Massey University

NZ Residential Rental Market

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A Portfolio Approach to Investor Housing

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DATA SOURCE The private sector rental data is supplied by the Department of Building and Housing (Bond Centre). Information on wage rates, demographics and the structure of the rental housing stock is drawn from Statistics NZ data. House price information has been extracted from Real Estate Institute and Quotable Value NZ statistics.

Portfolio Diversification

Traditionally investors have intuitively understood the idea of portfolio diversification means not putting all their investment eggs in one basket. In 1959 Harry Markowitz took portfolio theory to a new level when he introduced the formal concept of using portfolio diversification to reduce risk. His ideas were quickly embraced by the finance discipline and Markowitz was later rewarded with a Nobel Prize in Economics. Property investors have been much slower to utilise Markowitz's ideas due to their initial scepticism about real world property applications and the significant data problems relating to the measurement of property market risk and returns. The Property Council of New Zealand does publish a series of total returns indices for commercial property but there is a lack of information on investor housing returns. Research by the author and Song Shi in 2004 provided the basis for a total returns series for investor housing. The indices are shown in the table to the top right and cover the period June 1993 to June 2004. The indices integrate the Quotable Value NZ house price data with the Department of Building and Housing rental information. Survey data was used to establish the relationship between gross rents and net income as well the appropriate price band for investor housing.

Cities in the Auckland and Wellington regions have produced the highest total returns but the volatility of the Auckland region appears to make it more risky. Residential rental property investors may be able to reduce risk by diversifying across two or more cities. The total returns indices highlight the fact that in some years there are significant differences in returns between cities even though long term average returns may be similar. Investors can exploit these differences by looking for cities with low or negative correlations so as to minimise risk. The matrix to the bottom right illustrates how there are strong positive correlations between adjacent cities and low or negative correlations between the Auckland and Wellington cities. This is mostly related to the regions being at different stages on the property cycle rather than fundamental differences in the yields.

For example, risks may be reduced if we take the case

Total Returns Indices

	1993	1995	1997	1999	2001	2003	2004
North Shore	100	144	193	207	234	306	381
Waitakere	100	151	224	239	255	320	405
Auckland	100	159	220	235	260	363	422
Manukau	100	136	203	226	248	314	373
Papakura	100	133	212	230	231	269	327
Hamilton	100	132	178	198	198	244	293
Tauranga	100	136	185	207	231	283	374
Napier	100	131	155	173	209	274	364
Palmerston Nth	100	120	136	153	185	227	278
Porirua	100	119	142	194	262	320	394
Upper Hutt	100	118	137	182	229	287	350
Lower Hutt	100	118	147	196	252	314	388
Wellington	100	124	173	225	293	367	443
Nelson	100	124	144	158	180	282	350
Christchurch	100	129	168	187	197	240	314
Dunedin	100	124	142	151	177	244	321
Invercargill	100	125	143	146	159	245	329
All NZ	100	135	181	204	231	300	376

Correlation Matrix

	N Shore	Wait	Auck	Manu	Por	U Hutt	L Hutt	Well
North Shore	1.00							
Waitakere	0.92	1.00						
Auckland	0.87	0.86	1.00					
Manukau	0.82	0.93	0.79	1.00				
Porirua	-0.14	-0.30	-0.57	-0.40	1.00			
Upper Hutt	-0.04	-0.16	-0.40	-0.24	0.84	1.00		
Lower Hutt	0.00	0.00	-0.40	-0.01	0.78	0.89	1.00	
Wellington	0.27	0.36	0.02	0.49	0.24	0.37	0.66	1.00

of an investor with a 50:50 Auckland City and Lower Hutt City portfolio. The average annual pre tax return for Auckland was 14.31 percent with a standard deviation of 9.01 percent. For Lower Hutt the average rate of return was 13.18 percent with a standard deviation of 4.38 percent. The higher standard deviation indicates a higher level of risk. Under a 50:50 portfolio the average return is 13.74 percent and the standard deviation 4.14 percent. Thus the Auckland only investor would

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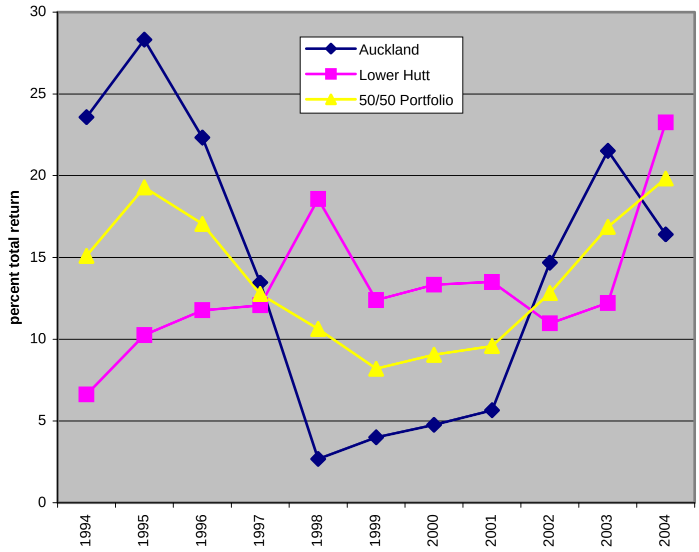
more than halve risk by diversifying to Lower Hutt, with only a slight trade off in total returns. The Lower Hutt only investor reduces the risk and increases average return by diversification to Auckland. The chart below illustrates both the volatility of the returns from the Auckland market



and how Auckland and Lower Hutt were at different stages of the property market cycle over the period 1994-2004.

Although locational diversification may not be an attractive option for the smaller investors who prefer to self manage their rental properties it is a viable alternative for larger investors and those prepared to employ property mangers. The transaction costs of switching property assets around has not been factored into the 50/50 portfolio and as a result the returns for this option may be overestimated slightly.

Current Rental Levels by TLA

Over the last quarter the national level of median rent for private sector rental accommodation remained unchanged at $250 per week but was up 4 percent on the same period in 2004. A snap shot of rents in the main TLAs over the period July 2004 to July 2005 is shown in the table at the top right. Over this period rents in the larger cities remained relatively static. Small rental increases were recorded in a number of the North Island east coast provincial cities.

Apartments Rents

Rents for smaller Auckland apartments continued to track down. This is thought to be related to a reduction in net migration and an increased supply of new apartments. The table below shows apartment rents from July 2003 to July 2005

Auckland City-Weekly Rents $

	Jul-03	Jul-04	Jul-05
1 bed	330	300	290
2 bed	420	420	372
3 bed	450	489	470
all	362	340	340

Median Rents	July 04	April 05	July 05
Whangarei	190	210	220
North Shore	340	340	340
Waitakere	298	295	290
Auckland	325	325	320
Manukau	300	295	300
Papakura	260	275	275
Hamilton	230	250	250
Tauranga	240	250	260
Rotorua	175	190	185
Gisborne	170	175	190
Hastings	190	210	220
Napier	210	220	240
New Plymouth	180	220	220
Wanganui	140	160	156
Palmerston North	180	200	200
Kapiti	220	220	220
Porirua	220	240	225
Upper Hutt	170	200	227
Lower Hutt	225	230	235
Wellington	290	300	300
Nelson	250	240	240
Christchurch	240	250	250
Dunedin	210	220	212
Invercargill	170	160	160
All NZ	240	250	250

Massey University Property Foundation
The foundation is established to sponsor research and education in property related matters in New Zealand. The Chairman of Trustees is Mr Bill Cleghorn. Funding is obtained through sponsorship from corporations and firms within the property industry. The Foundation has established a Real Estate Analysis Unit to operate out of both Massey University's Palmerston North and Albany campuses. The secretary of the Foundation is Alison Smith, Phone (09) 486 -5224.

Massey University Real Estate Analysis Unit
The primary objective of the Massey University Real Estate Analysis Unit (MUREAU) is to provide reliable property information to the property industry, the land related professions and the public.

The Director of MUREAU is Professor RV (Bob) Hargreaves. MUREAU also offers a consulting service for individual clients. MUREAU publications, free on request are:

1 The AMP Banking Home Affordability Report (Quarterly)
2 Rural Real Estate Market Outlook (Quarterly)
3 Auckland Commercial Market Outlook (Quarterly)
4 Christchurch Commercial Market Outlook (Quarterly)
5 Wellington Commercial Market Outlook (Quarterly)
6 Auckland Residential Market Outlook (Quarterly)
7 Christchurch Residential Market Outlook (Quarterly
8 Wellington Residential Market Outlook (Quarterly)

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