



# Reserve Bank of New Zealand Analytical Notes

## House price expectations of households: A preliminary analysis of new survey data AN2012/ 01

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## 1. INTRODUCTION

People's expectations of future house prices appear to be an important influence on house prices and the volume of house sales (Wheaton 1990; Berkovec and Goodman 1996). For example, Case and Shiller (2006) argue that expectations played a role in producing California's house price boom in the late 1980s. If house price expectations matter, then how people form those expectations, and how expectations respond to different shocks (for example, an unexpected increase in population) also matters. The Reserve Bank has often referred to the importance of house price expectations but unlike many other variables we have had little detailed data on these expectations for analysis

We have attempted to fill this gap by adding new questions on one-year-ahead house price expectations into the Reserve Bank's quarterly survey of households' inflation expectations. The questions were piloted in the March 2011 quarter survey (conducted in February 2011). After some modifications to the initial question wording, we now have results available from the June, September, December 2011 and March 2012 quarter surveys (conducted in May, August, November, February respectively). Specifically the survey asks households about their expectations of future house prices (up, down or the same) in a year's time, and then asks them to quantify their expectation. Given the possible influence of expectations on house prices, we believe the new questions will in the future be of significant value to the Bank and the wider economics community, both for monitoring and research purposes.

If the house price expectations data are shown, over time, to provide a lead on house price inflation, they could also be an early indicator of changes in consumption behaviour to the extent that some link exists between house prices and consumption. Such a link may derive from wealth and collateral effects, or from an inter-temporal substitution effect<sup>1</sup>. Moreover, the data should allow us to test the way house price expectations are formed, and to what extent they are rational or adaptive.

In addition to the "time series dimension", the survey also contains detailed cross-sectional information, which may be analysed to help the Bank better understand the influence of demographic and personal circumstances on expectations. Because the Reserve Bank

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<sup>1</sup> See De Veirman and Reddell (2011) for a review of the drivers of consumption, including expectations about asset prices.



already surveys the same respondents' inflation expectations in this survey one might test possible relationships or links between these two series (i.e. goods and services inflation and house price inflation).

The remainder of this note is structured as follows: Section two compares and contrasts similar surveys that are carried out both in New Zealand and abroad. Section three briefly summarises the history and design of the Reserve Bank's household expectations survey. Section four discusses the results obtained so far from the new questions and highlights areas that are likely to be of interest in the future. Section five concludes.

## 2. A REVIEW OF OTHER SIMILAR SURVEYS

The synchronised nature of house price booms across many economies has led to increased interest in the role expectations play in housing market activity and in surveys that attempt to measure house price expectations in some form.

In New Zealand there are three other surveys we are aware of.

- The ASB Bank's quarterly Housing Confidence Survey dates back to 1996, and is probably the longest running survey of this kind in New Zealand. Respondents are asked whether they expect house prices to increase, decrease or remain the same in one year's time; whether they believe it is a good time to buy a house; and whether interest rates will increase, decrease, or stay the same.
- Recently the ANZ Bank in New Zealand added a question on house prices to its ANZ-Roy Morgan New Zealand Consumer Confidence Survey. Since October 2010 they have asked whether (national) house prices will go up, down or stay the same during the next two years. They then ask for a specific estimate of average annual house price movements over the next *two* years.
- The ANZ Property Investment Survey is run by the ANZ and the Property Investment Federation. Each year they survey around 1000 mostly small-scale, residential property investors on a range of issues of relevance to property investment, including their expectation of property price changes over the next year, and over the next five years

Internationally the issue is also regarded as important. The earliest survey we are aware of was conducted in 1988 by Karl Case and Robert Shiller among home buyers in Los Angeles, Boston and San Francisco and Milwaukee. Their conclusion was that expectations played a significant role in the property price boom that occurred around this time in the United States (Case and Shiller 1989). Since 2003, Case and Shiller have



repeated this survey annually in the same cities.

In addition to this, and also in the United States, MacroMarkets, in conjunction with Pulsenomics LLC, surveys a panel of over 100 economists, investment strategists, and housing market analysts every quarter to obtain the panel's expectations of the annual percentage increase in the Case-Shiller national house price index as at the December quarter, for each of the next five years.

In the United Kingdom, the London School of Economics' House Price Expectations survey is carried out in conjunction with a leading London real-estate agent, and asks respondents for their current perspective on the London housing market. Respondents include current and prospective customers of the real-estate agent, most of whom are interested in property within central London. In particular, the respondents are asked to think about a hypothetical house in central London worth £1 million and to state their view on whether the value of this house will go up or down over 12 months, five years and ten years in nominal terms.

Finally, in Australia, the National Australia Bank's (NAB) Residential Property Survey draws on a large external panel of respondents consisting of property developers, asset/fund managers and owners/investors and valuers. A key question in this survey concerns house price expectations. Respondents are asked "During the next 12 months what percentage change do you expect to see in house prices?" Their expectations are also sought for the next quarter, the next 6 months and 2 years.

### 3. THE RESERVE BANK OF NEW ZEALAND HOUSEHOLD SURVEY - ITS HISTORY AND DESIGN

The Reserve Bank has been surveying households' inflation expectations since 1988. Since 2008 the Bank has been using market research firm UMR Research to conduct this survey each quarter as part of their regular telephone 'omnibus' survey of the general public.<sup>2</sup>

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<sup>2</sup> Between 1988 and December 2007 the questions were asked in The Nielsen Company's telephone survey.



The survey is carried out in UMR's national interview facility in Auckland. Using Computer Aided Telephone Interviewing (CATI) software, residential telephone numbers are automatically dialled so as to produce a nationally representative sample of 750 people.<sup>3</sup> Weights are applied in the final stage to ensure the final sample is demographically consistent with the latest Census population data on gender, region and age. Respondents are aged 18 and over. UMR supply detailed demographic information along with the raw data produced from the survey.

Coverage in this survey is limited to those who possess a landline telephone. In a survey of this kind, where participation is entirely voluntary, there is a possibility that some degree of sample selection bias might be present in the final sample. This could potentially occur if those who decline to participate, or those who are excluded through not owning a landline, possess some unique group characteristic that influences their house price expectations in a way that is different to those who do participate. One possible difference is that fewer young people are likely to possess a landline, but we have the results of the survey stratified by age (see below). A random telephone survey potentially has advantages over web-based surveys where survey coverage is non-random and the possibility of sample selection bias would be greater.

Respondents are asked for their house price expectations in the following manner:

***Question 1: In one year's time do you think house prices overall will have increased, decreased or stayed the same compared to now?***

[If the answer to Question 1 was an increase or decrease, the respondent is asked the second question]

***Question 2: By what percentage do you think they will have increased/decreased?***

(Interviewer prompt - best estimate is fine and if the respondent gives a range, the interviewer asks them to give a point estimate). We assume a "don't know" in question 1 has no expectation, or is not able to enumerate an expectation, and they are not asked question 2.

A net balance measure is produced for question 1 and a point estimate with a distribution around it for question 2.

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<sup>3</sup> The sample changes each quarter unlike the RBNZ Survey of Expectations where same firms/organisations are surveyed each quarter.



Aggregate results of these survey questions are released each quarter, and can be found on the Reserve Bank's website (<http://www.rbnz.govt.nz/statistics/econind/j5/data.html>).

#### 4. SOME PRELIMINARY RESULTS FROM THE NEW QUESTIONS ON HOUSE PRICE EXPECTATIONS

In this section we summarise the results obtained from the first four quarters since these questions were added into the survey and explore some of the cross sectional dimensions available in the data.<sup>4</sup> However, with only for quarters of data it is not yet possible to tell whether any of the changes in expectations in recent quarters are purely seasonal in nature.

Table 1 shows the results from the house price expectations question. The net proportion of respondents expecting increases in house prices has grown steadily between the June 2011 and March 2012 quarters, as measured by the net balance (the simple difference between respondents who expect prices to increase and respondents who expect prices to decrease). The higher net figure is a result of increases in the gross percentage of respondents who expect house prices to increase over the next year, with correspondingly fewer people expecting house prices to decrease or to stay the same.

**TABLE 1**  
**ANSWERS TO QUESTION 1**

	Increase %	Decrease %	Stay the Same %	Net percent %	Mean %	Median %
June 2011	46.3	12.1	37.5	34.2	2.2	0.0
September 2011	50.1	9.7	35.7	40.4	2.7	0.0
December 2011	51.9	10.9	33.9	41.0	2.5	0.0
March 2012	60.7	7.6	27.5	53.1	3.1	2.0

Respondents who answered the first question as either "increase" or "decrease" are then asked to provide a numerical estimate of the percentage change they expect in house prices in twelve months' time. The averages of these numerical responses are reported on the last column of Table 1.<sup>5</sup> These numbers show that mean annual house price expectations have varied between 2.2 and 3.1 percent in the last four quarters.<sup>6</sup> Results

<sup>4</sup> These details do not identify named individuals, the survey is carried out on an anonymous basis.

<sup>5</sup> Weighted according to the Census weights of respondents.

<sup>6</sup> The weighted mean is calculated as the sum of the individual responses multiplied by their weights then divided by the number of respondents.



from the March 2012 quarter survey showed 7.6 percent of respondents expected house prices to fall, whereas 60.7 percent expected house prices to rise. Currently these same respondents' expectations of house price inflation are lower than their expectations of inflation as it relates to goods and services as a whole, the latter having a median one-year-ahead expectation of around 3%, compared to a median house price expectation of 2 percent, in this survey. These figures imply that many households expect real house price inflation to decline over the coming year.

In the March 2012 quarter survey, around 4 percent of the sample who were asked whether house prices would increase, decrease or stay the same over the next year indicated they were "unsure". The remainder were asked for a numerical estimate of house price inflation over the next year. After excluding outliers and "unsures", 620 respondents provided a figure. If a respondent replies "no change" in the first question an expectation of "zero" is assumed.<sup>7</sup>

A recurring feature in the answers to this question is the large proportion of respondents who believe house prices will stay the same, or stay within a narrow range either side of zero percent. In the latest survey, some 33 percent of those who supplied a numerical estimate believe that in twelve months' time house prices will be unchanged from current levels.<sup>8</sup> We expect this feature in the data to become less pronounced if actual house price inflation was to increase above current levels. In the latest quarter, the median has moved up from being zero last quarter to two percent, consistent with generally higher house price expectations that were recorded this quarter. Since the distribution is non-symmetrical - positively skewed - a positive mean that is somewhat higher than the median is generated. Figure 1 shows the distribution of the numerical responses, and it is worth noting the preponderance of respondents providing estimates centred on round 5 percentage point increments (-5 per cent, 0, +5 per cent, +10 per cent).

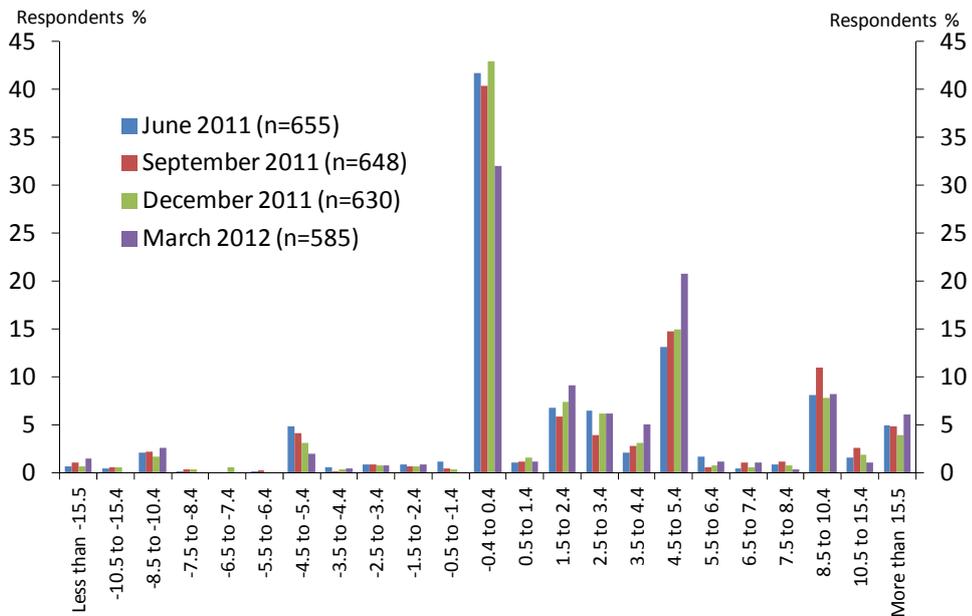
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<sup>7</sup> Note with the inflation question in the survey the respondent is asked whether the *rate* of inflation will be higher, lower or the same, whereas for house prices the respondent is asked whether the *level* of house prices will be higher, lower or the same.

<sup>8</sup> This produces a distribution that has a very high kurtosis (peak) - 7.0, whereas if the responses were normally distributed a kurtosis of around 3.0 would be expected.



**FIGURE 1**  
**DISTRIBUTION OF HOUSE PRICE EXPECTATIONS (AS PERCENTAGE OF TOTAL RESPONSES, EXCLUDING "UNSURES", INCLUDING OUTLIERS)**



The survey also collects detailed demographic information about respondents, such as the city in which they live, their gender, age group, personal income, household income, ethnicity and occupation.<sup>9</sup> Respondents also provide details of their accommodation circumstances - including whether they have a mortgage or not, or if they are renting and looking to buy or not. . In the remainder of this section, we highlight some relationships between house price expectations and demographic characteristics that are observable from the survey results to date.

Responses based on regional location are summarised in Table 2 below. This quarter fairly significant increases to net balances are evident across each geographical area. Respondents in the Auckland region are more confident of future house price increases compared to respondents in Wellington and respondents from provincial New Zealand. Auckland's households have been consistently more likely to expect house prices to rise than those in other regions, but perhaps the most interesting feature of this table in the big increase since June in the number of Wellington respondents expecting house prices to

<sup>9</sup> While the full sample is representative of the wider population, this section is based upon smaller subsamples, implying in this context lower statistical certainty around the estimates produced.



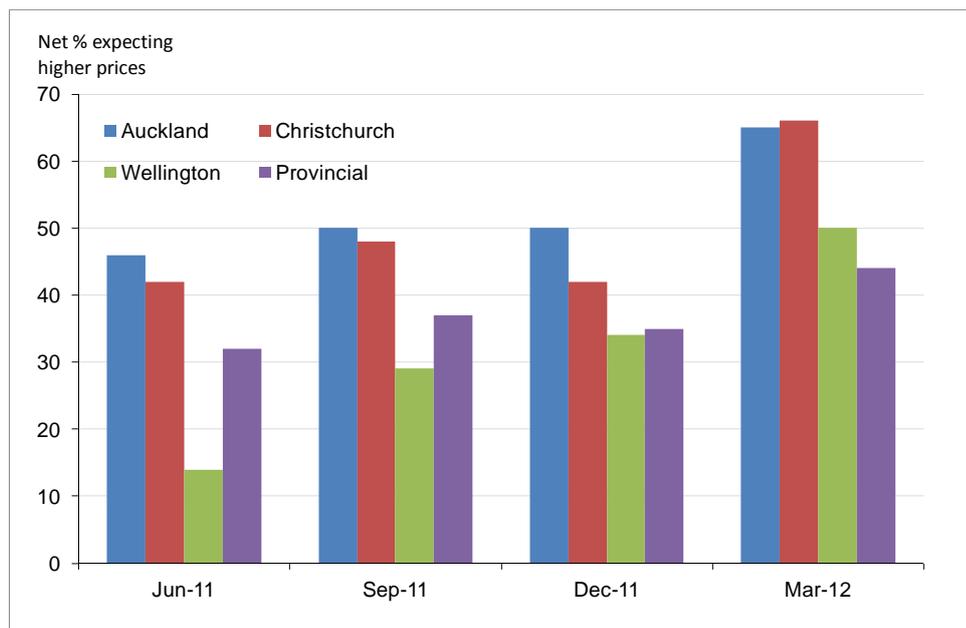
rise (net 50 percent in March 2012, compared with a net 14 per cent in June 2011). These results seem consistent with the latest official quarterly data from Property IQ for the year to September 2011, which shows actual house price inflation in Wellington lagging behind Auckland and Christchurch (-0.7 percent compared to 4.0 percent and 4.2 percent respectively). The mean expectation of Auckland and Christchurch respondents is around 4 percent, while the mean expectation of Wellington respondents is around 2 percent.

The table 2 also shows that although respondents have become more optimistic in provincial New Zealand over the sample, the level of optimism in provincial New Zealand is still well below those of the major cities reported below.

TABLE 2<sup>10</sup>

**GEOGRAPHICAL AREA**

	Increase (%)				Decrease (%)				Net Balance (%)			
	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar
Auckland	56	57	58	69	10	7	8	4	46	50	50	65
Christchurch	49	58	56	73	7	10	14	7	42	48	42	66
Wellington	35	46	46	58	21	17	12	8	14	29	34	50
Provincial	44	50	45	54	12	13	10	10	32	37	35	44



Another interesting contrast is found in the responses of different age groups. There seems to be a gap in house price expectation between older people and younger people. Table 3 below for example shows this between the 18-24 age group and the 65+ age group. Based on this, younger people seem to expect house prices to increase by more than those in the older groups (this pattern also appears at the occupational distribution of

<sup>10</sup> The percentages used in Tables 2-4 and Figure 2 include “unsures”.



responses, with retired people predicting lower increases than almost every other occupation category).

**TABLE 3**

**AGE**

	Increase (%)				Decrease (%)				Net Balance (%)			
	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar
18-24	68	66	59	72	10	15	12	6	58	51	47	66
25-34	52	52	50	64	13	10	8	4	39	42	42	60
35-44	44	58	56	59	10	8	8	5	34	50	48	54
45-54	45	51	42	64	12	10	11	12	33	41	31	52
55-64	48	49	51	55	15	12	10	8	33	37	41	47
65+	34	45	44	55	14	11	11	10	20	34	33	45

Ethnicity is another category at which the responses differ to some extent. At an ethnic level, more Pacific people expect house price increases than the other ethnicities (although this may reflect the greater concentration of Pacific people in Auckland).

**TABLE 4**

**ETHNICITY**

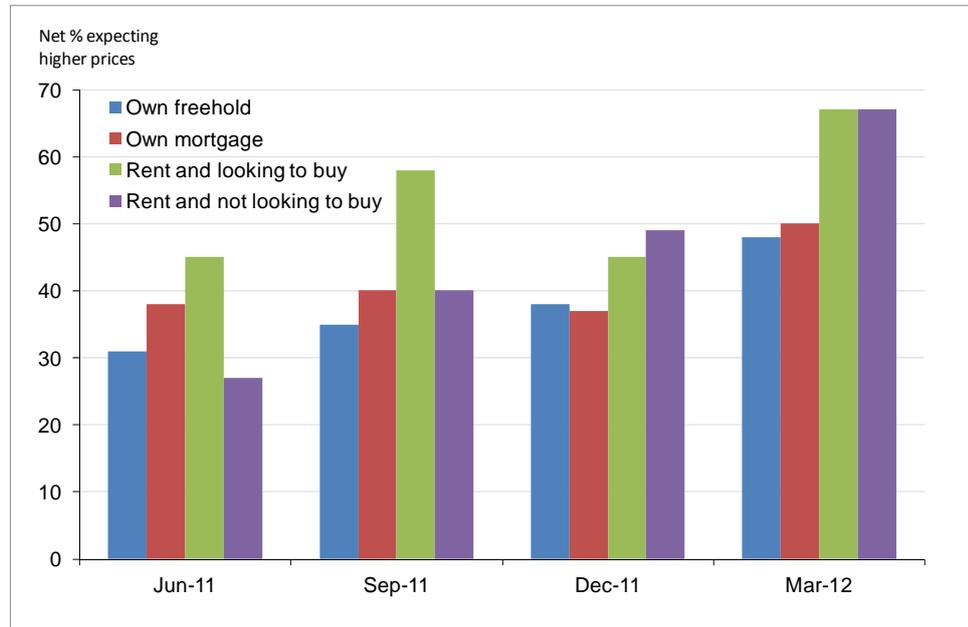
	Increase (%)				Decrease (%)				Net Balance (%)			
	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar
Pacific	61	75	66	79	8	6	8	11	53	69	58	69
Maori	51	57	58	63	10	13	15	12	41	44	43	51
Non Pacific /nonMaori	46	51	49	60	13	11	9	7	33	40	40	53

Figure 2 below shows the net balance responses according to home ownership breakdown. Respondents who own a home with or without a mortgage seem to be less inclined to expect house price increases over the next year compared to respondents who are renters (whether looking to buy or not). Particularly in the last two quarters the group who are renting contained easily the largest net percentage of those who believed house prices would increase over the next year.



FIGURE 2

## ONE-YEAR-AHEAD HOUSE PRICE EXPECTATIONS BY OCCUPANCY STATUS



## 5. CONCLUSIONS

House price expectations, like the expectations of many other important macroeconomic variables, may influence people's behaviour, and it therefore makes sense to monitor these where possible. While this survey captures householders' expectations, on the professional side, the Reserve Bank recently added a similar question to its survey of external forecasters, the results of which we also expect to publish in future. We envisage that having this information from both a business/professional and a household perspective will help us better understand how housing market price expectations are formed. This in turn will enhance our understanding of the housing cycle and its connection to the wider business cycle.

From an analytical perspective, the new survey questions have a number of positive features. The survey detail contains demographic information, allowing richer analysis at a cross-sectional level. Our survey also queries respondents' inflation expectations, meaning that in future it should be possible to investigate relationships between the



answers given for the two survey questions. Only time will tell how valuable the data prove to be.

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