REVIEW OF NATIONAL'S FOREIGN BUYER TAX REVENUE ESTIMATES

INTRODUCTION

This document summarises the method and results of a review of the revenue estimates for National's proposed Foreign Buyer Tax.

The Foreign Buyer Tax would:

- maintain the foreign buyer ban for house bought for less than $2 million
- allow foreign buyers to purchase houses where they are purchased for $2 million or more
- tax those purchases of $2 million or more at 15% of the purchase price.

The review was conducted by Nick Goodall, Michael Reddell and Sam Warburton.

Nick Goodall is the head of Research at CoreLogic NZ, a leading property information, analytics and services provider with access to a broad and detailed range of data across the industry.

Michael Reddell is an independent economics commentator who writes about all manner of economic issues at www.croakingcassandra.com.

Sam Warburton is an economist known, in the words of John Campbell, as someone 'entirely capable of giving all sides of politics a good whack'. He was the first person to debunk Steven Joyce's claims of a "fiscal hole" in the 2017 General Election campaign.

Further information

We have tried to make this as easy to follow as possible, but this is a somewhat complicated area. Please get in touch for clarification or to discuss wider implications:

- Nick Goodall – nick.goodall@corelogic.co.nz or [redacted]
- Michael Reddell – mhreddell@gmail.com or 021 149 8295
- Sam Warburton – [redacted], via Twitter @Economissive, or [redacted]

We are also happy to take journalists through our full working. The CoreLogic data is commercially sensitive, however, so a full model **with** the CoreLogic data cannot be released. We intend to release the full model once it is tidied up and more user-friendly with random numbers in place of the CoreLogic data for those who wish to test the calculations.

For technical modelling questions, please contact Sam Warburton on [redacted]

SUMMARY OF THE RESULTS

Our best estimate is that National's Foreign Buyer Tax would raise $210 million per year, compared to National's estimate of $740 million. This leaves a significant $530 million (71%) per year gap in the costing of the Foreign Buyer Tax and the wider Back Pocket Boost policy.

Our higher-end estimate is revenue of $290 million per year, with a shortfall of $450 million (61%) per year.

National has advertised the plan as being fully-funded.

National has also pointed to a review by Castalia. The Castalia review provides no information, beyond that provided by National, that might substantiate National's revenue estimates.

There are several methods consistent with information National has revealed about its method and other public statements. We have replicated each of these. A key result is that no matter what method we use, the revenue estimates are substantially lower than National's estimates.

SUMMARY OF THE METHOD

If there was data about the prices paid by foreign buyers, the analysis would be fairly straightforward. Unfortunately, this data does not exist so estimates must be made using other data.

We attempt to replicate, then build upon, National's own method. Overall, we include the following aspects:

(a) that foreign buyers disproportionately purchase houses in higher-priced areas
(b) growth in housing stock and sales over time
(c) growth in house prices over time
(d) that Australia and Singapore buyers can currently buy houses
(e) that foreign sales in 2018 would have included foreign buyers getting in before the ban (so higher sales than would normally happen)
(f) buyers who would normally have bought a sub-$2 million house, paying $2 million for a house instead to ensure they have a house in New Zealand (e.g. paying $2 million for a house that would normally sell for $1.8 million, or buying a $2 million house instead of a $1.8 million house).

A description of National's method appears on page 20 of the Back Pocket Boost policy and below in this note.

National's method covers (a) in the first paragraph below and (f) in the second paragraph ('corrected for behavioural impacts of the tax and the proposed $2 million sales threshold').

While Nicola Willis has mentioned increased house sales and prices over time and National's policy notes earlier that Australian and Singaporeans can already buy houses, aspects (b) to (e) do not explicitly appear in National's summary of their method.

Costing

Revenue is modelled using QV property price data, weighted to represent the likely regional pattern of foreign purchases. This weighting is based on the pre-ban distribution of non-resident property transfers from Stats NZ.

Sales numbers are simulated by applying the average pre-ban share of property sales to current property transfer statistics, corrected for behavioural impacts of the tax and the proposed $2 million sales threshold. Affected properties are estimated at less than 3% of property transfers.

FURTHER DISCUSSION OF NATIONAL'S SUMMARY OF ITS OWN METHOD

A clearer description of National's summary on page 20 appears to be as follows:

- Estimate the distribution of prices paid by foreign buyers by looking at the distribution of house prices by territorial authority and which territorial authorities foreign buyers bought houses in.
- Estimate how many foreign buyers would pay $2 million or more for a house using the distribution of prices paid by foreign buyers and the number of foreign buyers.

- Estimate how many foreign buyers who would otherwise want to pay less than $2 million for a house but, because they need to pay at least $2 million for a house in New Zealand, would either decide to buy a $2 million house instead or would overpay for a lower-priced house.

The first and second steps are sound. As Nicola Willis has said in interviews, foreign buyers bought disproportionately in areas like Auckland and Queenstown where prices are higher than the New Zealand average. Additionally, independent data is available on house prices from QV (in National's case) and CoreLogic (in ours), and independent data on foreign buyers is available from Statistics New Zealand.

The third step is much more uncertain with no obvious independent information to inform it.

This leads to the following **key assumption**:

For our estimates, we assumed that foreign buyers might be prepared to overpay for houses as low as $1.75 million. That is, foreign buyers that would otherwise rather buy a $1.75 million house would be prepared to pay $2 million for it in order to secure a house in New Zealand or, instead of buying a $1.75 million house, buy a $2 million house instead.

This assumption was arrived at between the two economists in the review, including after canvassing other economists. We consider that the $1.75 million is generous in the sense that it is likely to over-estimate the number of buyers that would willingly 'overpay' for housing. Spending $2 million on a house instead of $1.75 million would see a foreign buyer paying $550,000 more ($250,000 to get to $2 million, plus $300,000 in tax) for a house they would otherwise have wanted to. The overall price they pay including tax would be $2.3 million – about 30% more than their original intended spend and clearly not an insignificant amount of money.

Additionally, our results include estimates of how many foreign buyers would have to 'overpay' for houses and to what degree in order to reach National's estimates.

DETAILED RESULTS

Core numbers claimed by National

Nicola Willis stated on TVNZ's Q&A that the average house price paid by foreign buyers in their estimates was $2.9 million.

National estimates that total revenue over the four years 2024/25 to 2027/28 will be $2,958 million. Dividing $2,958 million by $2.9 million and by 0.15 (the 15% tax rate) gives 6,800 sales over the four years, or an average of 1,700 sales per year.

The calculation does not result in 1,700.58 or some other fraction, but 1,700 exactly. This suggests that the 1,700 sales and $2.9 million are the exact figures National used.

National's core numbers, then, are:

- $739.5 million revenue average per year ($2,958 million total over four years)
- 1,700 sales average per year
- $2.9 million price average per year

All of our models result in significantly lower revenue than National's estimates

The table below sets out our results as we add aspects (a) to (f) from earlier.

Result (average per year)	National's policy document	Model 1: • Foreign buyers purchasing in higher-priced areas • Some foreign buyers overpaying to $2 million for houses	Model 2: • Foreign buyers purchasing in higher-priced areas • Some foreign buyers overpaying to $2 million for houses • Growth in housing stock and sales over time • Growth in house prices over time • Removing Australian and Singaporean buyers	Model 3: • Foreign buyers purchasing in higher-priced areas • Some foreign buyers overpaying to $2 million for houses • Growth in housing stock and sales over time • Growth in house prices over time • Removing Australian and Singaporean buyers • Reducing total foreign sales from 4,000 to 3,100
Estimated revenue				
Revenue generated	$739.5m	$224.5m	$286.8m	$212.7m
Revenue shortfall	$0m	$495.0m	$453.7m	$526.8m
Revenue shortfall (%)	0%	67%	61%	71%
Estimated sales				
Total sales	1,700	605	708	525
Sales $2m+	Unknown	445	514	381
Buyers overpaying to $2m	Unknown	160	194	144
Average sales price	$2.9m	$2.7m	$2.7m	$2.7m
Sales that would be needed to generate National's revenue				
Total sales		2,255	2,217	2,281
Sales $2m+		445	514	381
Buyers overpaying to $2m		1,810	1,703	1,900
Average sales price		$2.2m	$2.2m	$2.2m
Buyers overpaying by **up to** $m per house		$1.0m	$1.1m	$1.3m

Model 1 is a strict representation of National's method as it appears on page 20 of the policy document. This model misses obvious features and so we do not prefer it.

Model 2 adds obvious features including growth in housing stock, sales, and prices and removes Australian and Singaporean buyers. These features may have been included in National's calculations, but it is unclear from the policy document.

Model 3 makes one further change. It has been widely reported that there were around 4,000 sales to foreign buyers in the year before the ban (the year to June 2018). However, the data goes back to the start of 2017. In October 2017, Labour announced the foreign buyer ban would be coming. After then, sales appear to have leapt from around 800 per quarter to 1,000 per quarter. This may be buyers getting in before the ban – that is, if not for the ban announcement sales at the time would have been around 800 per quarter rather than 1,000 per quarter.

Overall, we consider Model 3 to likely be the best, with Model 2 providing estimates of the likely maximum amount of revenue.

Our **maximum** revenue estimate (Model 2) is $290 million per year compared to National's $740 million[1] per year. **This leaves a shortfall of $450 million (61%) per year.**

We estimate that there would be about 710 sales per year, compared to National's 1,700 sales per year. The 710 is made up of 510 sales of houses above $2 million and 190 sales of buyers over-paying to $2 million for properties that would have sold for less.[2]

We estimate that the average price per sale would be $2.7 million, compared to National's $2.9 million. We get an average price of $3.0 million for houses above $2 million, closely matching National's $2.9 million. However, the behaviour change buyers will only be paying $2 million, not $3.0 million. This reduces the average to $2.7 million.

Under this model, there would need to be 2,200 buyers paying an average of $2.2 million to meet National's expected revenue. This would require foreign buyers to overpay for houses by up to $900,000 – that is, pay $2 million for a $1.1 million house or buy a $2 million house instead of a $1.1 million house.

It appears likely to us that **a more realistic estimate** is more in line with Model 3.

Under Model 3, our revenue estimate is $210 million per year compared to National's $740 million per year. **This leaves a shortfall of $530 million (71%) per year.**

We estimate that there would be about 520 sales per year, compared to National's 1,700 sales per year. The 520 is made up of 380 sales of houses above $2 million and 140 sales of buyers over-paying to $2 million for properties that would have sold for less.

We estimate that the average price per sale would be $2.7 million, compared to National's $2.9 million. We get an average price of $3.0 million for houses above $2 million, closely matching National's $2.9 million. However, the behaviour change buyers will only be paying $2 million, not $3.0 million. This reduces the average to $2.7 million.

Under this model, there would need to be 1,900 buyers paying an average of $2.2 million to meet National's expected revenue. This would require foreign buyers to overpay for houses by up to

[1] From this point in our review, we round numbers for ease of reading.

[2] Numbers won't always add due to rounding. The exact figures are 708, 514 and 194.

$1,300,000 – that is, pay $2 million for a $0.7 million house or buy a $2 million house instead of a $0.7 million house.

WHAT IS THE DATA UNDERPINNING THE MODELS?

We have used CoreLogic data for house prices in 2023. House prices are assumed to change over time in line with the Reserve Bank of New Zealand's house price forecasts from the August 2023 Monetary Policy Statement.

For housing stock, we took CoreLogic's data on 1.6 million homes and scaled up to 1.7 million homes that CoreLogic believes actually exist in New Zealand currently.[3] We then scaled up according to the Reserve Bank of New Zealand's working-age population forecasts from the August 2023 Monetary Policy Statement.[4]

For sales, we scaled up from the 2017 and 2018 data using Statistics New Zealand data on the growth in dwellings between 2018 and 2023. From there to 2028, we scale sales up by according to the Reserve Bank of New Zealand's working-age population forecasts from the August 2023 Monetary Policy Statement.

Statistics New Zealand data shows around 600 buyers on average over the last four years continuing to buy houses. These buyers are removed from the total pool of foreign buyers. This is done in the same way as in aspect (a) earlier in this note: Australian and Singaporean buyers are assigned to their respective territorial authorities and subtracted from the allocation of all buyers to territorial authorities in the first model. Like other buyers, Australian and Singaporean buyers favour places like Auckland and Queenstown.

WHAT ABOUT CASTALIA'S REVIEW OF NATIONAL'S ESTIMATES?

National has defended its estimates by saying Castalia has reviewed and approved National's estimates.

Castalia has approved National's estimates, but has not demonstrated what review took place.

The full extent of Castalia's review of the Foreign Buyer Tax is [emphasis added]:

> *We undertook light-handed review where National's estimates coincide with Government estimates.* ***In other cases, we undertook our own modelling to check National's revenue and expenditure estimates****…*
>
> *We agree with National's estimates of the effects of reinstatement of interest deductibility and reduction in the time period for the bright line test,* ***as well as the estimated offset from a stamp duty to be levied on foreign investors in residential property.***

This is insufficient to give any additional confidence in National's numbers.

For a review, we would expect to see a detailing of the method, assumptions, and calculations, and the reasonableness of them, caveats with the analysis, and identification of variations to the method and assumptions that might be appropriate. None of this appears in what is written up as Castalia's

[3] The difference between this and Statistics New Zealand's 2 million dwellings is that the dwellings number includes caravans, cabins, etc.

[4] Neither the 1.7 million assumption nor the growth in housing stock assumptions matter to the current set of models but could matter to future versions of the models.

review. It is possible that they have done more in-depth work, but we have no basis for knowing what that work might have been or what it might have shown.

Castalia's review cannot be relied on to back National's estimates.

CAVEATS

Overall, our modelling uses conservative assumptions by which we mean assumptions that should, on the whole, over-estimate revenue from the Foreign Buyers Tax.

National and others have noted that the ban may mean that there is some pent-up demand. This is possible. However, even if one assumes twice the normal level of sales in the first year of the new policy it doesn't change the key conclusion here: there is a big shortfall and it will be there year in, year out.

Our analysis includes estimates of how many buyers might 'overpay' for houses in order to secure a house in New Zealand. But these estimates do not allow at all for the demand-dampening effect of higher prices. The tax on houses at or above $2 million materially increases their after-tax price. This will reduce demand all else equal (and relative to the pre 2018 situation used as a baseline) . For instance, a buyer might have been willing to pay $3 million for a house, but is now faced with a tax of $450,000. The buyer is likely to offer less for the house which will reduce the tax collected, and fewer foreign buyers in total will be willing to buy at all. This effect is unlikely to be small judging by reported responses in Canadian cities (Vancouver and Toronto) when similar foreign buyer taxes were imposed (on houses in all price bands).