28 April 2008

NZ housing demand/supply balance

Not too hot, not too cold

- **Housing supply and demand are roughly in balance.**
- **Strong house building this decade has not left New Zealand with a glut of houses. Rather, it has rectified a previous shortage of houses.**
- **Although there is no current glut, a situation of mild oversupply is set to develop over 2008, presaging lower residential construction activity and further weakness in prices.**

We have developed an original method for estimating the balance between housing demand and supply in New Zealand. The motivation was the US housing situation, where high house prices and low interest rates encouraged house-building on an epic scale, far in excess of what was needed. The result was a glut of houses, which created dramatic falls in house prices.

We are often asked whether New Zealand is going to experience something similar to the US, given that we have seen strong house building this decade *(Figure 1)*. Our research says **no**, New Zealand does not currently have a large glut of houses (although a small oversupply may be developing). Strong house building this decade has merely been catch-up, after a huge migration boom left the country very short of houses in 2003. The housing shortage has since been rectified, leaving housing supply roughly in balance with demand.

Figure 2 shows our estimate of housing demand/supply balance. Positive numbers indicate a housing shortage, while negative numbers indicate an excess supply. New Zealand was left with a large glut of houses in the late 1990s because so many people left the country (net migration was -10,000 per year). In 2002 and 2003 a migration boom saw 100,000 people come onshore in 30 months, increasing the resident population by around 2.5%. The residential construction industry responded to the extent it could, building 70% more houses in 2004 than in 2001. But it was not nearly enough, and we moved very rapidly from a situation of excess supply to housing shortage.

The 2003 episode of housing stress was dramatic. Figure 3 shows the average number of people per house in New Zealand.

Figure 1: House building (net of demolitions)

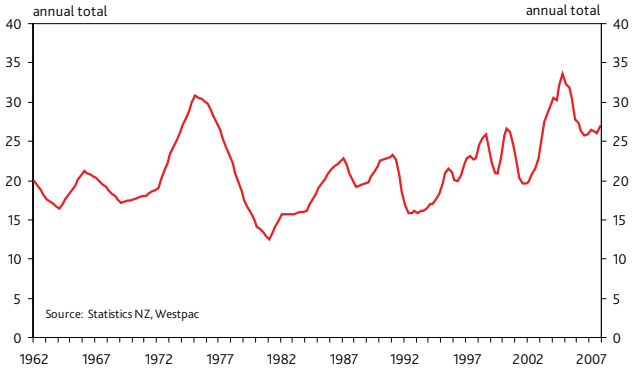


Figure 2: Housing demand/supply balance

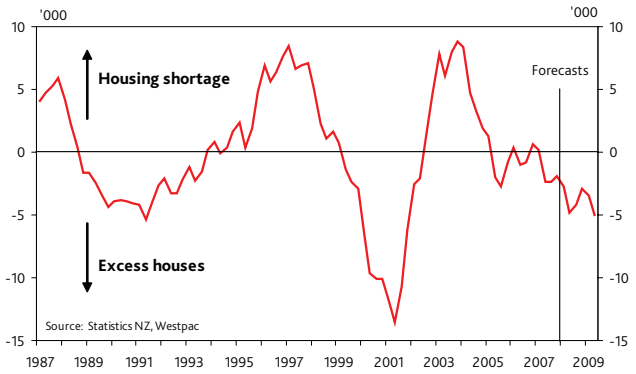
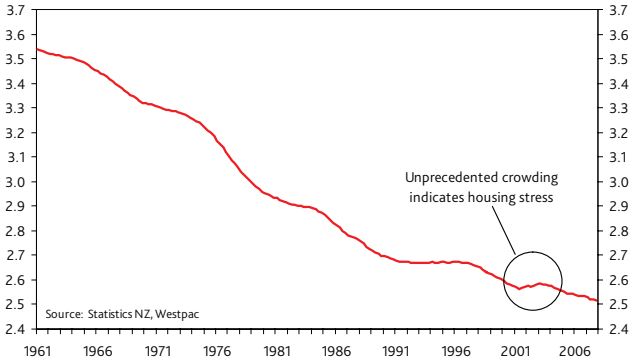


Figure 3: People per house



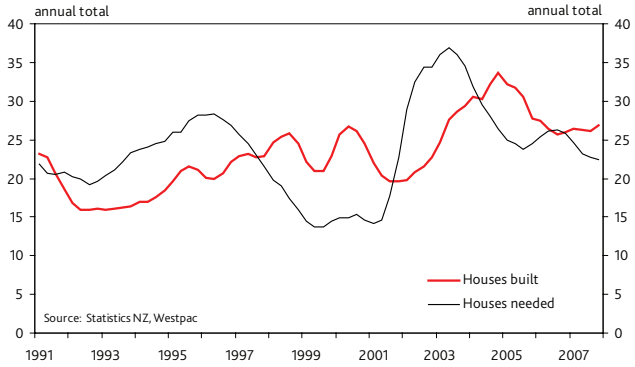
For further information, questions or comments contact Dominick Stephens, telephone (04) 381 1414, email dominick_stephens@westpac.co.nz

For all clients: Westpac Institutional Bank is a division of Westpac Banking Corporation ABN 33 007 457 141, incorporated in Australia ("Westpac"). The information contained in this report: does not constitute an offer, or a solicitation of an offer, to subscribe for or purchase any securities or other financial instrument; does not constitute an offer, inducement or solicitation to enter a legally binding contract; and is not to be construed as an indication or prediction of future results. The information is general and preliminary information only and while Westpac has made every effort to ensure that information is free from error, Westpac does not warrant the accuracy, adequacy or completeness of the Information. The Information may contain material provided directly by third parties and while such material is published with necessary permission, Westpac accepts no responsibility for the accuracy or completeness of any such material. In preparing the Information, Westpac has not taken into consideration the financial situation, investment objectives or particular needs of any particular investor and recommends that investors seek independent advice before acting on the Information. Certain types of transactions, including those involving futures, options and high yield securities give rise to substantial risk and are not suitable for all investors. Except where contrary to law, Westpac intends by this notice to exclude liability for the information. The information is subject to change without notice. Westpac expressly prohibits you from passing on this document to any third party. Westpac Banking Corporation is regulated for the conduct of investment business in the United Kingdom by the Financial Services Authority. © 2001
For Australian clients: WARNING – This document is provided to you solely for your own use and in your capacity as a wholesale client of Westpac.

It normally falls steadily, as families get smaller and society gets richer over the decades. But in 2002 and 2003, the number of people per house actually *increased*, the only such increase since our records began in 1960. This is a sign of undesired crowding, indicating a shortage of houses.

The migration boom subsided in 2004, but house building remained fairly elevated. Herein lies a trap for analysts. In every year between 2004 and 2007 we built more houses than were necessary to accommodate that year's population growth, replace obsolete houses, and sustain the trend reduction in household size *(Figure 4)*. This may be why some are arguing that we now have a glut of houses. Not so! The extra houses have merely been enough to gradually undo the housing shortage that prevailed earlier.

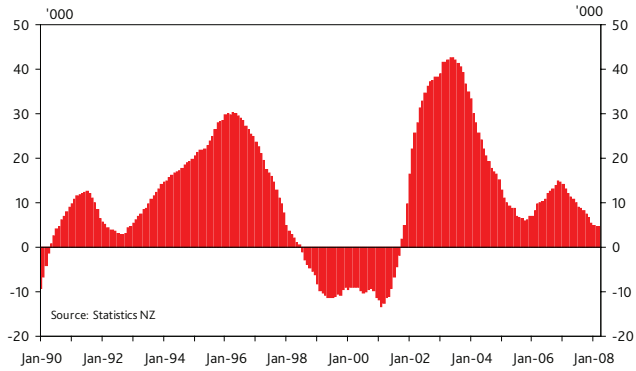
Figure 4: Houses needed vs houses built (net)



The future

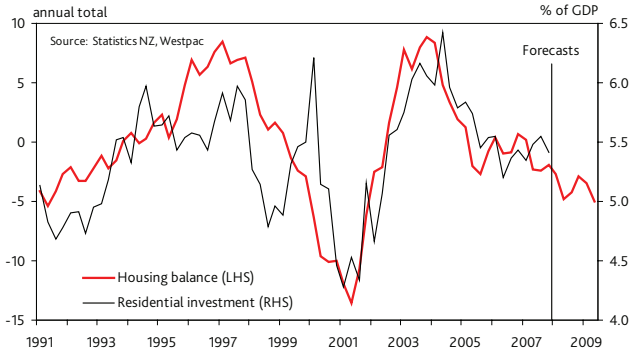
We have official data on housing supply and demand only up to December 2007. Net migration trends and building consents data give us a very good idea of what will happen to housing demand and supply over the first three quarters of 2008. Consents data indicate that fewer houses are being built than in recent years. But at the same time, net migration has been very low, meaning fewer houses are needed. The fall in net migration outweighs the fall in house building. In other words, a situation of excess supply is developing in New Zealand.

Figure 5: Net long term migration



The emergence of an oversupply of housing implies that the level of residential building activity will fall. Residential investment is extremely responsive to demand/supply balance *(Figure 6)*. When New Zealand has too many houses, builders build fewer new ones. When we are short, the building industry steps in and builds more. The relationship between housing demand/supply balance and house building activity is very strong.

Figure 6: Residential investment and housing demand/supply balance



We expect residential construction to go through a marked slowdown over the course of this year, with 2009 activity around 11% lower than 2007. Even so, we *still* expect the excess supply of houses to reach 5,000 by mid-2009. That will add even more weakness to house prices for some time to come.

So all up, New Zealand does not currently have a glut of houses in the style of the Unites States. A moderate situation of excess supply *is* developing, but it will be due to low population growth rather than a wild increase in house building. This emerging excess supply is qualitatively very different to the American situation, and therefore it may play out differently. Specifically, we are talking about an oversupply emerging gradually rather than an entire industry suddenly realising that an oversupply exists.

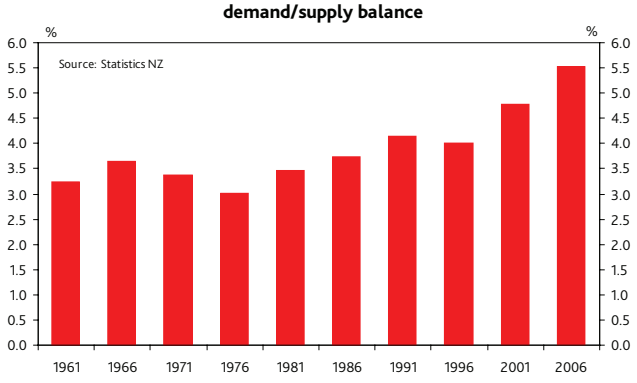
Migration is the key factor in New Zealand's housing demand/supply balance, because it causes such extreme volatility in New Zealand's population, and therefore volatility in demand for houses. Our building industry is very responsive to migration trends, scaling activity up or down as needed. This explains why, despite a massive construction boom earlier this decade, New Zealand is not in a position of excess housing supply. However, net migration is now low, meaning a situation of oversupply is set to develop. As oversupply sets in, residential investment activity will slow, and further momentum will be added to house price declines.

How we estimated housing demand/supply balance

Estimating housing demand/supply balance is fraught with difficulty. For example, we can infer little from the dwelling vacancy rate, which is recorded by Statistics New Zealand at each census *(Figure 7)*. More vacant houses could mean houses sitting unused, or it could simply reflect an increase in

holiday homes! Housing shortages do not necessarily manifest themselves as people living in the streets. Nor does a glut of houses necessarily manifest itself with empty houses. Rather, people adjust their living arrangements in response to the availability and affordability of houses. At times of housing shortage, people may be forced to "crowd up" at the margin. For example, teenagers may stay living with their parents for an extra year, Granny may move in rather than finding her own flat, students may live with five flatmates instead of four, or two families may move in together to save on rent. When there is a housing shortage, people arrange themselves into fewer houses than they would normally choose "in equilibrium".

Figure 7: Vacancy rates are meaningless for demand/supply balance

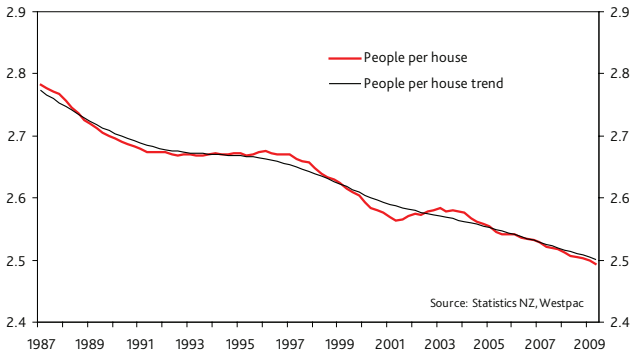


Conversely, when housing is plentiful and/or cheap, people spread out. More families on the lowest incomes might find that they can afford to rent their own place. More high-income families might decide they can afford a bach.

The best way to capture this flex-factor in living arrangements is to measure the aggregate number of people per house in New Zealand. Unusual movements in people per house indicate crowding or spreading in response to housing availability. Statistics New Zealand counts the number of dwellings at censuses. They provide quarterly estimates beyond the latest census, based on building consents data. Statistics New Zealand also estimates the resident population each quarter.

Of course, the number of people per house gradually declines over the decades, as families get smaller, the population gets older, and the country gets richer. We accounted for the trend decline in people per house using a technique, common in economics, known as the Hodrick Prescott Filter.[1] The trend is shown in Figure 8. We can then focus our attention on the number of people per house *relative to trend*.

Figure 8: People per house, and trend



The final step is to convert the 'people per house deviation from trend' into an equivalent number of houses above or below trend. This is a more user-friendly statistic.

For the purposes of forecasting, we were able to reconstruct the Statistics New Zealand methodology, which uses building consents data to estimate the number of houses that will be built over the following six months. We have our own forecasts of population growth, based on net migration trends.

Brendan O'Donovan, Chief Economist, Ph: (64-4) 470 8250
Dominick Stephens, Research Economist, Ph: (64-4) 381 1414

[1] Technical note: Lambda = 1600.