4,500
	<u>1,500</u>
Nominal Return:	1,500
Less Inflationary effect on equity:	<u>750⁴</u>
Real Return:	<u>750</u>

While the homeowner is \$1,500 better off in nominal terms after one year, inflation at a rate of 5 per cent will have reduced the real value of the equity by \$750, so the real return to the homeowner's equity is \$750 or 5 per cent.

In the second example it is assumed that inflation accelerates suddenly to say 10 per cent, and that house prices still rise in line with inflation. In the accounts presented in figure 2(a) it is assumed that interest rates are controlled and do not rise in line with the higher rate of inflation. In figure 2(b), on the other hand, it is assumed that nominal mortgage interest rates are free to adjust and rise immediately to keep the real rate at 5 per cent. So in the first case the nominal rate of interest stays at 10 per cent but in the second case it rises to 15 per cent.

	Figure 2(a)	
	\$	
Income		
Net imputed rental value	3,000	
Appreciation (10 per cent of \$60,000)	6,000	
	<u>9,000</u>	
Expenditure		
Interest (10 per cent x \$45,000)	4,500	
		%
Nominal return	4,500	30
Less Inflationary effect on equity	<u>1,500</u>	
Real return¹	3,000	20

¹ On initial investment.

	Figure 2(b)	
	\$	
Income		
Net imputed rental value	3,000	
Appreciation (10 per cent of \$60,000)	6,000	
	<u>9,000</u>	
Expenditure		
Interest (15 per cent x \$45,000)	6,750	
		%
Nominal return	2,250	15
Less Inflationary effect on equity	<u>1,500</u>	
Real return¹	750	5

¹ On initial investment.

It is clear from figure 2 that, when interest rates do not rise in line with the inflation rate, homeowners who are highly geared (have a high proportion of debt to equity) will receive a high rate of return on their initial equity. The other point to note is that inflation in itself does not necessarily guarantee a high return. If interest rates respond quickly to an upturn in inflation then there will be little additional gain.

The combination of low mortgage interest rates and high inflation is a reasonably reliable formula to obtain a high real rate of return on housing investment over time. Table 4 shows that over much of the 1970s these conditions were met. Although private mortgage interest rates did increase gradually over this period,

Footnotes

- This partly reflected the delay with which people adjusted their expectations to the high inflation environment and also the lack of competition within the financial sector over this period. Mortgage lending rates were not directly controlled by regulation until 1981, but prior to this, government regulation in other areas probably contributed to the sluggish upward adjustment in mortgage interest rates.
- The effective return to homeowners will also depend on the rate of growth in house prices relative to more general price inflation in the short run. While there have been periods when house prices have risen more rapidly than general price inflation, and vice versa, there tends to be a fairly close relationship between house prices and inflation over the longer term.
- This provides a measure in financial terms of the services which accrue to the householder from homeownership.
- The reduction in the purchasing power of the homeowner's equity over the period resulting from inflation.

they were slow to match the increase in the rate of inflation and consequently real interest rates were either low or negative. By the 1980s, however, inflation was increasingly being anticipated by holders of financial assets and, following the removal of interest rate controls, was more fully reflected in private mortgage interest rates. Rates of return to housing have started to fall as a result.

The second reason why housing has been a relatively good investment over the last two decades is the way the tax system discriminates between different classes of assets, particularly when there is a high rate of inflation. Owner-occupiers are advantaged because they do not pay tax on either the imputed rental value of their home or the capital gains that accrue when it increases in value. On the other hand a person who decides to invest in an interest-bearing deposit rather than buying a house, and pays the rent with the proceeds, is taxed on all of the nominal interest income. In inflationary times, this means that tax is paid on both the real interest component of nominal interest receipts, and also the inflation premium component (that part which compensates for the fall in the real value of a financial asset due to inflation). The difference in tax liabilities can be seen clearly if two simple sets of accounts are compared. Figure 3(a) shows the position of an individual who invests \$15,000 in a \$60,000 house. With a mortgage interest rate of 15 per cent, inflation at 10 per cent and a net imputed rental return of 5 per cent, the real return to the owner-occupier is 5 per cent.

Figure 3

	(a)	(b)
Owner Occupier	\$	\$ Bank Deposit
Income:		
Imputed rent	3,000	Interest 2,250 (\$15,000 x 15 per cent)
Capital gain	6,000	
	<u>9,000</u>	
Outgoings:		
Interest	6,750	Less tax @ 30 per cent 675
		<u>1,485</u>
Net Nominal Income:	2,250	1,485
Less inflationary effect on equity	1,500	Less inflationary effect on equity 1,500
	<u>750</u>	<u>- 15</u>
Real Gain:		

However, an investment in a \$15,000 bank deposit for an individual with a marginal tax rate of 30 per cent actually yields a slightly negative return. Table 3 shows that investors in fixed-interest investments did very badly in the 1970s and early 1980s. Not only did nominal interest rates generally fail to keep significantly ahead of inflation, but depositors also had to bear a heavy tax burden which resulted in negative real post-tax rates of return.

While the average investor is unlikely to have been aware of the precise ways in which the interaction of inflation and the tax system has affected the returns on different assets, past experience will have provided some general guidance as to where the best returns are available. In particular, the lesson that owner-occupied housing, financed by a maximum amount of borrowing, has been a good investment in inflationary times has come to be widely understood. In the expectation that this will continue to be a good strategy in the future, it

would appear people have been prepared to enter into quite onerous debt servicing commitments to secure what they see as the financial benefits of homeownership.

What may not be so widely understood is that high returns to housing require borrowing costs to be low relative to the rate of appreciation in house prices. In today's free financial market, however, these conditions are much less likely to apply. Nominal interest rates are now free to adjust fully in order to compensate for both expected future inflation and the effect of the tax system on the real returns available to fixed interest investments. If inflation is expected to be higher in future, then depositors will require higher nominal interest rates and borrowers will therefore have to pay a higher rate on their loans. Similarly, the fact that interest receipts are taxable means that depositors will require higher nominal interest rates so as to obtain the same after-tax rate of return. Once again, lending interest rates will have to rise in line with the higher deposit rates, so that part of the tax is effectively shifted to the borrower. Taking the example in figure 3 a rise in lending and deposit interest rates would have the effect of reducing the gap between the real return on housing and the real return on fixed interest investments.

The interaction of inflation and the taxation system means that nominal interest rates could increase quite sharply with an increase in inflationary expectations. Take the case where there was a single marginal tax rate for all taxpayers of 33-1/3 per cent and the after-tax rate of return to alternative assets was 5 per cent. If there was no inflation the interest rate that would give the same after-tax rate of return on financial assets would be 7.5 per cent. If inflation was 10 per cent, however, the required interest rate would be 22.5 per cent. Of this, 7.5 per cent would represent a tax payment, 10 per cent compensation for inflation and the remaining 5 per cent represents the real post-tax rate of return. Although the real post-tax return to the investor has not changed, from a borrower's perspective the combined effect of inflation and the tax system is to increase the cost of borrowing by 7.5 per cent. In other words the borrower is paying a tax equivalent to 7.5 per cent of the mortgage.

It is unlikely that there would be such a large shift in interest rates in practice. Certain recipients of interest receipts such as superannuation schemes or foreign lenders are not subject to New Zealand income tax or bear it at a low rate. In addition, many depositors are either unaware of the effect which inflation has in eroding the real value of their financial assets or cannot readily substitute other assets for financial assets. Consequently, part of the tax burden may still be borne by depositors. Nevertheless, with increasing financial sophistication in the community and free competition in financial markets, it is likely that more of the inflation tax will be passed on to borrowers in future than has been the case in the past.

Even an increase of 2 or 3 percentage points in mortgage rates can make a considerable difference to the effective tax borne by the owner-occupier housing sector. This can be illustrated by taking the case which was outlined in figure 2 and assuming that the interest rate increases to 18 per cent — a real rate of 8 per cent. The simplified income statement (figure 4) shows that the effect of a 3 per cent increase in the real interest rate is to reduce the real rate of return on equity from 5 to -4 per cent.

Figure 4

	\$	
Net imputed rental value	3,000	
Appreciation	6,000	
	9,000	
Expenditure	8,100	
Nominal gain	900	%
Real gain	-600	6
		-4

This discussion would suggest that, if they are not to learn an expensive lesson, prospective homebuyers need to be very conscious of the real rate of interest they are likely to be paying on borrowed funds. The real interest rates faced by borrowers are likely to be higher than has been the case in the past, as at least part of the tax on interest receipts is passed on by lenders. In addition, however, real interest rates can also increase temporarily during periods of monetary restraint or a change in monetary policy regime and it may, in some circumstances, pay to wait before buying or building a home. Finally, in a free market situation, a fall in nominal interest rates may not necessarily make housing any more attractive as an investment. To the extent that the fall reflects lower inflationary expectations, then the expected capital gains from increased house prices will also be lower. As a result, the expected gross return from housing, before interest costs, will probably have fallen in line with the reduced borrowing costs, so that the net return to housing may be unchanged.

Table 1
Returns to Owner-Occupied Housing

Period of Investment	Nominal Returns		Real Returns		Tax Differential
	Government Sector	Private Sector	Government Sector	Private Sector	
	Mortgage	Mortgage	Mortgage	Mortgage	
1961-67	16.5	11.1	13.2	7.9	
1964-70	20.3	15.2	15.5	10.5	
1967-73	29.7	25.6	22.0	18.1	
1970-76	38.4	33.2	25.9	21.0	
1973-79	35.3	27.7	20.8	13.8	
1976-82	26.2	17.2	9.7	1.7	
1979-85	30.8	22.2	16.2	8.7	
1982-85	39.3	26.5	25.4	14.2	

Source: RBNZ (see annex)

Table 2
Returns to Sharemarket Investment

Period of Investment	Nominal Returns		Real Returns		Tax Differential
	Pre-Tax	Post-Tax	Pre-Tax	Post-Tax	
1961-67	3.6	2.2	0.9	-0.5	1.4
1964-70	9.5	8.1	5.2	3.8	1.4
1967-73	10.7	9.2	4.1	2.8	1.3
1970-76	4.5	2.5	-4.8	-6.6	1.8
1973-79	4.1	2.2	-7.2	-8.8	1.6
1976-82	13.1	11.7	-1.7	-2.9	1.2
1979-85	26.2	25.0	9.6	8.7	0.9
1982-85	25.4	23.8	12.5	11.1	1.4

Source: RBNZ (see annex)

Summary

To summarise the above discussion:

- Housing has been a relatively good investment for many New Zealanders over the past two decades.
- This has arisen because of a combination of generally low mortgage interest rates relative to inflation and the discriminatory impact of the tax system in an inflationary environment.
- With deregulation of the financial sector and increased financial sophistication in the community, housing is much less likely to be significantly advantaged relative to other forms of investment in the future.
- During the transitional phase of a change in monetary policy regime, housing may well be less attractive than investment in financial assets for a period.

Table 3
Returns to Fixed Interest Deposits
with a Financial Institution

Period of Investment	Nominal Returns		Real Returns		Tax Differential
	Pre-Tax	Post-Tax	Pre-Tax	Post-Tax	
1961-67	5.8	4.1	3.2	1.5	1.7
1964-70	6.7	4.6	4.6	0.5	4.1
1967-73	7.4	4.8	1.2	-1.3	2.5
1970-76	9.3	5.6	-0.1	-3.7	3.6
1973-79	12.1	7.1	0.3	-4.3	4.6
1976-82	15.1	8.9	0.1	-5.3	5.4
1979-85	17.6	10.9	1.0	-4.3	5.3
1982-85	18.9	12.8	6.5	1.1	5.4

Source: RBNZ (see annex)

Table 4

Dec. Year	1	2	3	4
	% increase in CPI	Average Private Sector Mortgage Interest Rate	Real Interest Rate ²⁻¹	% increase in Urban Property price Index
1967	6.7	7.0	0.3	1.5
1968	5.0	7.1	2.1	2.7
1969	4.1	7.2	3.1	5.3
1970	10.1	7.3	-2.8	8.9
1971	9.0	8.0	-1.0	11.0
1972	5.3	8.1	2.8	16.1
1973	10.3	8.3	-2.0	34.1
1974	12.4	8.9	-3.5	33.4
1975	15.5	9.7	-5.8	4.1
1976	15.7	10.7	-5.0	7.0
1977	15.3	11.2	-4.1	5.0
1978	10.1	11.9	1.8	2.9
1979	16.5	12.7	-3.8	5.5
1980	16.1	14.6	-1.5	12.4
1981	15.7	15.9	0.2	31.8
1982	15.3	17.3	2.0	22.9
1983	3.6	15.9	12.3	9.2
1984	9.4	15.8	6.4	13.0
1985	15.3	19.0	3.7	15.4

Source: Department of Statistics

ANNEX TO TABLES 1-3

MAJOR ASSUMPTIONS

1. These tables are intended to compare the returns that have typically been earned on owner-occupied housing with returns on the share market and on financial instruments over the last twenty years. As housing can be regarded as a medium to longer-term investment, the methodology adopted was to calculate the internal rate of return for each investment over a seven year period (about the average time a house is typically held) except for the last period which was necessarily shorter.
2. Investment in housing involved purchasing a house at the average house price at the start of each investment period and selling at the end of the period. The deposit was assumed to be 25 per cent of the purchase price. The mortgage was assumed to be taken out for 25 years. The interest rate in each year was adjusted to the currently prevailing rate. Returns were calculated for both government and private sector mortgages. The interest rate on State Advances or Housing Corporation mortgages to which an average income earner with two dependent children would be entitled was used as the government sector interest rate. The source for private sector mortgage interest rates was the new mortgage registrations statistics produced by the Department of Statistics.
3. No explicit allowance was made for maintenance costs (rates, depreciation, etc.) — these are subsumed in the assumption made about the magnitude of the implicit rental value. It was assumed that the implicit rental stream after allowing for all maintenance expenditure would be equal to 4 per cent of the value of the house each year.
4. The sharemarket investment involved buying shares at the start of each investment period and selling at the end of the period. The change in the RBNZ Share Price Index between the time of purchase and sale was used to calculate the final value of the shares. Dividend yields for each year of investment were derived using the nationwide payout of ordinary and preference share dividends divided by total shareholders' funds. The dividend was assumed not to be reinvested. Dividend yields were also taxed at the marginal rate of the average income earner to give post-tax rates of return. To the extent that tax-free dividends were paid (as they increasingly were) the real return will therefore be under estimated. On the other hand, to the extent that the marginal tax rate for the average sharemarket investor exceeds the average for all income earners, the real return will be overestimated.
5. The final investment involved depositing funds with a financial institution. The interest rate chosen was the highest available on finance company secured deposits for any term as data for a fixed term (such as one year) were not consistently available over the full period. It was assumed that a fixed investment was made over a one year period, with the capital (i.e. not including the accrued interest) reinvested each year at the going rate. Rates of return were then calculated over the entire investment period, and are best regarded as the maximum return a depositor could have earned.
6. Both nominal and real pre and post-tax returns were calculated for all investments using price deflators based on annual movements in the Consumers Price Index. The tax rate was assumed to be the marginal rate paid by the average male income earner.

Note that in table 1 no distinction is made between pre and post-tax rates of return as there is no explicit tax on housing.