Inland Revenue
Te Tari Taake

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Briefing note

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To: Revenue Advisor, Minister of Revenue – Matthew Atherton
Private Secretary, Minister of Revenue – Nikki Chamberlain
Revenue Advisor, Parliamentary Under-Secretary to the Minister of Revenue – Ruairi Cahill-Fleury

cc: Naomi Ferguson, Commissioner
David Carrigan, Deputy Commissioner
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Governance, Ministerial & Ministerial Services

From: Felicity Barker and Ben Ching

Subject: **GST modelling**

1. You have asked for us to undertake modelling of the distributional impacts of GST.

2. This note provides you with information on work we are planning to do over May and the longer term. Inland Revenue intends to report to you on preliminary modelling work at the end of May. Further modelling (based on economic income) as part of the HWI Research Project and the Treasury analytical note series will be provided over 2022.

Work in May

3. Work commenced and to be completed over May is as follows:

   i. We are undertaking work to model the ratio of GST/income and GST/expenditure, across income deciles, for both the 2016 and 2019 June years.[1] This work uses a similar methodology to the previous work by the OECD which you have seen. This work is:
      - Based on HES data on household income and expenditure;
      - Limited to providing results for the average of decile 1-10 (that is it does not provide results for the top 1% income earners, for example);

[1] IRD modelling will be based on decile averages whereas Treasury work discussed later will use its microsimulation Tax and Welfare Analysis model (TAWA). A microsimulation model can be expected to be more accurate because GST exclusions are able to be applied at a finer level of detail.

- Similar to OECD work, shows that the ratio of GST/disposable income declines with income, and shows a broadly proportional trend for GST/expenditure.

ii. We intend to extrapolate these results to our high-wealth population, as a proxy of very high-income earners (the mean and median high-wealth person in our population would be placed at the upper end of decile 10 in the HES income distribution). Our approach to estimating the GST burden of our high-wealth population is to:

- Estimate the average **expenditure** of families in this cohort by taking the mean and median disposable income of the cohort (based on their taxable income) multiplied by an assumed rate of consumption relative to cash-based income.[2]
- Multiply the estimated expenditure by an 'effective GST rate' to calculate the **GST paid**. The effective GST rate is the GST rate on total expenditure taking account of exempt and zero-rated goods. We will base the effective GST rate on evidence of the consumption basket of high-income or wealth individuals.
- The amount of GST paid can then be used to calculate the **GST/disposable income** and **GST/expenditure** ratio of these individuals – which provides an approach comparable to the OECD approach – and an extrapolation of those results.
- Note while disposable income (taxable income less tax) will be used to estimate the absolute amount of GST paid by the households, a ratio of GST can be calculated relative to disposable income <u>or</u> economic income.

iii. As inputs into this modelling, we are also reviewing international literature on the following:

- Literature on the ratio of consumption/income of very high-income or high-wealth individuals. In economics this is known as the average propensity to consume (consumption/income) and marginal propensity to consume (amount of last dollar of income consumed). This will be used to estimate the expenditure of high-wealth individuals based on their income.
- Literature on the 'consumption basket' of very high-income or high-wealth individuals; that is what proportion of their total expenditure is spent on particular types of goods such as international travel. This will be used to estimate the 'effective GST rate' paid by very high-income or high-wealth individuals (i.e., if a high proportion of their expenditure is on exempt or zero rated good this will reduce their effective GST rate on total expenditure).

Work over 2022

4. A number of additions to the above can be undertaken over 2022. These are:

i. As part of the HWI research project, the June collection asks for an estimate of the average monthly expenditure of the high-wealth family (both including and excluding goods that attract GST). We can use this as a cross-check on the amount of GST-paid we estimated for the high-wealth individuals;

ii. We also request information from which we can calculate the high-wealth individual's savings. We can use this to estimate their expenditure, as a further cross-check on the calculation of GST paid.

iii. When we have measures of economic income for the high-wealth project (expected late 2022/early 2023) we will be able to calculate the ratio of total tax

[2] We consider the absolute amount of expenditure can be calculated based off a personal taxable income measure as individuals do not tend to spend all capital gains as accrued. Using economic income to estimate expenditure would on average result in a higher estimate of expenditure and GST (and lower regressivity).

(including GST) to economic income as well as the ratio of GST/economic income.

iv. The Treasury work on effective average tax rates (EATRs) for decile 1-10 of the broader economic income distribution (based on HES) will allow a calculation of multiple taxes, including GST, by economic income. The Treasury will be able to decompose the effect of each tax that is included in this EATR, allowing readers to see the contribution made by personal income taxes, transfer payments, Portfolio Investment Entity taxes, local body rates and GST across the economic income distribution. This provides a comparator to the high wealth individuals work and is expected late 2022/early 2023.

5. We have also provided you with a draft of the Financial Collection. We will be finalising the questions in this draft over the next week, so that it can be sent in early June. We draw your attention in particular to paragraphs 37-42, on gifts and inheritance and expenditure.

6. We are available to discuss this note on 10 May.

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