High-wealth individuals research project

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The document is available at
[High-wealth individuals research project (ird.govt.nz)](https://ird.govt.nz)

This report does not present Stats NZ Official Statistics.

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MINISTERIAL FOREWORD

Fairness is a fundamental element of any tax system. It underpins voluntary compliance and ensures society's support for the system.

While views differ on what constitutes a fair tax system, they need to be grounded on facts and real data. For the first time, we now have that real data – thanks to this report.

New Zealand is not a highly taxed nation. We sit in the middle of the OECD in terms of total taxes as a proportion of the economy.

To understand whether our tax system is fair, we need to know who pays what. This point was made by the Tax Working Group in its 2019 report.

We have accurate data on wealth for more than 90% of the population from surveys such as the Household Economic Survey (HES). But these sample surveys do not provide the information we need on the true wealth – and, therefore, total income – of the wealthiest families, and the taxes they pay on that income.

The highest net worth of anyone ever surveyed in the HES is less than $40 million. We know there are people much wealthier than that in our country, including some billionaires. So, the survey is out by a factor of hundreds for this subset of the population.

We know the tax rate paid by wage and salary earners and small business owners on their income. But until now, we have not known what tax the top cohort in New Zealand pays on their economic income.

To help fill this significant gap, in 2021 the Government provided Inland Revenue with funding and legal powers to undertake this High-Wealth Individuals Research Project. That has enabled Inland Revenue to calculate the effective tax rates (ETR) for high-wealth families. It provides crucial information on which to assess the true fairness of our tax system.

The study finds that high-wealth individuals usually get their income from returns on investments. Around 80 percent of their economic income is capital gains, and much of it is earned through trusts or companies.

The report shows that when personal, company and trustee taxes are included, the median family in the high-wealth group paid 8.9% of their economic income in tax.

When GST is included, the median family in the high-wealth group still only pay 9.5% of their economic income in tax. For this group, GST paid is tiny, relative to their economic income compared with the other 90% of taxpayers.

The results of a Treasury study of the effective tax rates paid across the full income and wealth distribution, based on a similar concept of income, have been released alongside this report, which enables comparisons with other taxpayers.

It shows the effective tax rate paid by middle income New Zealanders is at least double that paid by the wealthier New Zealanders in this Inland Revenue study.

Our tradies, nurses, school teachers, hospitality workers, hairdressers, cleaners, engineers and small business owners all pay much higher effective tax rates than their wealthier fellow Kiwis.

We tax those who earn all their income from salaries at a much higher rate than the very wealthy.

The report also shows these trends are long term.

This work puts us at the forefront of the countries considering these issues.

The OECD's Centre for Tax Policy, for example, has a project on high-income earners, based on modelling scenarios, due to be released soon.

However, this Inland Revenue report breaks new ground because it goes further, because it is based on actual data.

I thank those who have contributed to this report.

I believe it will provide a fundamental baseline for debate on the fairness of our tax system, allowing future tax policy to be based on better data and more solid evidence.

Hon David Parker

Minister of Revenue

EXECUTIVE SUMMARY

1.   The taxation of top income earners or high-wealth individuals has been the subject of considerable research in international literature over recent years. One area of study is whether top income or wealth households disproportionately earn the types of income that are subject to lighter taxation in tax systems.

2.   This report describes the outcomes of the High-Wealth Individuals Research Project (the Project). It contributes to this literature by investigating how much tax a group of high-wealth New Zealand families pay relative to their income – that is, their average effective tax rates (ETRs). It paints a comprehensive picture of ETRs for those high-wealth families by estimating the families' ETRs based on economic income. Economic income is a measure of income that includes all items that increase an individual's ability to consume goods or services, that is, both taxable and non-taxable sources of income.

3.   This report breaks new ground as ETRs for the high-wealth families (the Project population) are calculated by combining tax administration data, public data and survey data collected specifically for this Project. The main period for which ETRs are calculated is the six-year period 1 April 2015 to 31 March 2021 (the Project period).[1]

4.   The tax system supports the well-being of New Zealanders by providing revenue to fund public goods and services, influencing behaviours, and as a means of redistribution. The progressive nature of New Zealand's income tax means that the tax system plays a role in reducing inequality and encouraging social cohesion. This report supports the fundamental objectives of the tax system by providing insights into how the tax system impacts on New Zealand society.

Personal taxable income ETRs

5.   To provide a comparator to ETRs based on economic income, we first calculate ETRs for the Project population based on personal taxable income and personal tax. Personal taxable income is income individuals receive that is taxable, such as salary, wages, interest and dividends.

6.   The median personal taxable income ETR of the Project population was around 30% on a median taxable income of $268,000 for individuals. This result shows that taxes on personal taxable income are progressive and that high-wealth families will generally have a relatively high ETR on personal taxable income.

7.   By comparison, for any year of the Project period, a person with personal taxable income of $50,000 would have had an ETR on this income of 16% and an individual with personal taxable income of $100,000 would have had an ETR on this income of 24%. Further, when considering the tax and transfer system jointly, many individuals in low-income deciles receive more in the form of government cash transfers than they pay in tax. If such transfers are netted off tax paid, these individuals will have very low or negative ETRs.

Economic income ETRs

8.   Economic income is a broader concept of income than taxable income as it includes non-taxed forms of income, such as capital gains on shares and real property. It seeks to measure the increase in an individual's economic resources during a period. As Sapere note in a recent study, since not all economic income

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[1] Referred to as the 2016-2021 income years. The top personal tax rate was 33% over this period.

is taxable, statutory tax rates do not provide an accurate indication of the actual rates of tax that are imposed on the actual economic income derived by individuals and households (Murray et al., 2023 p27).

9.   ETRs based on economic income are calculated as tax divided by economic income. Our measure of economic income includes income taxable at the personal level, and in trusts, and additional income from the ownership of real property and portfolio assets and from the ownership of business entities, such as companies. In the main, this additional income is capital gains income. Capital gains income from assets held in trusts is also included. The taxes we include in our comprehensive economic ETRs are personal tax, company tax and trustee tax. Any estimates of ETRs for the wealthiest individuals are uncertain and open to refinement, due to current data limitations.

10.   The approach we take in this report is similar to recent work undertaken by the United States Council of Economic Advisers that estimates ETRs for the 400 wealthiest US families based on tax administration and other data (Leiserson & Yagan, 2021). It stands with other recent work on the taxation of top income or wealth households, such as recent OECD work (Hourani et al (in press)) and Advani and Summers (2020a).

11.   The Treasury has undertaken a complementary project, which models ETRs for the general New Zealand population based on a similar concept of income to that used in our report. Comparisons between the projects key results are provided at paragraph 50.

12.   Our results show that the average ETRs for the Project population, based on economic income, are significantly lower than the average personal taxable income ETR, of around 30%, for the Project population. When all sources of income and tax (except GST) are included, the family median ETR is 8.9% and the weighted-mean ETR is 9.8% (these are measures of the average ETR over the Project period).

13.   We also calculate these ETRs including GST as tax. While there are difficulties in comparing GST to income, as GST is levied on consumption, including GST allows a fuller assessment of the overall tax system. Consideration of GST is important given that GST constitutes around a third of central government tax revenue. The inclusion of GST in the ETR only increases the family median ETR over the Project period by 0.5 percentage points.

14.   The Project population receives a small portion of their income through government transfers in the form of superannuation. Netting transfers off tax has minimal impact on the average ETRs – reducing the median ETR (excluding GST) by 0.3 percentage points. Income from home ownership (capital gains on the owner-occupied property and imputed rental) is also a small proportion of the income of the Project population. These items have minimal impact on the average ETRs of the Project population.

15.   The above results are for measures of the average ETRs. There is substantial variation in ETRs within the Project population and, as capital gains are volatile, by year. ETRs for individuals can be above the average ETR on personal taxable income or close to zero in the case of high capital gains. ETRs can also be negative if there are capital losses, for example, if corporate tax is paid in a year when an individual made a capital loss on holding shares.

The role of capital gains

16.   The main source of untaxed income included in the ETRs is accrued and realised capital gains. Overall, the capital gains of the Project population significantly

reduce their ETRs when compared to income based on taxable sources, such as wages and salary.

17. The average ETRs of the Project population are lower than the ETR on incomes consisting of only wages and salary for any point in the income distribution (that is, the lowest average ETR on only wages and salary is 10.5%). Note, however, when government cash transfers are considered (such as Working for Families or superannuation), and treated as a negative tax, families in low deciles may have a lower (and potentially negative) ETR than the Project population averages.

18. While capital gains can accrue to all asset owners, net worth in New Zealand is concentrated in upper net worth deciles. According to the Household Economic Survey (HES) 2018, the top 2 percent wealthiest households own 25 percent of total net worth, and the top one percent holds over 25 percent of the financial assets in New Zealand. The capital gains of the Project population significantly exceed the average capital gains of the general population.

19. While the results in this report are estimates, the magnitude of the reduction in ETRs estimated when capital gains are included shows that capital gains are a significant source of untaxed income for high-wealth families. This result is true even if there is significant error in the measurements. Scenario testing of different assumptions, including assuming capital gains were 20 percent lower, did not significantly change this conclusion.

Interpretation of results

20. It can be argued that where there are forms of income that are subject to low or no taxation, individuals will be incentivised to invest in the assets earning that income until the post-tax return (adjusted for risk) on income from those assets is equal to the post-tax return on income from assets with taxable income streams. In effect, individuals will bid up the price of these assets, lowering the return from the asset until the post-tax return equals that of taxed investments. The lower return derived from the asset is a cost from the tax system that is not captured in average effective tax rates.

21. To the extent that tax rules cause pre-tax returns to adjust, the tax system will have impacts on progressivity that cannot be picked up solely by looking at how average tax rates vary with income. This will be particularly relevant to investment assets that are liquid (so their market value easily changes and represents capitalised earnings) and where the pre-tax returns being generated by assets are not likely to depend on the owner of the assets. However, where investment returns depend on the skill of the investor (such as in controlled business entities), or are otherwise unique, market adjustments are likely to do less to equalise post-tax returns. For the Project population, much of their income is derived from business entities that they control.

22. Failing to tax forms of income that are earned predominantly by those who are better off is likely to have an important impact in reducing the progressivity of the tax system and is also likely to impose other economic costs through influencing the pattern of investment in the economy.

Key findings

23. Key findings from the ETR analysis are set out here.

24. These key findings relate to 311 high-wealth New Zealand families (the Project population).[2] The mean estimated net worth of the families in the Project population for 2021 is $276 million and the median is $106 million. By comparison, based on HES 2021 data, Stats NZ estimates the starting point for the wealthiest 1 percent of households (that is, the wealthiest 19,000 households) to be $7.6 million.

Income

25. For the Project population, the median family economic income for 2018 was around $8 million and the median tax on this income was around $642,000. The Project population earned a significant amount of income from capital gains. A substantial amount of income (67 percent of the Project population's economic income) was earned through trusts, either as trustee income or capital gains on trust assets.[3]

26. Figure ES1[4] shows the composition of the Project population's income, over the six-year Project period. It shows that 7 percent of the Project population's economic income was from personal taxable income and 10 percent from taxable trustee income. Other property, portfolio and business entity income largely consists of capital gains income, earned either directly or through a trust. Capital gains from business entities was particularly significant, being just over 50 percent of economic income over the Project period.

Figure ES1: Income sources as a percentage of economic income

Personal taxable income and other income for Project population
1 April 2015 - 31 March 2021

| 7% | 10% | 13% | 19% | 51% |

■ Personal taxable income   ■ Trustee income attributed   ■ Other portfolio income
■ Other property income   ■ Other business entity income
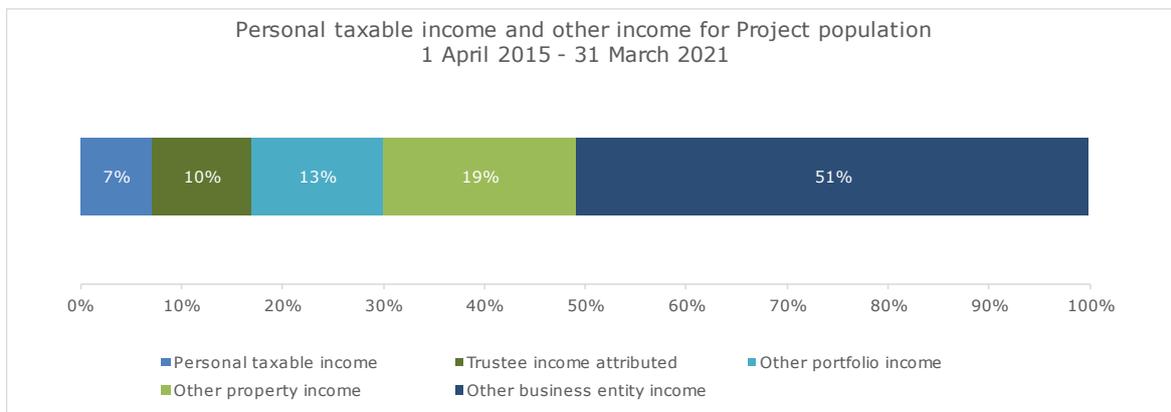
27. The Project population's annual economic income varied over the Project period from $1 billion in 2017 to $14.6 billion 2021. This volatility was largely due to volatility in business entity income. The year ending 31 March 2021 saw particularly high income. This was largely due to high capital gains being generated on assets in this year and, to a much lesser extent (around 3 percent of the increase), increased dividends and shareholder salary pay outs prior to the top personal tax rate increasing to 39%.

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[2] For the key findings section, the Project population is those families that responded to the surveys.

[3] Beneficiary income included in personal taxable income is not included as trust income in this figure.

[4] Personal taxable income and trustee income include taxable income from property, portfolio and business entity investments such as rent, interest and dividends. These income elements are not included in the other categories.

Effective tax rates (ETRs)

28.   The report calculates average effective tax rates, that is, tax divided by income.[5] This shows how much tax is paid on each dollar of income included in the ETR, taking account of different income sources having different effective tax rates. For example, if a person had two income sources, one of $200 for which $60 of tax is paid (this has an ETR of 30%) and one of $100 for which $1 of tax is paid (this has an ETR of 1%), the average tax rate is 20.3%.[6] This is a weighted average and takes account of the relative size of the income sources.

29.   ETRs based on economic income are calculated starting with income taxable at the personal level (base income) and the tax on this income (personal tax). This gives the base income ETR, which is a comparator for other ETRs. Additional economic income is added to base income for the economic income ETRs. When an income flow that bears company or trustee tax is added, this tax is included in the ETR. The median and weighted-mean ETRs are ways of presenting the average ETR for the Project population.

30.   The degree to which an economic income ETR is below the base income ETR indicates the extent to which the additional income is taxed at an average tax rate below that for personal taxable income and its relative size. To illustrate, in the example above, if the first income stream were base income (ETR 30%), when the second income stream is added (ETR 1%) it only reduces the ETR to 20.3% (rather than the simple mean of 15.5%) as the second income stream is smaller than the first. If the second income stream were also $200, and $2 of tax was paid (ETR 1%), the ETR would be 15.5%.

Median Project period ETRs

31.   The Project period ETR for an individual or family is the sum of the individual's or family's tax over all six years divided by the sum of their income over all six years. The median ETR represents the mid-point of the ETRs.

32.   For the family, the median base income ETR (that is, the ETR for income taxable at the personal level) over the Project period is 30.1%.

33.   When **all income sources** and all tax are included in the ETR, this gives the all-income ETR. The median Project period all-income ETR (excluding GST) for the family is 8.9%, indicating the additional economic income included is taxed at a substantially lower rate than the Project population's personal taxable income. The inclusion of GST only increases this ETR by 0.5 percentage points.

34.   The above analysis treats transfers as income. If, alternatively, transfers are treated as a negative tax and deducted from the numerator, the median all-income ETR for the Project period (excluding GST) reduces to 8.6%.

Project period population ETR (population weighted-mean ETR)

35.   The Project period population ETR is the sum of all the tax of all members of the population over all six years divided by the sum of all their income over all six years. It provides an income-weighted mean for the population.

36.   The Project period population ETR (excluding GST) for the family, including **all income sources**, is 9.8%. This compares to a base income ETR on the same measure of 32.1%. When transfer income is deducted from the tax (the numerator) it is 9.7%. The inclusion of GST in taxes increases the ETR by 0.3

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[5] All ETRs are calculated from their income and tax elements. ETRs are not calculated from other ETRs.
[6] That is, 61/300 or (30*.666+ 1*.333).

percentage points. Imputed rental, which is the benefit one receives from owning their own home, is included in this ETR but makes minimal difference.

37. Table ES1 compares the Project period median ETRs and the Project period population (weighted-mean) ETRs.

Table ES1: Project period all-income ETRs for family

Type of ETR	Weighted mean	Median
Base income	32.1%	30.1%
All-income ETR	9.9%	9.3%
All-income plus imputed rental ETR	9.8%	8.9%
All-income plus imputed rental netting transfers	9.7%	8.6%
All-income plus imputed rental and GST ETR	10.1%	9.5%

Significance of income from different asset classes

38. We were interested in whether income, additional to taxable income, from property, portfolio or business entity assets had the biggest impact on reducing the ETR from the base income ETR. To test this, we add each income source to the base income ETR in isolation. This generates the all-property, all-portfolio and all-business entity asset class ETRs. These ETRs show the average tax rate assuming income is comprised of only base income and income from the particular asset class.

39. These ETRs can be compared to each other to understand the relative magnitude of the impact of the income source on the ETR. The impact of a particular income source on the ETR depends on both the ETR on that income source and the relative size of the income source. For example, if an income source is untaxed, but is small compared to base income, it will have minimal effect on the ETR. If an income source is taxed at around 30%, it will have minimal effect on changing the ETR from the base income ETR no matter its size.

40. Figure ES2[7] shows that all three income sources have a similar impact on the Project period population all-income ETR. While income from business entities is larger, the addition of company and trading trust tax to the ETR when this income source is included balances this.

41. For the Project population, property income is larger than portfolio income (19 percent and 13 percent of income). However, property income bears some additional tax when property is held in land-rich entities, whereas additional portfolio income does not. Overall, this results in these two income streams having a similar impact on the ETR.

42. The all-property, all-portfolio and all-business entity ETRs do not include trustee income and trustee tax, whereas the all-income ETR does. The difference between the "all-income other than additional trust income and tax" ETR and the all-income ETR shows the impact of adding trustee income and tax (which has a relatively high ETR, of 33%, but is only 10% of economic income).

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[7] Imputed rental is included in these ETRs.

Figure ES2: Comparison of Project period population ETRs by family

Comparison of Project period population ETRs by family

Base income ETR, 32.1%

All property ETR, 11.0%

All portfolio ETR, 11.4%

All business entity ETR, 11.6%

All income other than additional trust income and tax ETR, 8.2%

All-income ETR, 9.8%

ETR category

ETR
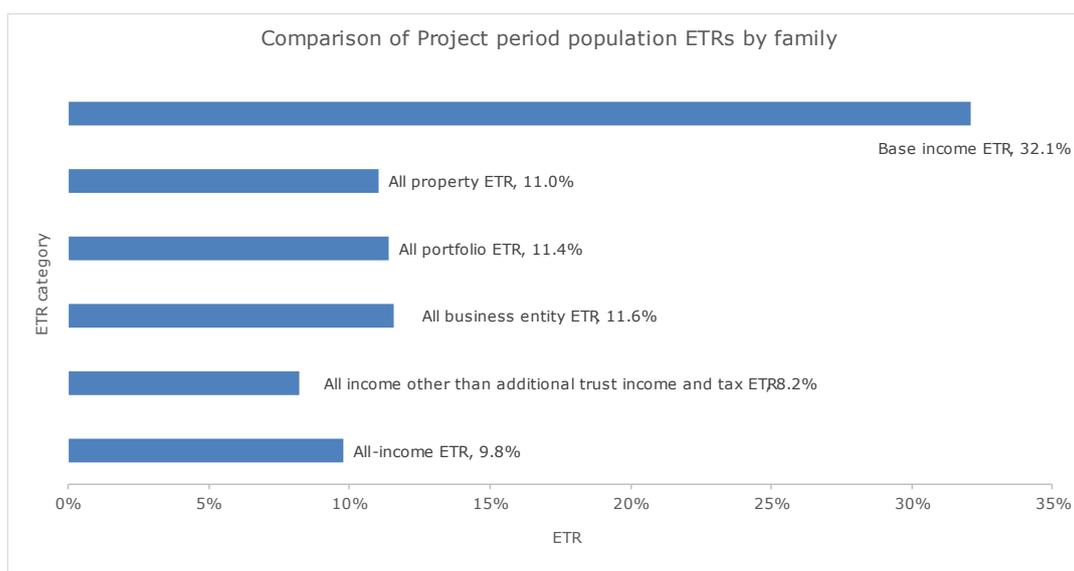
43. The ETR when all income sources are included is lower than the ETR when income from a single asset class is included. This is because each asset class ETR only includes base income and personal tax and economic income and any income tax from that asset class. When income from all sources is included, the income in the ETR calculation is higher as it is the total of all income. This means that the tax amount is spread across more income.

Longer periods

44. One consideration is whether the ETRs would be different over a longer time frame. The Project period (1 April 2015 to 31 March 2021) saw somewhat elevated asset price growth compared to measures of longer-term averages (see paragraph 3.18). This may mean the ETRs are lower than they would be in a period of lower asset price growth. However, as a scenario, we tested reducing capital gains from property over the Project period by 20 percent, compared to the main scenario. This only increased the all-income Project period population ETR by 0.4 percentage points. When capital gains from all sources are reduced by 20 percent, the all-income Project period population ETR increased by 1.9 percentage points to 11.7% (excluding GST). Therefore, capital gains would have resulted in a significant reduction in ETRs, compared to the base income ETR, even if they had been 20 percent lower over the Project period.

45. Additionally, we estimated an ETR based on income from significant holdings in listed companies (SHLCs) over a longer period. As this ETR is based on public data, it could be calculated over the period 1 April 2004 to 31 March 2021. Over this period, the total capital gains of the subgroup that had SHLCs (45 individuals) was $6 billion (of this, there was $1.7 billion in realised capital gains). The median listed company ETR for this group over this period was 13.4% and the weighted-mean ETR was 9.9%. Therefore, even over an extended period, ETRs based on economic income are lower than those based on personal taxable income.

Comparison to capital gains of the general population

46. The Project population earns significantly larger capital gains than the general New Zealand population (general population). Even when residential real property, the most widely held asset class, is considered, the Project population's capital gains are relatively large. Figure ES3 compares the capital gains on real property for the general population, across the 10 HES net worth

deciles, to the capital gains on residential property for the Project population both including and excluding owner-occupied housing (OOH). Assets held in trust are included for both the general and Project population.[8] This is for the 2018 year (the growth rate for real residential property was relatively low this year at 2.8% for both populations).

Figure ES3: Mean residential real property capital gains by net worth decile for general and Project population - 2018

Mean capital gains on residential real property for general population and Project population.

	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Project Population
General population, total	$1,147	$336	$1,237	$4,563	$6,996	$10,267	$13,633	$17,748	$25,954	$50,992	
General population, excl. OOH	$448	$106	$179	$901	$1,040	$1,416	$2,512	$3,360	$9,432	$36,125	
Project population, total											$818,446
Project population, excl. OOH											$745,328

Household HES net worth and Project population

Source: Household Economic Survey (2018) and Project data.

Comparability to the Treasury and other New Zealand ETR estimates

47. The Treasury has estimated ETRs for the general population based on a similar concept of income. The Treasury's longer-term ETR estimates (10-year capital gains rate), without inflation adjustment, are the most comparable series to our median ETR estimates (see Appendix F).

48. However, as the Treasury's estimates are based on HES data, they are not able to include company tax in the ETRs (although they count amounts met with imputation credits as personal income tax). Further, trustee taxable income and tax are omitted in the Treasury work but are included in our all-income measures. The inclusion of company tax and trustee income and tax in our estimates will make the ETRs in this report higher than those of the Treasury for the same income composition. This will be most significant for higher net worth deciles, in particular deciles 9 and 10 (ventiles 17 to 20). This means the Treasury estimates for lower and middle net worth deciles are more comparable to our estimates than those for higher deciles. In comparing results, care should be taken to ensure transfers are treated consistently (that is, whether transfers have been treated as a negative tax).

49. Even aside from the above caveats, there is no single 'correct' comparator between the Treasury ETRs estimated for the general population and our ETRs for the high-wealth population. Below we compare the Treasury estimate for the ETR of a family in the middle of the net worth distribution and middle of the income distribution (being the median adult-equivalent family in ventile 10[9]) to our estimates. Both estimates used in this comparison subtract transfers from taxes.

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[8] For the Project population, property in land-rich entities is not included.
[9] Ventiles divide a distribution into 20 groups. Ventile 10 is the middle of the distribution.

50. The Treasury finds that the:

- median equivalised-family ETR for *net worth* ventile 10 is 16.1% if GST is not included in the ETR and the median equivalised-family ETR for *income* ventile 10 is 15.9% if GST is not included in the ETR. The median for the high-wealth population on the same basis is 8.6%.

- median equivalised-family ETR for *net worth* ventile 10 is 20.2% if GST is included in the ETR and the median equivalised-family ETR for *income* ventile 10 is 19.7 percent if GST is not included in the ETR. The median for the high-wealth population on the same basis is 9.4%.

51. While there are some differences in methodology, the estimates in this paper can also be compared to recent ETR estimates by Sapere that also seek to measure ETRs based on economic income. The Sapere research shows scenarios assuming that most income is earned in a taxable form up until retirement. In contrast, the Project population earn most of their income as returns on investment that are not directly taxable. Only 17 percent of the Project population's income is taxable under the personal tax scale or as trustee income.

52. For example, Sapere provides a scenario of a high-income professional working couple with no dependents who earns 64 percent of their income in the form of taxable wages and salaries or taxable investments in Portfolio Investment Entities. This family do not receive a government benefit and live in their own home. Sapere find this family would have an average ETR of 29% at an income of $500,000. As compared to the ETRs we estimate, this shows that ETRs are significantly reduced when a large portion of income is non-taxed capital gains as opposed to taxable wages and salary or taxable investment returns (Murray et al., 2023).

Inheritances and wealth

53. We also collected information on significant gifts and inheritances received by the Project population over a 50-year period. Sixty-six families declared receiving a significant gift or inheritance in this period. A total of $411 million was reported as being received, with a mean receipt for receiver families of $6.2 million.

54. Finally, an approach has been developed for this Project, with input from Stats NZ, to combine HES net worth data with the Project data set to re-estimate top wealth shares (Appendix G). Based on the combined data, our findings show that for all years the estimated shares of net worth held by the top 10 and 1 percent are higher than those estimated based on the HES alone.

Structure of report

55. This report proceeds as follows:

- Part 1 sets out the general context for the Project, including the Project purpose, the broader social context regarding the distribution of wealth and income, and key methodological choices made by the Project.

- Part 2 provides a general discussion of ETRs and other relevant literature and sets out the ETR on personal taxable income.

- Part 3 provides the economic income ETRs over the Project period for the three main asset classes and for all sources of income.

- Part 4 provides the results for listed companies over longer periods and provides the results for GST, inheritances and wealth aggregates.

Caveats and limitations

56.   Several assumptions are made in estimating the income and ETRs of the Project population. This means that the income and ETR measures are approximations rather than precise estimates.

57.   Further, included income is limited to income flows that are material, reasonably quantifiable or estimable, and for which the associated tax can be obtained. Outside of taxable income, capital gains were the major income type that satisfied these criteria, although other non-taxed items, such as untaxed distributions, are also accounted for. Results including an estimate of imputed rental from owner-occupied housing are also provided.

58.   Some foreign income, such as foreign income earned through non-portfolio foreign companies, is not included in our measures. Survey data was subject to reporting thresholds, which excluded some income from the scope of analysis. We also do not include in ETRs some forms of gains that may be considered economic income from a broad perspective, such as gifts and inheritances. However, the treatment of these receipts is not settled in the literature.

59.   Furthermore, our measures of income do not include in-kind government expenditure, such as expenditure on health and education. In-kind government expenditure generally reduces income inequality. In our main scenarios we treat government transfers, such as superannuation, as income rather than as a negative tax. However, given the Project population receive minimal government cash transfers, this has minimal impact on the population weighted-mean ETR.

60.   The accuracy of the ETRs estimated varies depending on the quality of the data and the method of estimation. Data on taxable income is the most accurate, followed by measures based on market prices (listed company income) or comparable sales data (real property income). Assumptions have been made to estimate income from portfolio and business entity investments, making ETRs including these sources less accurate. The accuracy of the measures, from most to least accurate, is as follows:

- Taxable/base income ETR
- Listed company ETR
- Property ETR
- Portfolio ETR
- Business entity ETR.

PART ONE: PROJECT OVERVIEW AND CONTEXT

CHAPTER 1

PROJECT PURPOSE

Introduction

1.1   This report describes the outcomes of the High-Wealth Individuals Research Project (the Project). This is a research project carried out by Inland Revenue, on the average effective tax rates (ETRs) of high-wealth New Zealand families, based on a comprehensive definition of income.

1.2   The New Zealand tax system supports the well-being of all New Zealanders by providing revenue to fund public goods and services, influencing behaviours, and as a means of redistribution. The progressive nature of income tax means that the tax system plays a role in reducing inequality and encouraging social cohesion. Further, economic outcomes are supported when tax is raised in less costly ways. This Project can be seen as having the broad purpose of supporting the fundamental objectives of the tax system by enriching our knowledge on how the tax system impacts on New Zealand society.

1.3   The report draws from recent literature on the taxation of top income or wealth households. The OECD, for example, in a forthcoming paper on high earners notes that the taxation of individuals at the top of the income and wealth distributions has emerged as a central academic and policy issue over recent years, with interest increasing in the ETRs of top income and wealth households and how tax systems may contribute to, or ameliorate, inequality in income or wealth (Hourani et al., in press).

1.4   One area of interest is whether top income or wealth households disproportionately earn the types of income subject to lighter taxation in tax systems. Several studies from other countries (Advani & Summers, 2020a; McNichol, 2021) show that capital income, such as capital gains and dividend income, is highly concentrated among high income earners and is often subject to preferential treatment in tax systems.

1.5   The Project uses a combination of tax administration data, public data and survey data, collected specifically for the Project, to calculate the average ETRs of 311 high-wealth New Zealand families. ETRs are calculated based on the concept of "economic income", which is broader than income as defined in tax law. The broader measure of economic income includes items in income that increase individuals' economic resources and, therefore, well-being. Non-taxable items, such as capital gains, are included.[10] Further, as the economic income measure is comprehensive, it incorporates income earned through entities and trusts and the tax associated with this income.

1.6   This report sets out the analytical output from the Project. Aspects of the Project relating to its operational conduct are documented elsewhere.[11] Information collected for this Project has not, and will not, be used to inform tax compliance activity. The Project is not designed to provide information on tax evasion.

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[10] Taxable income includes some limited forms of capital gains, such as for sales of property subject to the bright-line test.

[11] More information can be found at High-wealth individuals research project (ird.govt.nz)

PART ONE: PROJECT OVERVIEW AND CONTEXT

The New Zealand Treasury project

1.7 This Project is complementary to a project undertaken by the Treasury (Ching, 2023; Ching et al., 2023b), which models ETRs across the general New Zealand population (general population) based on Household Economic Survey (HES) net worth data (2018). The Treasury project develops a comprehensive concept of income similar to this Project. Some differences exist as the projects are based on different data sources (see Appendix F). A key difference is that the most comprehensive ETRs in this report include company and trustee tax, whereas these taxes are not included in the Treasury's ETR measures (except to the extent that personal tax is met with imputation credits) due to data limitations. This means the Treasury estimates for net worth deciles 9 and 10 (where such income and tax are significant) should not be compared to the estimates for the high-wealth population. However, the Treasury measures provide a comparison for the measures in this paper for low to middle wealth deciles. In making any comparisons, care should be taken to ensure government transfers are treated consistently in the measures.

1.8 Both projects are necessary to give a more complete picture of ETRs across the full income or wealth distribution. This is because the HES, like other household surveys, underestimates the wealth of high-wealth families. Stats NZ (2021) notes that, given the small number of them, the wealthiest households have a low likelihood of being selected to take part in household sample surveys. While mixed, there is evidence from international studies that wealthy individuals may have lower response rates or more acute under-reporting of assets in household surveys than other households. Further, household surveys may not produce the level of detail required to reflect the complex asset portfolios generally held by high-wealth individuals. HES net worth data, therefore, cannot be used as a basis to estimate the economic income of high-wealth families.

Tax Working Group

1.9 This Project is reflective of concerns raised by the Tax Working Group (TWG). The TWG was formed by the New Zealand government in 2017 to provide recommendations to improve the fairness, balance and structure of the tax system.[12] Its 2019 report, Future of Tax, indicated that a lack of information about the impact of current tax settings made it difficult to articulate clearly the trade-offs involved in policy changes or where potential tax gaps existed (Tax Working Group [TWG], 2019).

1.10 The TWG report noted we have limited knowledge of economic (as opposed to taxable) income at all levels of society but especially for the very wealthy. As net worth is concentrated in the top 20 percent of households, it was noted that the distribution of capital gains is also likely to be skewed in this way. The TWG expressed a concern that perceptions of unfairness arising from very unequal income distribution would erode public acceptance of the tax system and undermine voluntary compliance. The TWG noted the need for greater information generally and better data about the distribution of wealth in New Zealand in particular.

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[12] Tax *Working Group Terms of Reference (2017):* https://taxworkinggroup.govt.nz/resources/terms-reference-tax-working-group.html.

Assessment framework

1.11   Two key principles on which to assess tax systems are fairness and efficiency. The ETRs estimated in this report provide information that is relevant to both principles for New Zealand's tax system.

1.12   Fairness for the tax system is often thought of as having two elements. First, vertical equity – the principle that the amount of tax an individual pays should increase with their level of economic well-being (often referred to as 'ability to pay'). Second, horizontal equity – that those with similar income and circumstances pay similar amounts of tax (Keen & Slemrod, 2021).

1.13   One way to assess these fairness principles is to measure the extent to which average ETRs differ across the income distribution (that is, how much tax is paid relative to income for different income cohorts). New Zealand's tax system seeks to be progressive. That is, it seeks to achieve higher average tax rates and lower transfers as income increases. Our ETR measures can shed light on the progressivity of the tax system based on a broader measure of income than taxable income. If untaxed income is disproportionately earned by higher income individuals, this will reduce the progressivity of the tax system.

1.14   ETRs can also give insight into the potential efficiency impacts of tax settings. Where ETRs are variable across income sources, they are likely to affect incentives, such as by incentivising investment in certain forms of activity over others. This can give rise to economic costs.

1.15   A key element in assessing either fairness or efficiency is the comprehensiveness of the income measure used in the assessment. For this reason, this report calculates ETRs based on economic income, which is a more comprehensive measure of income than taxable income.

1.16   The ETRs calculated in the report can be assessed:

- Relative to ETRs across the whole income distribution (based on a similar concept of income) to get a better understanding of how tax paid varies with income. To do this, the ETRs computed by the Project can be compared to ETRs estimated by the Treasury for low and middle income or wealth deciles.

- By considering the extent to which ETRs based on taxable sources of income differ from ETRs when non-taxable income sources are considered and when the income and tax attributable to individuals, but earned or remitted through entities or trusts, is considered.

1.17   Where possible, the report also provides measures of realised capital gains in isolation. This indicates how much extra income of the Project population would potentially have been taxed if New Zealand imposed a realised capital gains tax. This is a static measure, not taking account of potential behavioural changes if a realised capital gains tax were imposed.

1.18   Finally, in addition to investigating average ETRs, the report considers the GST impost on the Project population relative to other income deciles, and relative to their economic income, and the amount received by the Project population in significant gifts and inheritances.

CHAPTER 2

THE DISTRIBUTION OF WEALTH AND CAPITAL INCOME

Introduction

2.1   While this report's focus is on measuring effective tax rates (ETRs) based on tax paid relative to income, the distribution of wealth is still relevant. This is because wealth, or net worth, can earn a return consisting of not only taxable investment income, but of a further increase in the value of the assets representing the wealth itself (together being capital income).[13] The wealth distribution therefore offers a broad guide as to who is likely to benefit as assets appreciate.

2.2   Net worth is unevenly distributed in New Zealand, as in other countries.[14] However, this differs by asset class, that is, holdings of some asset classes (such as financial assets) are more concentrated in upper net worth deciles than other asset classes (such as owner-occupied property).

2.3   This chapter considers net worth statistics. These focus on measuring physical and financial wealth, which is a contributor to an individual's or household's well-being. Other forms of wealth, such as human capital and environmental amenities, also contribute to well-being but are not considered in this report.

2.4   Chapter 15 provides estimates of the mean and median net worth of the Project population based on data collected for this Project.

Household survey-based measures

2.5   The Household Economic Survey (HES) is a high-quality household survey that collects net worth data. It provides the most comprehensive source of information on the distribution of net worth in New Zealand. However, as noted earlier, HES underestimates top wealth. Sapere, for example, note that this means that there is currently only limited information publicly available on the level and distribution of net worth in New Zealand and on the net economic income households derive from their wealth (Murray et al., 2023).

2.6   Around half of the net worth in New Zealand is held by 10 percent of households. The HES 2018[15] found that the top household net worth decile (the wealthiest 10 percent of households) held around 53 percent of total net worth, and the top household percentile (the wealthiest 1 percent of households) held around 17 percent.[16] If directly held owner-occupied housing (OOH) is excluded, the top net worth decile held 63 percent of the total household net worth in the HES 2018.

2.7   In contrast, the poorest 50 percent of households collectively held around 6 percent of net worth, with deciles 1 to 3 each holding less than 1 percent.

2.8   Figure 2.1 below shows the share of total household net worth by net worth decile (HES 2018). The cut out shows the share of decile 10 net worth by

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[13] Zidar (2022) notes that approaches to measuring income inequality may be based on wealth statistics.

[14] Appendix A provides an international comparison of top wealth shares.

[15] HES 2018 refers to the HES Household Net Worth Supplement 2017-2018, years ended 30 June.

[16] HES 2021 is similar (52 and 16 percent). HES 2021 refers to the HES Household Net Worth Supplement 2020-2021, years ended 30 June. Figures on this page come from HES 2021, Table 4.01.

decile 10 percentile[17] (HES 2018). Appendix G provides HES wealth shares for 2015, 2018 and 2021.

Figure 2.1   Share of total household net worth by net worth decile and share of decile 10 net worth by decile 10 net worth percentile

Main graph: decile shares of total household net worth – with and without owner-occupied housing
Cut out: decile 10 percentile shares of decile 10 household net worth
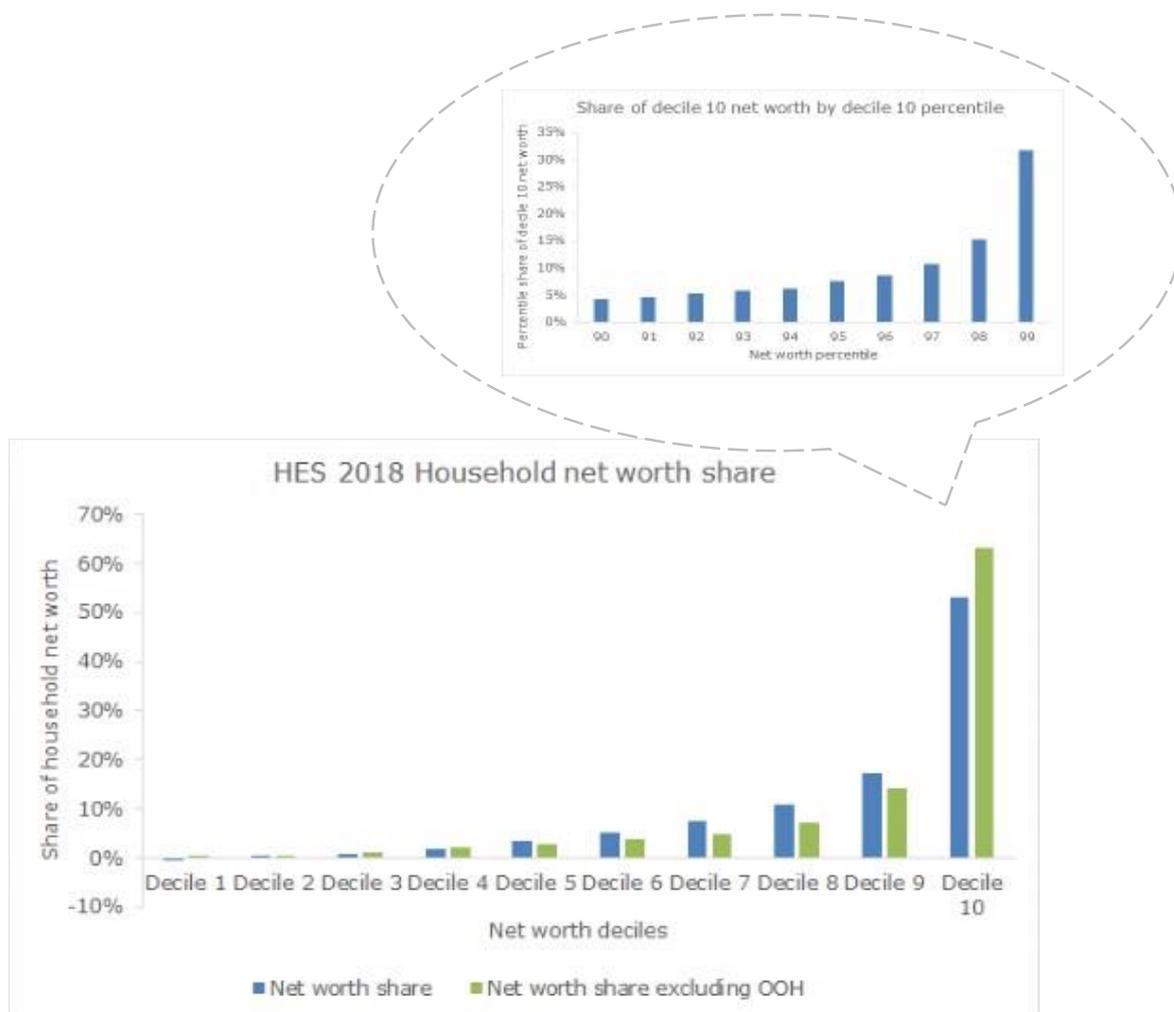
Source: Household Economic Survey (2018)

2.9   As figure 2.1 shows, within decile 10, net worth is also unevenly distributed. The top net worth percentile (99th percentile) held around one third of total decile 10 net worth in HES 2018. If we consider just the top 2 percent wealthiest households, who hold almost 50 percent of decile 10 net worth, this group of households held around 25 percent of total household net worth in New Zealand in 2018 (figure 2.2).

2.10   Measured inequality tends to be higher for individual-level, rather than household or family-level, measures. This is because families and households share resources. Based on individual net worth, the top net worth decile held around 59 percent of net worth in HES 2018, and the top net worth percentile held around 20 percent.

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[17] That is, dividing decile 10 into ten groups.

Figure 2.2   Share of total household net worth held by top 2 percent wealthiest households

HES 2018 share of net worth held by top 2 percent of households

25%

75%

■ Percentile 1 to 97   ■ Percentile 98 and 99
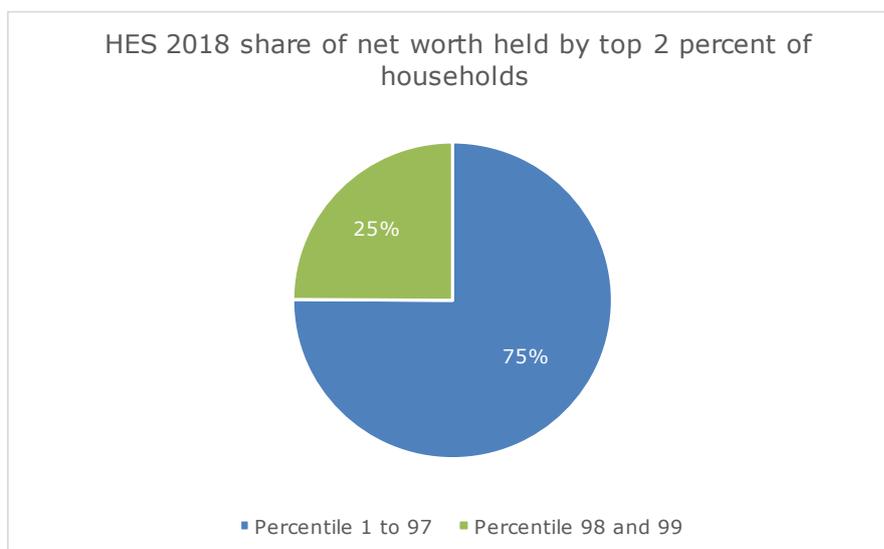
Source: Household Economic Survey (2018)

2.11   There is a life cycle aspect to wealth accumulation, as people tend to become wealthier over their working life as they save, and then they spend those savings in retirement. Life cycle factors do not fully explain the distribution of net worth. Figure 2.3 shows net worth quintiles by age band for individuals.

Figure 2.3   Median individual net worth by age group and net worth quintile

2018 Median individual net worth by age group and net worth quintile

Net worth (millions)

$1.6
$1.5
$1.3
$1.2
$1.0
$0.9
$0.7
$0.6
$0.4
$0.3
$0.1
-$0.1

15 - 24 years   25 - 44 years   45 - 64 years   65 years and over

Age group

■ Quintile 1
■ Quintile 2
■ Quintile 3
■ Quintile 4
■ Quintile 5
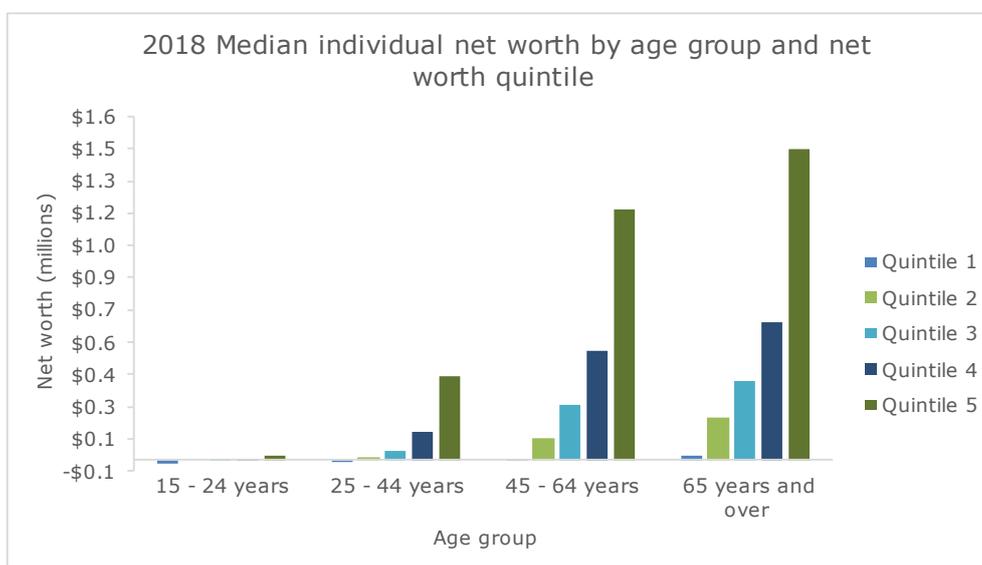
Source: Stats NZ based on Household Economic Survey (2018)

2.12   Further, holdings of different asset types are distributed differently across net worth deciles. For this reason, later chapters consider the income earned by the Project population from different asset classes. Real property, particularly owner-occupied property,[18] is the most widely held asset. However, real property holdings are still concentrated in upper net worth deciles, particularly when property in trusts is included (figure 9.1). Holdings of financial assets are highly concentrated in net worth decile 10 (figure 10.1).

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[18] Around 64 percent of households are homeowners (Symes, 2021).

2.13   As household surveys tend to underestimate the true top wealth share, several approaches have been developed in literature to better estimate wealth shares. One of these methods is the capitalisation method, developed by Saez and Zucman (2016). This uses income flows from tax administration data and aggregate asset wealth from the Household Balance Sheet to improve estimates of net worth shares. Ching et al. (2023a) have developed this approach for New Zealand. Under this approach, the individual-level net worth shares in 2018 are 67 percent for the top decile and 26 percent for the top percentile.

2.14   Furthermore, an approach has been developed for this Project, with input from Stats NZ, to combine HES net worth survey data with the Project data set. Generally, this approach replaces some of the HES survey population represented by the wealthiest HES respondent with people (or households) taken from the Project's responder population who have greater wealth than the wealthiest HES respondent.[19] Further discussion of this combined data approach and the findings are provided in Appendix G.

2.15   Using this combined data approach, net worth shares for the top decile and percentile are higher than those of the HES (although estimates are still within the confidence limits of the original HES estimates). Under the combined data approach, the household-level net worth shares in 2018 are 55 percent for the top decile, and 21 percent for the top percentile. Under the combined data approach, the individual-level net worth shares in 2018 are 61 percent for the top decile and 24 percent for the top percentile.

2.16   The concentration of net worth in upper deciles means that capital income, including capital gains, disproportionately accrues to higher net worth deciles. Consistent with this, chapter 5 (figure 5.5, paragraph 5.31) shows that the Project population earns a significantly greater proportion of their taxable income in the form of returns to investment than the general population.

2.17   Based on the HES, income is less unequally distributed than net worth. Perry (2019, p50) finds, for 2018, that the top household income decile earned 27 percent of total disposable income.[20] The bottom five income deciles combined also earned around 27 percent of total disposable income. Measures based on disposable income account for the role of taxes and transfers in reducing income inequality. For pre-tax taxable income, the top income decile earns around 35 percent of income.

2.18   The Gini coefficient is a measure of inequality. When multiplied by 100, the Gini coefficient ranges from 0 to 100, with values closer to 0 representing higher equality. Based on HES 2018 data, Stats NZ calculated the household net worth Gini coefficient to be 69.[21] Perry (2019) calculated the household disposable income Gini coefficient, based on HES (2018) income, to be 32.7.[22] This demonstrates that, as measured by HES, wealth is more concentrated than income.

2.19   However, like taxable income, HES income does not include certain forms of gains, such as capital gains. If income were defined more comprehensively to include all returns from capital, the wealth and income distributions would

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[19] To undertake this approach anonymised HES data was transferred to Inland Revenue's secure database.

[20] Perry uses *equivalised* disposable (after taxes and transfers) household income (HES income); that is, income adjusted for household composition and size. The top *income* decile will not contain the same individuals as the top *net worth* decile (that is, a person can have high wealth but relatively low income). Appendix A discussed the joint distribution of income and net worth.

[21] A similar value (68) was found for 2021.

[22] Perry (2019) Table B.10 p52. The market income Gini (before taxes and transfers) is 40.1. New Zealand's disposable income Gini is slightly higher than the OECD average.

likely be more similar. As Sapere note, income series in New Zealand tend to be based on taxable income which omits certain forms of income (Murray et al., 2023). A recent strand of international literature has studied measurement of income sources, and shares, for those at the top based on more comprehensive definitions of income.

2.20   For the UK, for example, Advani and Summers show that capital gains are large enough to make a noticeable difference to measured top income shares and including capital gains in income changes the narrative for UK inequality over the past two decades. The share of income going to the top 1 percent income earners is 3 percentage points higher when fiscal (taxable) income and capital gains income are considered than if fiscal income alone is considered. Those who are in the top 1 percent when gains are included, who are otherwise not, are more likely to be business owners, to be older and to be female than those who were otherwise in the top 1 percent.

2.21   These differences were much larger when looking towards the very top. Focusing on the top 0.01 percent, the authors found the top share increased 60 percent from 2.2 percent when measured and ranked on fiscal income, to 3.6 percent when measured and ranked on total remuneration; that is fiscal income and capital gains (Advani & Summers, 2020b).[23] This shows the importance of measuring income comprehensively in inequality measures.

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[23] The definition of capital gains is taxable capital gains and therefore the main home is excluded. However, a rise in inequality was still found if gains on the main home were included and distributed equally by income.

CHAPTER 3

KEY METHODOLOGICAL CHOICES

3.1   This chapter sets out some key methodological choices relating to the Project.

Estimation of income and effective tax rates

3.2   A preliminary observation is that the measures calculated for this Project are estimates rather than precise measures of any person's income or effective tax rate (ETR). Elements of the income estimates are based on assumptions and, in some cases, derived from notional values or asset class growth rates. The Project aims to provide indicative and average measures of the income and ETRs of high-wealth individuals. The focus is on the population average rather than any individual or family.

3.3   Further, the Project has balanced the comprehensiveness of the information collected against compliance and other costs. This means that some sources of income are not included. In particular, the Project does not comprehensively measure foreign income and tax, and it only includes material sources of capital gains income (see chapter 6).

The Project population

3.4   The Project population is a group of high-wealth individuals and their families. These individuals have contributed to New Zealand society in multi-faceted ways, including through building businesses that have created employment and through other activities, such as charitable donations. While this report does not assess the wider social contribution of these individuals, we acknowledge the significant contributions many of them have made to New Zealand society and thank them for their responses to the information-collection exercises.

3.5   This Project population was constructed based on Inland Revenue's existing information base. Inland Revenue, as part of its usual function, undertakes regular environmental scanning of high-wealth family groups (defined as those with estimated net worth either over $50 million or over $20 million where they meet other factors, such as controlling a significant enterprise). This environmental scanning involves monitoring, for example, major transactions, information obtained through the tax system, media reports and other sources of public information. High-wealth families are added to this list when Inland Revenue becomes aware of them through this environmental scanning.[24] There are likely to be high-wealth families that have not been identified by Inland Revenue. As the Project population has been identified for administrative reasons, it should not be considered representative of the top 1 percent, or other grouping, of wealthiest New Zealanders.

3.6   Based on data collected for the Project, we estimate that the mean net worth of the responder Project population is $276 million, and the median is $106 million. This is considerably higher than Stats NZ's estimate of the starting

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[24] For example, in 2015, the administrative population comprised 212 high-wealth families. In 2021, it comprised 400, and in 2022, it comprised 452.

point for the wealthiest 1 percent of New Zealand households – being $7.6 million.[25]

3.7   The Project population has been limited to New Zealand tax residents. This means that only individuals comprehensively liable for New Zealand income tax during the Project period are included.

3.8   In constructing the population, an initial high-wealth individual population was established based on Inland Revenue's existing information. Two exclusion criteria were then applied to ensure the population was limited to high-wealth New Zealand tax residents. The initial population, less those meeting the exclusion criteria, is referred to as the whole population. The exclusion criteria were that the family did not have net worth over $20 million at any point in the Project period, or that they were non-resident or transitional resident for most of the Project period. Out of the whole population, a responder population of 311 families was established, being those individuals in the whole population that responded to the information collections. Measures in this report are based on the responder population,[26] although sensitivity checks using the whole population have been undertaken where possible. Box 1 below provides more detail on the population.

3.9   Based on taxable income, the Project population is also generally high-income. Based on the HES income distribution, the taxable income of around 70 percent of the families in the Project population is in decile 10 of the general population income distribution. Further, we estimate that the Individual A (see 3.11) responder population is around 7 percent of the number of individuals in the top 1 percent of taxable income earners. However, the taxable income of this population is around 15 to 23 percent of the taxable income of the entire top 1 percent of taxable income earners for 2019 to 2021.

Unit of analysis

3.10   The Project uses both the family and the individual as the basis for analysis. Population-level measures are also calculated.

3.11   Individual-level measures are based on the individual identified in the initial population. This person is called Individual A and is the person who generally earns most of the family income. Individual-level analysis is undertaken because tax is levied on an individual basis in New Zealand. As the adults in the family often have significantly different income levels, they often have significantly different ETRs.

3.12   A family is defined as a single adult or a couple and their dependent children (see glossary). Use of families as a unit of analysis reflects that families share resources, and therefore inequality is generally less for families than individuals. In this analysis, however, the ETR results for the family were often very similar to that of Individual A, reflecting that Individual A's income often dominates the entire family income. For the responder population, Individual A earned 85 to 91 percent of the total taxable income of all family members in the 2019 to 2021 income years. For this reason, we do not always graph both measures. Further, trust income has been grouped by family in our analysis as assets in trust are often for the benefit of the family.

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[25] Data provided by Stats NZ (HES 2021). One percent of households is 19,000 households.
[26] Appendix B provides some descriptive statistics for the Individual A responder population.

3.13   Using the family unit is narrower than using a household unit (that is, all individuals living in a household), which is what is used for the HES and some other analyses of income distribution. However, the demographic characteristics of our population suggest that a family and household unit will often be similar. The median age of the Individual A responder population is 68 and most families are two people. Further, given the tax system is based on individuals, the narrower definition of family is preferred, as households may contain more distantly related, or even unrelated, people. Use of families is consistent with the approach being undertaken by the Treasury in their ETR analysis as they use equivalised family units.

Timeframe of analysis

3.14   The income and ETRs of the Project population have been estimated over the 2016 to 2021 income years (1 April 2015 – 31 March 2021 inclusive), referred to as the Project period in this report.

3.15   This period was chosen mainly because individuals and entities are required to hold tax records for seven years. Individuals were therefore likely to have retained, or have access to, relevant documents for this period. Additionally, it provides a sufficiently long period to measure changes in the value of assets, and therefore capital gains, while smoothing out some annual volatility.

3.16   However, chapter 13 provides analysis of ETRs for income from significant holdings in listed companies (SHLCs). This analysis is based on public information and is over longer periods. The longer periods give a longer-term view of ETRs and are less subject to short-term macro-economic factors. Where listed company income is combined with other income sources, only income from the Project period is included.

3.17   A longer period has also been used for information concerning inheritances (chapter 15). Information on inheritances was sought to give some additional perspective on the ways in which individual wealth has been accumulated. This information was collected over a 50-year period, given that inheritances are received extremely rarely, if at all.

3.18   As further context, the Project period saw house and share price growth rates above long-term averages. Mean annual (geometric mean) house price growth over this period was 10 percent, versus 8 percent for the period 1 January 2000 – 31 December 2021.[27] The mean annual (geometric mean) NZX Index increase for the Project period was 14 percent, compared with 10.6 percent for the period from 1 October 2007 to 31 December 2019, which could be considered a single full business cycle. Income and ETR measures based on asset growth at these levels remain informative, despite being higher than historical norms and having the effect of creating a relatively higher level of economic income.[28] The key findings section of the report also provides a scenario test assuming lower growth of asset values.

Attribution to the individual and incidence

3.19   The Project calculates comprehensive income and tax measures based on economic substance, looking through legal form. It attributes to the

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[27] Based on Core Logic data from the Reserve Bank's Monetary Policy Statement.
[28] House price growth peaked in the December quarter 2021. However, as at the December quarter 2022, the house price index remained above the level it was at the end of the Project period.

individuals the income effectively earned, and tax remitted, through entity structures. This recognises that economically only individuals earn income and pay tax, not entities. However, this requires making assumptions that mean, in some cases, such as trusts, income attribution is approximated, and the degree of real ownership is calculated independently of rules that might apply under taxation law or accounting principles.

3.20   The impost of taxation does not always fall on the person who remits it. For example, a tax on corporate profits could fall on employees through reduced wages. Some work on ETRs has attempted to attribute certain taxes based on incidence (Auten & Splinter, 2019). This work has highlighted the difficulty of determining where the tax impost ultimately falls and in what proportion, particularly for company tax.

3.21   Given these difficulties, the Project fully attributes personal income tax to the individual liable, and income tax imposed at the entity level is attributed to the individuals who own the entity (or, in the case of trusts, have analogous interests). For goods and services tax (GST), it is assumed the impost of taxation is borne by the purchaser (Thomas, 2022).[29]

3.22   Another consideration is when tax is recognised. The Project recognises tax in the year it is assessed. That is, tax is the amount liable to be remitted in the relevant income year (see chapter 6).

Data sources

3.23   A principle of the Project was to use Inland Revenue's tax administration data as much as possible. Tax administration data is an accurate source of information on income as defined in tax law. It has become standard for literature on income inequality to rely heavily on tax administration data (Delestre et al., 2022, Advani & Summers., 2020b). The Project also uses public sources of information, such as information from share and property registers, where possible. Using tax administration and public data has the advantage of minimising compliance costs for individuals.

3.24   However, these data sources were insufficient to get a full picture of the economic income of the Project population. Tax administration data is limited to the definition of taxable income, which excludes some receipts included in economic income. For this reason, further information was sought from the Project population through three information collections (the Family Details Collection, the Entity Collection and the Financial Collection) targeted towards gaps in the information otherwise available (see Appendix C for a description of these collections). The analysis in this report therefore combines tax administration data, public data and survey data.

3.25   The sources of data and their quality are discussed in detail in Appendix E. However, in summary:

- **Tax administration data** provides an accurate source of information on income sources that are taxable and on tax remitted.

- **Data from public share registers** provides an accurate source of information on company holdings and market prices. Actual sales prices may differ from market prices.

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[29] Thomas (2022) notes that assuming VAT is fully passed through to the final consumer in prices is a standard assumption made in empirical literature.

- ▪ **Data from public property registers** provides an accurate source of information on property holdings.

- ▪ **Publicly available data on property values** (for example, Automated Valuation Models) is based on comparable sales and provides a reasonable estimate of the change in value of similar assets. Idiosyncratic factors, however, may not be accounted for.

- ▪ **Survey data** has the benefit of being targeted at specific data gaps in tax administration data, the specific needs of the Project and the population of interest. Therefore, survey data improves the measurement of income and wealth by improving the comprehensiveness of our measures. Survey data, however, can be subject to measurement error from factors such as under-reporting and non-response bias. However, the high response rate to the surveys, and cross checking of survey responses with tax administration data, suggests that the survey data can be used to provide indicative and informative measures of the population's income and ETRs.

Confidentiality

3.26   An important principle of the Project has been the protection of the privacy of individuals and the confidentiality of information. Great care has been taken with the gathering, handling and protection of data. Results presented in this report are subject to a set of confidentiality rules adopted by the Project following consideration of Stats NZ's Microdata-Output-Guide. A Privacy Impact Assessment was prepared for the Project following consultation with the Office of the Privacy Commissioner, and this is publicly available.[30]

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[30] Inland Revenue (2021). High-wealth individuals research project. https://www.ird.govt.nz/about-us/who-we-are/organisation-structure/significant-enterprises/hwi-research-project

Box 1:   The Project population

To identify the Project population, an initial population was first identified. The **initial population** is the high-wealth individuals identified through Inland Revenue administrative records as being part of a high-wealth family (that is, a family with net worth over $50 million or net worth over $20 million and meeting other criteria). Where an individual could be identified as non-resident for New Zealand tax purposes, they were removed from the initial population.

The families in Inland Revenue's records were split into family units that met the definition of family discussed above. As this is a narrower definition of family, this resulted in a larger number of smaller family groups.[31] One individual from each family in the initial population received the first survey, the Family Details Collection, which collected information to identify family members. This individual, of which there were 397, is referred to as **Individual A** in this report.

The **whole population** is the initial population, together with their family members, less the individuals that met the exclusion criteria (being either non-resident or transitional resident for most of the Project period, or the family did not have net worth over $20 million at any point in the Project period). Individuals were removed from the population when they provided evidence that they met the exclusion criteria. The removal of these individuals reduced the population to 352 observations of Individual A.

The **responder population** is the whole population less those who did not respond to one of the Entity or Financial Collections (see Appendix C for details of the collections). This may be because they were excluded from the collection on compassionate grounds, they were not able to be contacted or they did not respond to one or both collections. The responder population comprises 311 observations of Individual A, and 238 partners and 27 dependent children identified through the Family Details Collection. Where no family members were identified, Individual A is treated as a family unit.

'Whole population' and 'responder population' may refer to either the relevant population of Individual As only, or Individual A combined with their family.

The ETRs in this report are based on the responder population. Sensitivity checks using the whole population have been used where possible.

Table 3.1   Population composition

Population type	Individual A	Total Families	Family members		
			Individual A	Partners	Children
Initial population	397	NA			
Whole population	352	352	352	273	27
Responder population	311	311	311	238	27

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[31] This also meant some of the smaller families no longer met the $20 million net worth inclusion threshold and were subsequently removed from the Project population. Families with an initial wealth of $20 million at the start of the period who lost wealth over the period were not excluded.

PART TWO: APPROACH TO EFFECTIVE TAX RATES

CHAPTER 4

EFFECTIVE TAX RATES

Introduction

4.1   This report calculates the average effective tax rates (ETRs) of the individuals and families in the Project population. An ETR is a measure of tax remitted by an individual or group relative to a measure of their income.

4.2   There are two types of ETRs: average ETRs and marginal ETRs. A marginal ETR shows how much tax would be paid on someone's next dollar of income, while an average ETR shows how much total tax is paid relative to total income (that is, the average amount of tax on each dollar of income).

4.3   Marginal ETRs are often used to examine the impact of the tax system on incentives to work, save or invest. Average ETRs are useful when examining an individual's tax impost relative to their income, particularly when considering types of income that are not subject to taxation or the overall progressivity of the tax system. Given the purpose of this Project, all references to an ETR in this report refer to an average ETR unless otherwise stated. Put simply, an ETR for this report is tax/income.

4.4   Both the income measure and the taxes to be included in the ETR must be chosen, and ETRs will be sensitive to these choices. Taxable income is not a comprehensive definition of income and reflects only the components of income that Parliament has decided to tax. For example, in New Zealand most capital gains are excluded from taxable income. Chapter 6 discusses the concept of economic income – which is a comprehensive approach to measuring income and is the concept used in this report to measure economic income ETRs.

4.5   Several complications arise in calculating ETRs. For example, ETRs are sensitive to the period they are measured over[32] and the timeframe of analysis. Results are also sensitive to the unit of analysis (such as individual or family), and assumptions need to be made about who bears the incidence of tax. We undertake several sensitivity tests to test the materiality of assumptions made.

4.6   One issue that arises when multiple years are used is the treatment of inflation. For this report, income and tax are calculated on a nominal basis (that is, amounts are not inflation-adjusted). While inflation can affect the ETR calculation, we expect that over a six-year low inflation period these impacts would not significantly alter the result.[33]

4.7   Box 2 explains how the ETRs in this report are calculated.

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[32] Levell et al. (2021) note that analysis of taxation and welfare systems tends to see income more evenly distributed when considered over individuals' lifetimes.

[33] Although the ETR calculation is nominal tax divided by nominal income, inflation could affect the calculation in at least two ways. Some capital income and expense amounts have different nominal (taxable) amounts than real amounts, such as interest. Also, inflation alone would increase nominal incomes over the six-year period being analysed, which would tend to give the later years higher weighting when six-year period calculations are done.

Box 2:   Timeframe and unit for ETR calculations

To calculate ETRs, both the unit and timeframe of analysis need to be determined.

In terms of the unit of analysis, ETRs are calculated for Individual A, the family and the population. The ETR for the family is calculated by summing, respectively, the tax and income of each member of the family. This ensures the impacts of the progressive tax scale are accounted for and provides an income-weighted mean of the family members' ETRs.

In terms of the timeframe of analysis, ETRs are calculated annually or over the six-year Project period (or the longer periods for SHLCs).

Individual A/family ETRs:

Annual ETRs: To calculate annual ETRs for Individual A and the family, the annual tax of Individual A or the family members is divided by their annual income. Annual measures show how ETRs vary over time.

$$\frac{\text{Annual tax of each family or individual}}{\text{Annual income of each family or individual}}$$

Project period ETRs: To calculate Project period ETRs, for each Individual A and each family, annual tax is summed over all six years and divided by the sum of annual income over all six years. Using the six-year period reduces the volatility inherent in an annual measure, while summing annual tax and income recognises the impact of the progressive tax system and the annual calculation of tax.

$$\frac{\text{Sum of annual tax for the six-year period for each family or individual}}{\text{Sum of annual income for the six-year period for each family or individual}}$$

Our main descriptor of the individual/family ETRs is the median. This is the point above and below which half of the observed ETRs fall, and so represents the midpoint of the data. We also provide the upper and lower quartile; 50 percent of observations fall between the upper and lower quartile (the inter-quartile range). The median and inter-quartile range are preferred to an unweighted mean of the ETRs, as the unweighted mean can be heavily influenced by outliers. Outliers have been excluded from the median and inter-quartile range figures.[34]

Population measures

Project period population ETR: For this measure, the total annual tax of all members of the population is summed over all six years and divided by the sum of the total annual income of all members of the population over all six years. This results in one ETR for the population, which is an income-weighted mean for the population.

$$\frac{\text{Sum of annual tax for the six-year period for all members of the population}}{\text{Sum of annual income for the six-year period for all members of the population}}$$

Population measures can be based on the population of Individual As or the family. Family population measures are the same as the aggregate of all individuals in the population (Individual A, partners and dependent children). This is referred to as the ETR or income for all members of the population (or all responders).

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[34] Outlier limits are calculated using the interquartile range as: LQ – 1.5 *(UQ-LQ) and UQ + 1.5*(UQ-LQ).

ETRs over the income distribution

4.8   Under a progressive rate system, the average ETR of individuals will increase as taxable income increases. The personal income tax is progressive in New Zealand. Figure 4.1 shows the statutory marginal tax rate scale that applied over the Project period (this had a top marginal tax rate of 33%) and the average tax rates on personal taxable income under that scale. The top marginal tax rate on personal taxable income was increased to 39% in 2021; this is not shown in figure 4.1. The average tax rate line demonstrates that, under the progressive personal income tax, average tax rates increase with income.

4.9   Under this statutory tax rate scale, an individual with personal taxable income of $50,000 would have an average tax rate of 16%, an individual with personal taxable income of $100,000 would have an average tax rate of 24% and a person with personal taxable income of $200,000 would have an average tax rate of 28.5%.

Figure 4.1   Marginal and average tax rates
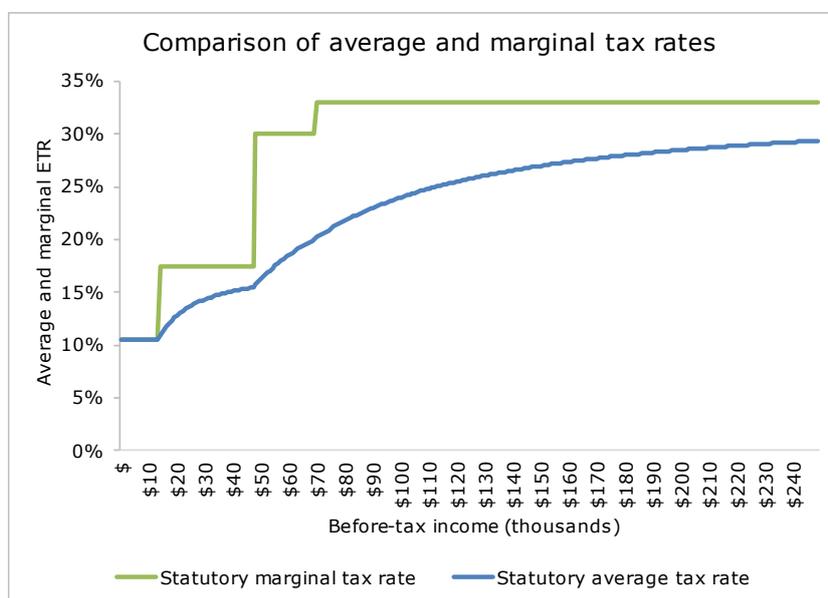
4.10   However, figure 4.1 only demonstrates the marginal and average tax rates on personal taxable income. The major sources of tax revenue in New Zealand are personal income tax, GST and company tax (figure 4.2). Excise taxes, such as alcohol excise, constitute only around 8% of central government revenue in New Zealand. To consider the impacts of the tax system in totality, our most comprehensive ETRs (chapter 12) include all major taxes attributable to the Project population – that is personal income tax, company tax, and GST (trustee tax is also included).

4.11   One difficulty with including GST in the analysis is that GST is levied on expenditure while our ETRs are estimated relative to income. When considered as a portion of annual income, GST will appear more regressive than when considered as a portion of expenditure. This is discussed in chapter 14. However, as Perry (2019, p54) notes, a comprehensive analysis of the tax and transfer system needs to consider all major tax sources, including tax paid through GST.

4.12   In their 2019 report, the Tax Working Group (TWG) considered the combined impact of personal income tax and GST across income deciles based on data from the Household Economic Survey (HES) 2012/13. This demonstrated that

when both personal income tax and GST are included, and when considering income on an annual basis, the tax system is less progressive than if only personal income tax is considered.

4.13   Table 4.1 below shows ETRs, as calculated by the TWG, based on both personal income tax and GST. The concept of income used here (total income)[35] is similar to taxable income. Unlike ETRs based on economic income, these ETRs do not comprehensively take account of untaxed sources of income, such as capital gains.

Figure 4.2   Composition of central government tax revenue (2020)
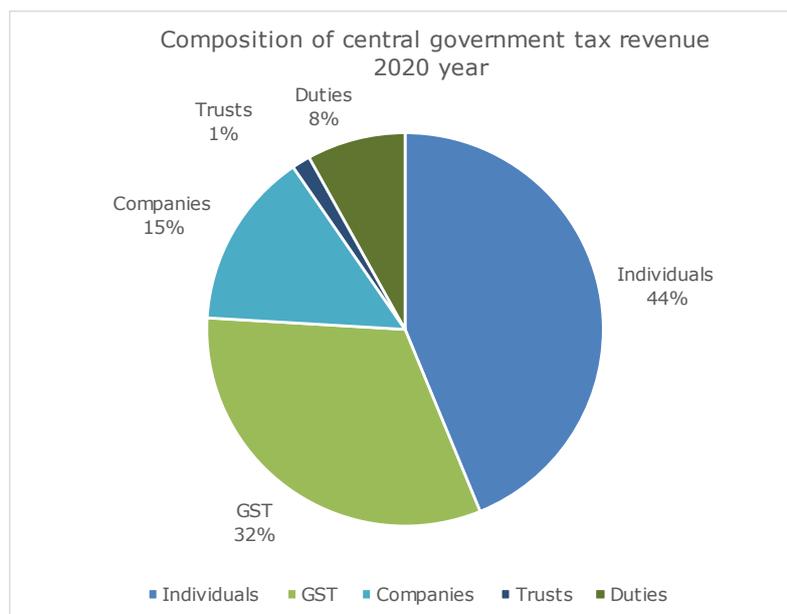
Treatment of transfers and in-kind government expenditure

4.14   In our main analysis, we treat government transfers (such as superannuation) as income. This means any transfers are included as income in the denominator of the ETR calculation, and the associated tax is included as tax.

4.15   An alternative approach is to treat transfers as a negative tax and deduct them from the numerator of the ETR calculation. If transfers are treated as a negative tax, then for analysis across the entire income distribution, ETRs will be negative for some people in lower deciles. That is, some individuals with low taxable income are net recipients under the tax/transfer system. This will depend on individual circumstances, such as whether a person receives superannuation.

4.16   The TWG (2019) found that based on the total amount of income and tax in each HES income decile, deciles 1 to 4 were net recipients under the tax and transfer system in 2012. This is also illustrated in table 4.1 (based on the tax scale that applied in 2012; that is, with a top tax rate of 33%).

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[35] Total income includes taxable income and some limited non-taxable income sources, such as cash transfers and tax credits. It is not as wide as "economic income" and does not include non-taxable capital gains. The taxes included in this analysis are personal income tax, GST and Accident Compensation Corporation (ACC) levies.

Table 4.1   Average ETRs for personal income tax and GST to taxable income plus cash transfers - estimated for the TWG (2012)

Decile	1	2	3	4	5	6	7	8	9	10
Tax	26%	23%	24%	25%	26%	28%	28%	28%	29%	31%
Transfers	-78%	-77%	-61%	-28%	-20%	-10%	-6%	-5%	-3%	-2%
Tax less transfers	-52%	-55%	-36%	-2%	6%	18%	21%	23%	26%	29%

Source: TWG (2019) based on Treasury analysis of HES (2013)

4.17   While transfer income is not treated as a negative tax in our main scenarios, we provide scenarios using this treatment in chapter 5 (taxable income) and chapter 12 (all-income). In general, transfer income only comprises about 1 percent of personal taxable income for the responder population so does not significantly impact measures based on the Project population's total income.

4.18   Neither of these approaches shows the full distributional impact of government tax and spending. "Final" income is a concept of income that takes account of market income, government cash transfers, direct and indirect taxation, and in-kind government expenditure on services, such as health and education. Final income reflects a more comprehensive measure of the economic resources available to a household than does market or disposable income.

4.19   Final income has been studied in New Zealand by Crawford and Johnston (2004). Crawford and Johnston show that final incomes are more equally distributed than disposable incomes (income after income tax and transfers), as higher-income households pay a greater absolute amount in consumption tax and receive less in terms of in-kind benefits.

4.20   Aziz et al. (2012) also looked at the distribution of final income in 2012 and similarly found that final income is more equally distributed than market and disposable income. They found a fall in the income Gini of 31 percent due to the impact of the tax and transfer system, and a further 9 percent fall when government in-kind expenditure and indirect taxation is considered, demonstrating the higher redistributive effects of the tax and transfer system than in-kind transfers and indirect taxes. While this report takes account of the impact of GST, it does not consider in-kind government transfers.

Other studies

4.21   Previous studies have examined ETRs across income and wealth distributions in other countries. While the countries studied have different tax systems to New Zealand and each other, they highlight a general tendency arising from the

preferential tax treatment of income from capital.[36] The results also highlight that ETR analysis tends to be highly sensitive to the definition of income used.

4.22   Those studies that more narrowly define the income included within their ETR calculations to align it with taxable income more closely, such as Milligan (2021) who examined average tax rates in Canada, tend to show that ETRs are broadly progressive across the income levels. However, the concentration of dividend income among individuals with the highest incomes, and the preferential tax treatment dividends often receive in tax systems (such as in the Canadian system Milligan examines), does result in a slight decrease in progressivity at the top of the income distribution.

4.23   Bricker et al. (2020) had similar results to Milligan when calculating ETRs across the wealth and income distributions based on data from the United States. When income included in the ETR calculation aligned with taxable income, ETRs were broadly progressive. Once the authors expanded the definition of income, in particular incorporating estimated unrealised capital gains, they saw a sharp decrease in progressivity of the tax system, with the wealthiest individuals no longer having the highest ETRs.

4.24   Advani & Summers' (2020a) analysis of ETRs in the United Kingdom showed more dramatic results, despite the analysis being limited to taxable income. The concessionary tax treatment of income from capital by the UK tax system meant that when taxable capital gains were accounted for, on average, ETRs began to decline on incomes greater than £250,000. Among those with the highest incomes (greater than £10 million per year), the average ETR was calculated to be 21%, which was less than the rate paid by someone earning £30,000. However, significant variation existed among the ETRs of high-income individuals, with ETRs generally falling relative to the proportion of income sourced from capital.

4.25   The OECD's Centre for Tax Policy work programme includes a project on high-income earners (Hourani et al. in press). One output in this project seeks to calculate ETRs under various hypothetical income compositions based on countries' tax settings. They model stylised ETRs for different income levels based on different income compositions. This research suggests that ETRs for top income earners are heavily influenced by the source of their income. While the examined countries had different tax systems, the OECD found that, in nearly all countries, an individual earning only income from labour had a higher personal level ETR than someone whose income was a mix of income from labour and capital. Their work suggested this was the result of the widespread favourable tax treatment of income from capital compared to income from labour. Since income from capital is concentrated among those individuals at the top of the income distribution, the favourable treatment disproportionately benefits high-income earners.

4.26   In 2021, the United States Council of Economic Advisers (CEA) undertook a study into the ETRs of the 400 wealthiest US families (Leiserson & Yagan, 2021). This study was based on IRS data and information from Forbes magazine. They calculated the economic income of these families by reference to the Haig-Simons definition of income (see paragraph 6.3), taking the change in the family's pre-tax wealth, as reported by Forbes magazine. They estimated the tax paid by these families based on the tax paid by the 400 highest income-earning families from IRS data multiplied by an adjustment factor to convert to

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[36] In other jurisdictions, preferential tax treatment of capital income may arise from features of the tax system that do not exist in New Zealand, such as lower taxes on capital income, special exemptions and deductions.

the tax paid of the 400 wealthiest families. They estimated an average Federal ETR for income tax of 8.2% for the period 2010–2018. Their sensitivity analysis yielded estimates in the 6–12% range. They state a key contributor to the low ETRs is preferential tax rates on capital gains and dividend income. They note that their estimates are lower than commonly cited top income tax rates produced by, for example, the Congressional Budget Office, largely due to those other studies excluding unrealised capital gains.

4.27   To date there has not been a study of ETRs relative to economic income in New Zealand. Therefore, this work, and the Treasury's work on ETRs, contribute new approaches to the literature on ETRs for New Zealand.

Approach to calculating ETRs

4.28   The approach we take is similar to that taken in recent OECD work. In their forthcoming paper, Hourani et al. first analyse ETRs for individuals earning income from wages only. They then compare these results to the ETRs for individuals earning different compositions of income (Hourani et al., in press).

4.29   In chapters 5 and 8, we first calculate the ETRs that apply for personal taxable income. In chapter 5, the ETR is based on personal taxable income, as defined in tax law. In chapter 8, the ETR (the base income ETR) is also based on income sources taxable at the personal level. However, this ETR recognises losses in the year they occur (rather than limiting income to zero) and therefore income can be negative in the base income ETR. These ETRs can be compared with ETRs based on a broader concept of income. While ETRs based on economic income would be expected to be lower than ETRs based on statutory tax rates, this approach allows us to consider which income sources drive differences in ETRs for taxpayers earning different levels and combinations of income.

4.30   Chapters 8 to 12 calculate ETRs, over the Project period, based on the more comprehensive measure of income described in chapter 6 – economic income. In assessing economic income ETRs, we first consider how additional income (and tax) from different asset classes impacts on the base income ETR in isolation. These ETRs are called the asset class ETRs and do not include the full income of the Project population. Isolating income from different asset classes allows us to consider the relative magnitude of different income types in the ETR analysis. For the asset class ETRs, economic income sources from the following major asset classes are added to the base income ETR in isolation:

- Real property holdings (property ETR – chapter 9)

- Portfolio financial investments (portfolio ETR – chapter 10)

- Non-portfolio/businesses entities (business entity ETR – chapter 11).

4.31   Significant holdings in listed companies (SHLCs) are considered in isolation in chapter 13 (as well as being consolidated in the ETRs for the Project period). As this is based on public data, this calculation can be done over a longer period and the results are more reliable than for unlisted entities, which are valued based on financial statement data rather than market prices.

4.32   A comprehensive 'all-income' ETR is calculated for the responder population in chapter 12. This provides the ETR including all the economic income and tax of the individuals; that is, the amount of tax paid relative to all income sources. The all-income ETR is calculated including company and trustee tax (in addition to personal tax) and both with and without GST.

CHAPTER 5

PERSONAL TAXABLE INCOME

Introduction

5.1   This chapter presents the effective tax rates (ETRs) for personal tax relative to personal taxable income (also referred to as taxable income) as defined by tax law (the taxable income ETR).

5.2   The purpose of calculating a taxable income ETR is to provide a comparator for ETRs based on economic income. As shown in figure 5.1 below, and chapter 12, personal taxable income only represents 7 percent of the total economic income of the responder population and is therefore not a comprehensive measure of the population's income.

5.3   The measures in this chapter are calculated for the responder population (that is, 311 families (311 Individual As, 238 partners and 27 dependent children) or 311 Individual As).

Figure 5.1   Taxable income as a share of total economic income
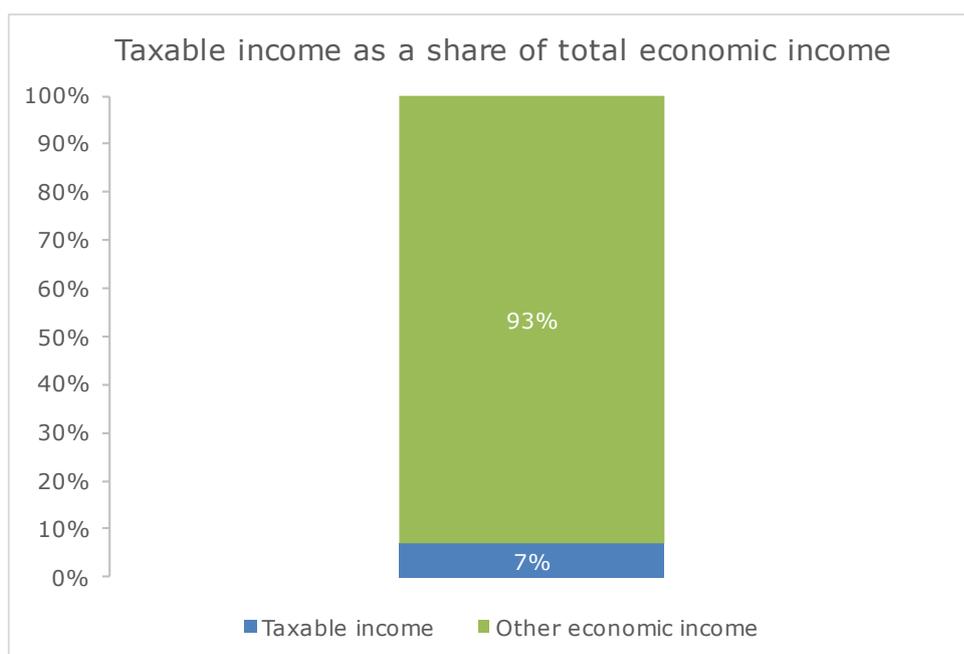
Methodology

Personal taxable income and tax assessed

5.4   The personal **taxable income ETR** is calculated as:

$$\frac{Personal\ tax\ assessed}{Personal\ taxable\ income}$$

5.5   *Personal taxable income* is sourced from information Inland Revenue holds for the individual taxpayer from tax assessments. It is the sum of the income types taxable at the personal level minus any allowable expenses and minus any

losses that have been brought forward and claimed. It comprises income that is taxed at source and/or income (or losses) returned on an Individual Income Tax return (IR3).

5.6   Income that is taxed at source includes: salary and wages, government transfer payments, interest, dividends, schedular payments, Māori Authority distributions and government subsidies, such as the COVID-19 wage support payment. Transfer payments (for the Project population, superannuation) comprise only about 1 percent of the personal taxable income for the responder population.

5.7   Income/loss on an IR3 that is not taxed at source includes taxable estate or trust distributions (beneficiary income), overseas income, partnership income, look-through company income, shareholder-employee salary, income from residential property, other rental income, most self-employment income, income from taxable property sales, other income, and expenses or losses relating to these income types.

5.8   *Personal tax assessed* is the amount calculated under the personal tax rate schedule for the period. Where someone had an income tax assessment, such as an IR3, Personal Tax Summary (PTS) or Auto Calculation, we measure tax as tax assessed from that assessment, that is, the tax on taxable income figure. Where there is no income tax assessment, but the person has received income taxed at source, we calculate tax at the applicable marginal tax rates. The latter applies to 18 percent of those that had taxable income during the Project period. GST is not included in tax for the taxable income ETR.

5.9   Some points to note are that:

- an amount of tax that is met by imputation credits on dividends received is included as tax in the ETR calculation

- foreign tax paid (and eligible for a foreign tax credit) by the taxpayer on foreign income is included as tax in the ETR calculation, and

- taxable income is gross of imputation credits and foreign tax credits (to ensure that taxable income is a pre-tax amount).

5.10   Portfolio investment entity (PIE) income and tax are assessed separately from the PIE investor, but they are economically equivalent to income and tax of the investor. While, in substance, it would be more accurate to include PIE income and tax in the individuals' ETRs, it would add a significant administrative cost to include them. We, therefore, tested the impact of PIE income and tax on the taxable income ETR. The inclusion of PIE income and tax had an immaterial impact, and therefore they have not been included in ETRs in the report.

5.11   We do not reduce total taxes by the charitable donations tax credit. This does not reduce the income tax assessment (as it is processed separately). We view this as a government subsidy that is intended to benefit the charity and not the taxpayer. The taxpayer's pre-tax income is unchanged, and the amount they pay to the charity is increased by the amount of the tax credit, so the net cashflow to the taxpayer is unchanged. However, the government's tax revenue is reduced, and the charity's donation is increased by the amount of the credit. We follow this approach in calculating tax throughout the report.

Treatment of losses

5.12   A feature of the New Zealand tax system is that when an individual makes a loss in a year, their taxable income (and tax) is zero and that loss is carried into future years and may be used to offset positive future income. This creates

complications for measuring ETRs on income generated within a particular period.

5.13 The results in this chapter are based on taxable income. This means income is set at a minimum of zero and is calculated after tax losses are used or carried forward. However, using taxable income results in losses generated before the Project period commenced being included, and if a tax loss generated in the Project period is not completely offset by later positive income in the period, then the loss will not be recognised.

5.14 To understand the materiality of these consequences, we perform a sensitivity test. We calculate a measure of tax and income that fully attributes the income or loss to the year of income/loss and assumes an individual receives a tax refund where they make a loss in a year. For this measure, we use annual net income as the income measure (which may be negative). The tax refund calculated on negative income uses the highest tax rate (this was 33% during the Project period). This scenario is included in Appendix D. Overall, using this approach only makes a small difference to the results (less than 1 percentage point difference in the ETR).

5.15 When calculating economic income, a somewhat different base measure of income is used – annual net income or loss – see chapter 8.

Data sources

5.16 The internal source of information that is used depends on whether the individual has had an income tax assessment.

5.17 If there is no income tax assessment, the Summary of Earnings or income summary is used. These sources will only show income that is taxed at source, provided by a third party. An income tax assessment is used if available. This is only required if a taxpayer has income not taxed at source. Most of the responder population has filed an IR3 or other income tax assessment (82 percent). The order of application is as follows:

- IR3, PTS or Auto Calculation

- Summary of earnings or income summary.

Results

Income

5.18 The mean taxable income for Individual A is stable from the 2016 tax year through to the 2020 tax year, being around $820,000 over these years. There was a large increase in the 2021 tax year to just over $2,000,000.[37] The mean income of the family is, on average, $163,000 higher.

5.19 The median taxable income for Individual A fluctuates around $268,000 over the Project period. The family median is around $73,000 higher. The mean is significantly higher than the median due to some individuals with relatively high income. Figure 5.2 illustrates these results.

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[37] In 2021, there was an increase in dividends and shareholder salary payouts compared to previous years. These were made prior to the top tax rate increasing to 39%.

Figure 5.2   Median vs. mean taxable income Individual A and family
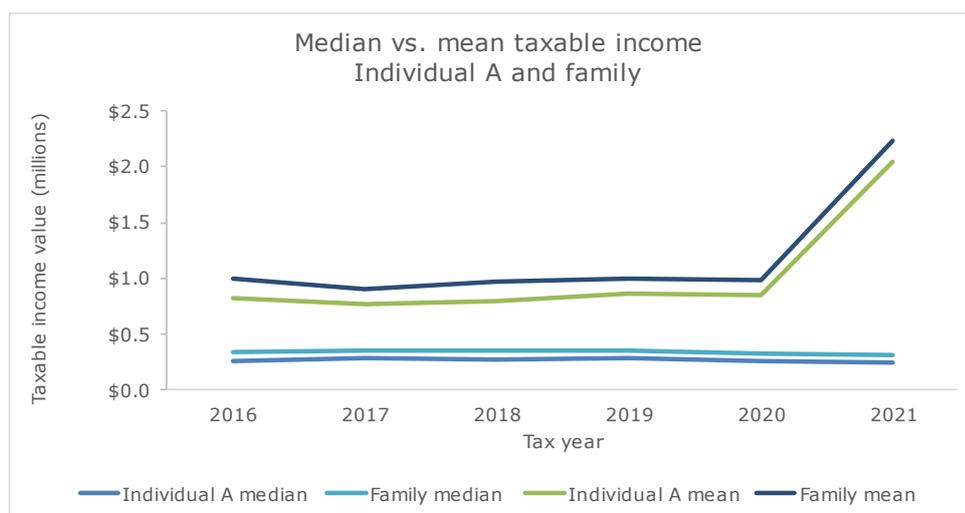
5.20   Compared with the general population, based on the Household Economic Survey (HES) income deciles (2019), the taxable income of around 70 percent of the families in the Project population falls in income decile 10 – that is, they are high-income earners based on only taxable income. The remaining 30 percent of families are spread across all income deciles, including 9 percent in decile 1.

Effective tax rates (ETRs)

5.21   The ETRs we have calculated (see Box 2) are:

- Annual ETRs for Individual A and the family unit

    – Annual ETRs are calculated as annual tax assessed over annual taxable income received for each year in the Project period for Individual A or the family. Where taxable income is zero, the ETR in that year is the period average (total tax over the period/total income over the period). This is applicable to around 9 percent of the responder population each year.

- Project period ETRs for Individual A and the family unit

    – Total annual tax assessed over total taxable income received for the entire six-year period for each Individual A and family unit.

- Project period population ETR (population weighted-mean ETR)

    – Total annual tax assessed over total taxable income for the entire six-year period for all observations of Individual A or all individuals in the responder population.

Annual taxable income ETR

5.22   Figure 5.3 shows that, for each year of the Project period, the median annual taxable income ETR for Individual A is between 29.8% and 30.2%. The family unit median annual taxable income ETR is slightly lower, being between 29.0% and 29.4%.

5.23   The family unit ETR is lower as partners and children generally earn lower income than Individual A. However, the difference is small because Individual A

earns most of the family's taxable income (around 85 to 90 percent of the family's taxable income).

5.24   Most Individual A and family annual taxable income ETRs are within a small range. The range between the lower and upper quartile (50 percent of the population) is around 6 and 7 percentage points, respectively, for most years.

Figure 5.3   Annual taxable income ETR for Individual A
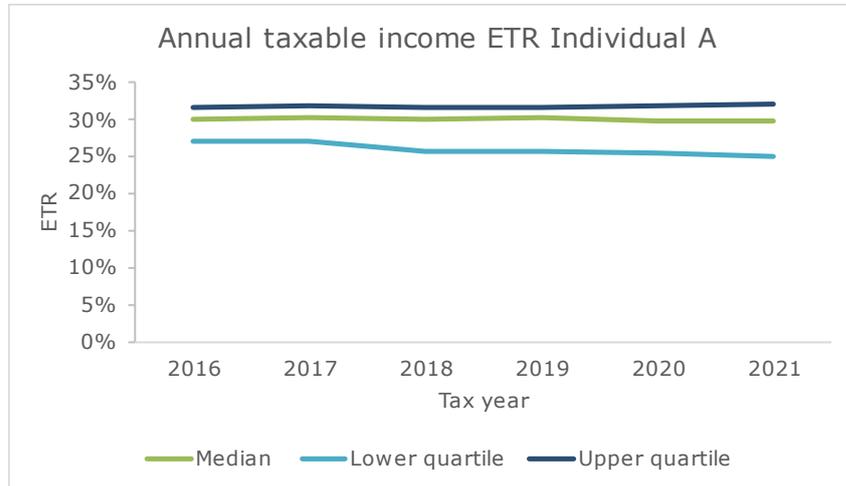
Project period taxable income ETR

5.25   The median Project period taxable income ETR is similar for both Individual A and the family unit, at 30.8% and 30.1% respectively. Figure 5.4 shows that most Project period taxable income ETRs fall in a small range (the inter-quartile range is 5 to 6 percent).

Figure 5.4   Project period taxable income ETR for Individual A and family
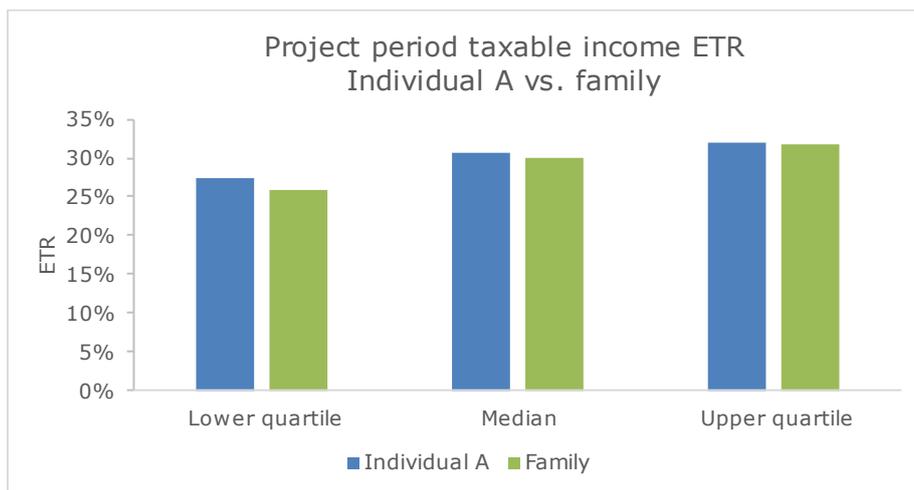
Project period population taxable income ETR (population weighted-mean ETR)

5.26   The Project period population taxable income ETR is 32.2% for Individual A and 31.9% for all members of the responder population. This ETR is higher than the median Project period ETR above, as it puts more weight on those with higher income.

5.27   These results are consistent with the progressive nature of the personal income tax in New Zealand as illustrated in figure 4.1.

Scenario – treating transfer income as a negative tax

5.28   As noted, our main scenario treats transfer income like other income and includes it in the denominator of the ETR. An alternative approach is to treat transfer income as a negative tax in the numerator of the ETR calculation. This is the approach taken by the Treasury in their main analysis.

5.29   Treating transfer income as a negative tax only has a small impact on the Project period population taxable income ETR, reducing it by 1.2 percentage points for Individual A and 1.5 percentage points for the family. This is because transfer income is small relative to the total taxable income of the Project population. However, when considering the median family by *taxable income* for 2018, and assuming a family of two adults who both receive superannuation, treating transfer income as a negative tax reduces their taxable income ETR by 10.1 percentage points, from 30.4% to 20.3%.

Income composition

5.30   Compared with the general population, the Project population receives a relatively large portion of their taxable income from investments, that is, interest, dividends and rental income. Only a small amount of transfer income is received by the Project population, which is all from New Zealand Superannuation, compared to the general population, who may receive New Zealand Superannuation, income-tested benefits and student allowance.

5.31   Figure 5.5 shows the composition of income across the general population taxable income deciles, based on tax administration data, as compared to the Project population of Individual As for 2018.

Figure 5.5   Comparison of composition of taxable income for general population vs. Project population
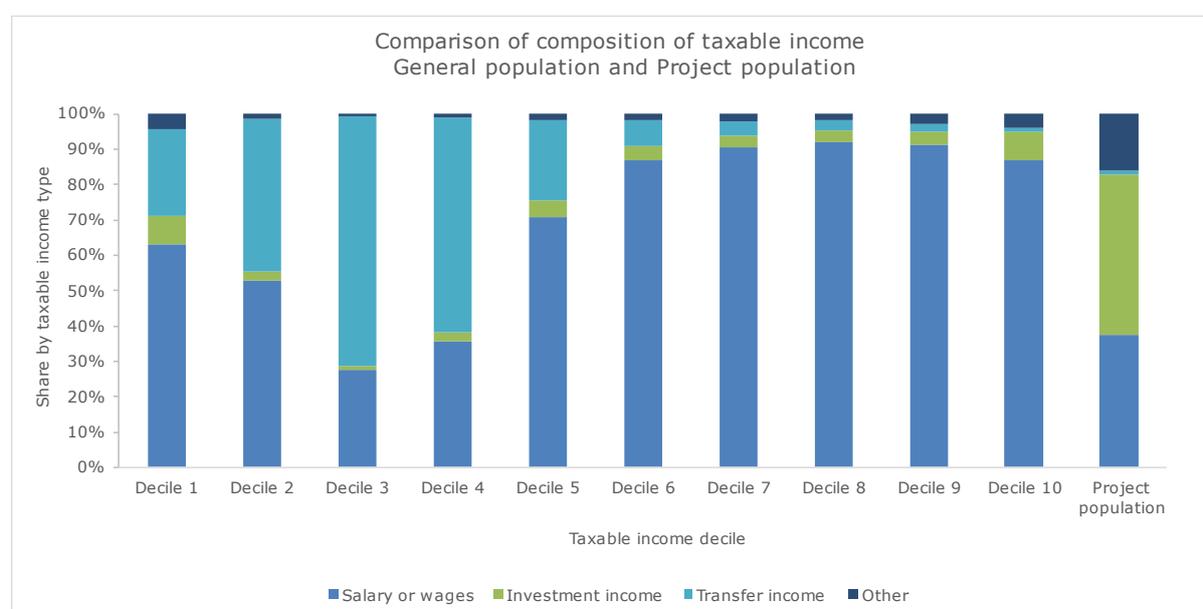
Source: Inland Revenue

PART THREE: ECONOMIC INCOME ETRs OVER THE PROJECT PERIOD

CHAPTER 6

ECONOMIC INCOME

6.1   This chapter discusses the elements of the economic income effective tax rate (ETR) calculations. As noted earlier, economic income ETRs are first calculated based on different income compositions – by assessing the impact of income from different asset classes in isolation – and then for all income sources.

Economic income

6.2   Personal taxable income is statutorily defined. It excludes certain forms of economic gains. In particular, in New Zealand most capital gains are not taxed. This means that ETRs based on only taxable income are limited in their ability to assess the overall progressivity or efficiency of the tax system.

6.3   Given this, the report calculates ETRs based on a more comprehensive measure of income – economic income. Economic income is a measure of income commonly used in public policy research. Our economic income measure approximates the Haig-Simons definition, which defines income as consumption expenditure plus the change in net wealth for a period (Simons, 1938). This approach views income as potential consumption, and most things that would allow an individual to consume more are treated as income. Haig-Simons income offers a comprehensive view of the change in economic resources of an individual (Armour et al. 2014).

6.4   While the Haig-Simons definition is generally regarded as the gold standard for income measurement, practical difficulties of collecting data limit what may be included in its measurement (Smeeding & Weinburg, 2001). Notably, we do not seek to measure economic income directly from consumption and change in wealth; rather, we measure it through the gains (cash and accrued) to the individual. In effect, we start with income sources taxable at the personal level – using tax administration data – and add in additional income that is not taxed at the personal level.

6.5   Our economic income measure is therefore calculated as the sum of (as relevant for the asset class ETRs):

- Annual net income or loss (base income).

- Realised capital gains (for assets sold during the Project period).

- Accrued capital gains (for assets not sold during the Project period).

- Non-taxed distributions from companies and trading trusts.

- Trustee taxable income (and capital gains on the assets in trusts).

- Taxable income of land-rich entities (this replaces distributions from those entities and is in addition to the capital gains on real property).

- Imputed rental on owner-occupied housing.

6.6   These elements are explained in more detail below, and how these elements are applied in the asset class ETRs is explained in the relevant chapters.

Annual net income or loss (base income)

6.7   The first element in the calculation of economic income ETRs is the individual's annual "net income or loss" (as defined in the Income Tax Act 2007, section BC 4). This is derived from tax administration data. Annual net income or loss (annual net income) has the same income sources as personal taxable income but differs from personal taxable income as losses are recognised fully in the year they occur. Unlike personal taxable income, annual net income may be negative. Annual net income is used as the base for economic income as it is a better reflection of the individual's actual income from taxable sources than taxable income.

6.8   As annual net income already includes taxable distributions (such as dividends and beneficiary income), only untaxed distributions from entities are additionally added to calculate economic income.

Income from entities and trusts

6.9   Our economic income measures also attribute amounts earned through entities and trusts to the individuals. As explained in later chapters, non-portfolio entities are classified as business entities (this includes companies and trading trusts) or land-rich entities. The income from business entities is the change in value of the individual's ownership interest in the entity plus distributions from the entity to the individual. If an entity holds significant property assets, it is classified as a land-rich entity. In this case, we measure the capital gain as the change in value of the real property assets of the entity. For land-rich entities, we include the taxable income of the entity in economic income, as a proxy for rental income, and remove distributions to avoid double counting.

6.10   Chapter 7 explains how we incorporate income earned through trusts. The income of the trust is attributed to the family using the methodology in chapter 7. For the all-income ETR, when the trust is not a trading trust, we include in income the families' proportion of the trustee income and the capital gains on the assets of the trust. For the asset class ETRs, only the capital gains on the relevant assets of the trust are added to income. Trading trusts are treated as a business entity and the income is calculated accordingly.

Capital gains

6.11   The most significant items added to annual net income are realised and accrued capital gains.[38] In Part 3, capital gains are calculated for the Project period (that is, the earliest base year used to calculate capital gains is 1 April 2015).

6.12   Only capital gains from asset types most likely to give rise to material and measurable capital gains are included. Capital gains from smaller assets and personal items, such as cars, artwork, intellectual property and jewellery, are not included. While this arguably results in some downward bias to the income measures, these capital gains are likely to be immaterial and many of these items may be better thought of as consumption goods rather than assets.

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[38] Advani and Summers (2022) note that the inclusion of capital gains in the comprehensive income definition is not without problems. For example, a decline in interest rates will increase the present discounted value of consumption flows from an asset such as housing, and hence increase the asset price. An individual may therefore receive gains but not be better off than before. However, when the aim is to measure inequality, it is important to consider these gains, because someone with assets that have increased in sales value when the interest rate falls is better off than someone without such assets.

6.13   There are differences in the reliability of our measures of capital gains for different asset classes. Measures based on listed prices or comparable sales, such as for listed shares and property, will be more accurate than measures based on financial statement information, such as is the case for unlisted entities. Appendix E provides more information on the various data sources.

6.14   Capital gains are measured on the following asset types:

- Real property

    – This includes owner-occupied homes, other residential property, commercial and industrial property, bare land and farms.

    – Capital gains from real property held directly, or in trusts, partnerships and land-rich entities, are included.

- Portfolio financial assets

    – This includes portfolio equity instruments, debt instruments, and other investments held in New Zealand or overseas. An equity investment is treated as a portfolio investment when the family, together with trusts, held less than a 10 percent ownership interest in the entity or the entity did not meet a specified asset or income threshold (see chapter 11).

    – This includes portfolio financial assets held directly or in trusts.

- Business/non-portfolio entities

    – Business entities are identified and measured separately when the family, together with trusts, owns 10 percent or more of the entity and the entity meets a specified asset or income threshold.[39]

    – Business entities are companies (listed and unlisted) and trading trusts. Capital gains are not calculated on sole trader businesses or partnerships due to difficulties with valuing such entities.

    – Capital gains on indirect holdings of New Zealand companies (when the family's holding is greater than 10 percent) and companies held in trust are also included.

6.15   Capital gains have generally not been calculated on holdings in foreign non-portfolio entities, except for foreign subsidiaries owned by a New Zealand listed company.[40] This is because of difficulties with identification and valuation (see 'Foreign income and taxes' below for a full explanation of foreign income and tax included).

6.16   When we add capital gains to annual net income, we take the following approach to account for the possibility that some capital gains will have been taxed and therefore included in annual net income:

- Real property gains of companies, partnerships, and trading trusts – if there is a business activity code indicating that the entity is in the

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[39] Chapter 13 (SHLCs) includes some companies in which the family had less than a 10 percent ownership interest but was a significant shareholder. The threshold is set at 10 percent for the all-income ETR and business entity ETR.

[40] The foreign subsidiaries of listed companies are not explicitly valued, but their value is inherent in the value of the New Zealand listed companies that own them.

business of land development, subdivision, trading or erecting buildings, we have assumed the realised gains are taxable. How we treat capital gains to remove double counting is discussed in chapter 9.

- In all other cases, we assume capital gains are untaxed, so both accrued and realised gains are reported in the ETRs as additional to annual net income. To the extent that some of these gains are included in annual net income and taxed, this will tend to understate the ETR. However, we consider this is likely to be the correct treatment in most cases.[41]

Imputed rental

6.17   In addition to the above items, the property and all-income ETRs have been calculated both inclusive and exclusive of imputed rental income on owner-occupied housing. This is the rent individuals would pay for their homes if they did not own them and recognises the real benefits to individuals from owning their homes (Smeeding & Weinburg, 2001). For households with otherwise similar incomes, the consumption possibilities are greater for households with low housing costs than for those with high housing costs. Including imputed rental as part of consumption-based income measures recognises this consumption benefit that accrues to homeowners and allows a more meaningful comparison of households with different tenure types (Perry, 2019, p20).

Financing costs

6.18   Estimates of capital income should be net of the financing costs associated with the income-producing asset. Where individuals directly hold assets that produce taxable income, we account for financing costs in annual net income, which is reduced by financing costs. We also take account of mortgages on the owner-occupied property in the calculation of imputed rents. For business entities, the amount of debt in the entity is considered in the calculation of its annual value, and for land-rich entities, financing costs are recognised in taxable income. However, where a directly held asset generates no taxable income but generates capital gains included in our measures (for example, a holiday home), our approach does not take account of financing costs. This could result in an overestimate of income and understatement of ETRs in some cases.

6.19   However, Household Economic Survey data suggests that high-wealth individuals have little personal debt compared to their assets. For the HES 2018, the liabilities of the top percentile of households were 0.33 percent of their assets. Consistent with this, only approximately 15 percent of the Project population declared having a mortgage on their owner-occupied property in the Financial Collection and the value of these mortgages was less than 10 percent of the value of the owner-occupied property. Given this, we do not expect any omitted financing costs to have a large impact.

Gifts and inheritances

6.20   In considering the definition of income, one issue is whether gifts and inheritances should be included. These items form part of Haig-Simons income, given they increase individuals' consumption possibilities. However, different views are taken in the literature on the treatment of gifts. We have chosen not to treat these amounts as income. On one view, gifts and inheritances can be

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[41] Inland Revenue data suggests that approximately 46,000 residential properties were sold and taxed in the two tax years following 2017/18. This represents only 14 percent of the 332,000 residential property sales recorded by Inland Revenue in the same two-year period. Equivalent data is not available for the proportion of taxable sales for other types of assets, such as shares.

seen as a transfer between individuals that net out in aggregate and do not increase aggregate income (Schmalbeck, 2010).[42]

6.21   Another consideration is that our period of analysis is the 2016–2021 income years. Significant gifts and inheritances are rare and may have been received at any point in an individual's life, making it difficult and potentially distortionary to include these amounts in an ETR calculated over a limited period. However, we did collect information on significant gifts and inheritances, which is discussed in chapter 15.

6.22   Finally, as discussed in chapter 4, government in-kind transfers, such as health and education, are not included as income in our measures.

Taxation

6.23   This section discusses the approach to calculating tax for the ETRs.

Timing of tax recognition

6.24   Tax is recognised as the tax assessed on taxable income (of the individual or entity) under New Zealand tax law for a given income year. For example, an individual's personal tax in a year will be the amount assessed for a given year's taxable income. Likewise, a company's or trustee's taxable income will be the amount assessed in relation to the entity's taxable income in a tax year.[43] As discussed in chapter 5, an alternative measure of tax that recognises and values tax losses in the year they are incurred makes minimal difference to the results.

6.25   The Treasury's measure of personal tax in their ETR analysis is also tax on annual taxable income, which is consistent with our primary approach.

Included taxes

6.26   There are choices as to what taxes to include in the calculation of the economic income ETR. The taxes we include are based on a consideration of the following:

- Project purpose: The purpose of calculating ETRs is to assess the level of progressivity and the efficiency of the tax system. This means some taxes are not relevant as they are related to specific costs or disincentivising certain activities (for example, excises).

- Symmetry: We seek to ensure that ETRs are consistent in the treatment of income and taxation. This means that when an income flow is included (for example, capital gains from companies), we will also include any taxation it bears at either the individual or entity level (for example, company tax). This means different taxes are included for different ETR calculations, depending on the income stream included.

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[42] Schmalbeck (2010) argues that if gifts are treated as income, the giving of gifts should be treated as an expense. He gives the example that if every taxpayer were to transfer their income in some year to the person next in alphabetical order on a roster of taxpayers, one would not conclude that aggregate income had doubled. Dodge (2013) notes that the giving of gifts may be argued to be consumption by the giver.

[43] No alignment of dates will be undertaken when a company's or trust's income year differs (non-standard balance date) from that of the individual. For example, the company's 2017 tax paid will be added to the individual's 2017 tax paid, irrespective of the period the 2017 income year refers to.

- Materiality: Some taxes are excluded on materiality grounds, particularly when we have insufficient data to accurately estimate how much of the tax would have been incurred by the Project population.

6.27 The following taxes are included in ETRs as relevant:

- Personal income tax (included in all ETRs): New Zealand income tax assessed on personal taxable income earned by members of the family. For ETRs when company tax is not directly included as tax (see below), this will include the amount of tax attributed to dividends when the tax is satisfied with imputation credits or other tax credits.

- Company tax: When the family owns more than 10 percent of a company,[44] they are attributed a share of company tax proportionate to their shareholding when the relevant income source is included in the ETR (this is also the case when the company is held in trust). To ensure that tax paid by companies is not double counted, when company tax is attributed to individuals, it is reduced by the amount of the imputation credit from that company included in personal tax. No company tax is attributed on portfolio holdings (except imputation credits as described above).

- Trustee tax: Trustee income tax is attributed to the family when the taxable income of the trust is attributed to the family for the all-income ETR. Trustee income tax is not included in the asset class ETRs as trustee income is not included in these ETRs. However, trading trusts are treated as business or land-rich entities, and consequently the share of trading trust tax is included in the asset class and all-income ETR.

6.28 Additionally, an estimate of the GST attributable to the Project population will be made and included in an ETR measure for the all-income ETR.

Excluded taxes

6.29 The following taxes (or tax-like charges) are not included within ETRs:

- Excise taxes and gaming duties: Excluded because these taxes are levied to address the social costs associated with a particular activity. Further, we have not collected detailed data on relevant expenditures and therefore would not be able to accurately estimate the amount paid in excise tax. Excise tax and gaming duties are unlikely to be material.

- Fringe benefit tax: Excluded because the tax is paid by employers, and it is difficult to attribute it to, or determine the incidence on, individuals.

- Local body rates: Excluded as they are not levied by central government.

- ACC levies: Excluded because they are difficult to attribute to individuals, are unlikely to be material and are more akin to insurance.

- Employer superannuation contribution tax: This was considered immaterial in this context.

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[44] Company tax is included for all companies in the listed company ETR (chapter 13).

Foreign income and taxes

6.30   Foreign income and tax are included within ETR measures where practical. However, difficulties with the measurement of foreign income and tax mean that not all amounts are included. Some international studies (such as Alstadsaeter et al., 2019) show that foreign asset holdings can be significant for high-wealth individuals, hence the omission of some foreign income may result in an underestimation of income.

6.31   Foreign portfolio income (including capital gains) and foreign taxes paid directly by individuals and trusts on such income and creditable in New Zealand are accounted for in relevant ETRs. Capital gains on overseas real estate are not included, as estimates of this income (and any tax paid on it) would be unreliable. However, overseas rental income will generally be included as part of annual net income.

6.32   Capital gains related to controlled foreign companies (CFCs) owned directly by individuals and trusts are excluded from the ETRs because of a lack of information on foreign tax payments.[45] This exclusion is likely to be immaterial to the overall results. Administrative data suggests that the Project population hold minimal direct interests in CFCs.

6.33   Foreign income (including capital gains) and taxes related to foreign subsidiaries of listed New Zealand non-portfolio entities are included in the ETRs.[46] This relates to the inclusion of capital gains income from the change in share value of the New Zealand parent company. Since the change in value of the parent company reflects the change in value of all its subsidiaries, foreign income is included to the extent it adds to the gain, and foreign company tax paid by the foreign subsidiaries is also included.

6.34   Capital gains and taxes related to foreign subsidiaries of unlisted domestic non-portfolio entities are excluded from ETR calculations because:

- we do not have the information on the foreign subsidiary's income to estimate the value of the foreign subsidiary, and

- unlike the case for a New Zealand listed company, we can estimate the value of a group of New Zealand unlisted companies without including the value of the foreign subsidiaries (by only considering the income of the New Zealand companies in the valuation).

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[45] Dividends and attributed foreign income from CFCs are included in annual net income, and creditable foreign taxes and New Zealand taxes imposed on these amounts are included as taxes.

[46] This income and tax are also included in the listed company ETR in chapter 13.

CHAPTER 7

TRUSTS

7.1 As discussed, our economic income measures include income earned through trusts. Trust equity can be a significant component of net worth for high-wealth individuals. Rashbrooke (2021) notes that based on the Household Economic Survey, the mean individual in the top 1 percent of the net worth distribution holds around half of their assets in trust equity. Our results show a significant portion of the Project population's income is earned through trusts.

7.2 A trust is within scope if it had total gross assets of greater than $1,000,000 in any year of the Project period and a member of the family was a settlor, appointer or beneficiary of the trust.[47] This asset threshold may bias income downwards. In the information collection, 1,279 such trusts (including trading trusts) were disclosed.

7.3 Unlike corporate entities, it is not clear who has the right to the undistributed income from a trust. For this reason, we have developed a set of rules for attributing income of trusts to the families in the Project population in the relevant years (see 'Attributing "ownership" of trusts' below).

7.4 Our approach to calculating the economic income derived from trusts treats the trust as if the income were directly earned by the family, provided the family has a sufficiently strong relationship to the trust. If the family does not, then only the distributions received by the family from the trust are included in the family's income (see 'Economic income measurement for trusts' below).

Attributing "ownership" of trusts

7.5 Our approach to attributing the income (trustee income and capital gains) and trustee tax of a trust to a family uses a model analogous to company ownership. As trusts are not separate legal entities, vary in structure, and have no equivalent to share equity, this approach provides an approximation of the family's effective ownership.

7.6 We have adopted a series of tests to determine how trust income is attributed to the family.[48] The first set of tests seeks to create a proxy of equity ownership – first considering if the family has real (as opposed to legal) **control** of the trust or has **exclusive beneficial ownership** (regardless of control) of the trust. If this is not the case, we look at the strength of the family's relationship to the trust and then the proportion of distributions the family has either received or has the right to receive.

7.7 The test that is satisfied determines the 'trust attribution factor' for the family.[49] This is the proportion of trustee income (for the all-income ETR) and trust capital gains (for the all-income ETR and asset class ETRs) that is attributed to the family. For example, if the trust attribution factor is 50 percent, then 50 percent of trustee income and 50 percent of trust capital gains are attributed to the family for the all-income ETR. The trust attribution factor is not applied to

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[47] Where such a trust is the sole beneficiary of another trust, that other trust is also included. SHLCs in trust are included in the listed company ETR if they are consolidated in disclosed stock exchange holdings.
[48] All tests use the definition of family in the glossary. Adult children are excluded from this definition.
[49] For chapter 13 (SHLCs), the trust attribution factor is assumed to be 100 percent.

beneficiary income, for which the actual amount received is included in the recipient's base income.

Where the family has control or exclusive beneficial ownership

7.8   If either the control or exclusive beneficial ownership test is satisfied, we treat the trust as effectively "owned" by the family and the trust attribution factor is 100 percent. This applies to around 71 percent of disclosed trusts.

Control test

7.9   The control test is satisfied if two-thirds or more of those with the power of appointment over the trust are family members. Power of appointment refers to a person having been granted the right, usually in the trust deed, to appoint, change, and possibly remove trustees, and in some cases, to appoint or remove beneficiaries from a class that can benefit under the trust. It can sometimes also include a power to approve or veto certain key decisions of trustees, such as to dispose of significant assets, to approve certain distributions or even to trigger the liquidation of the trust.

7.10   Trustees also have day-to-day control of the trust assets. However, we have not used this as a proxy for control; rather, we have treated this as being equivalent to the directors of a company charged with day-to-day decision-making. We have equated the powers of appointment with the rights vested in the shareholders of a company. These are not recognised principles that appear in tax law, and they are only adopted for the purpose of this Project.

7.11   Where there is no power of appointment created, the law generally vests this in the trustees in the event of a vacancy. However, we do not have the capacity to determine this position in individual cases, so we have chosen not to use this as an additional test for attribution purposes.

Exclusive beneficial ownership test

7.12   The exclusive beneficial ownership test is satisfied if all beneficiaries of the trust are in the family. In this case, we consider there is a clear expectation that all beneficiary distributions would eventually be made to the family.

7.13   The exclusive beneficial ownership test is also satisfied where the trustees hold the family's principal home. This brings an additional 9 disclosed trusts into this set of trusts.

Where the family does not have control or exclusive beneficial ownership

7.14   If neither the control nor exclusive beneficial ownership test is satisfied, we look at the following two approaches.

7.15   First, we consider the strength of a family's relationship to a trust. If the only relationship the family has with the trust is as beneficiaries (and there are beneficiaries outside the family), then the trust attribution factor is zero and we only include the distributions the family received from the trust in income. We refer to this as the **beneficiary-only** test and this applies to 79 trusts.

7.16   Second, if a family has other relationships with a trust in addition to being a beneficiary (that is, as a trustee, appointer, or settlor), the trust attribution factor is determined based on the distributions the family has received or may be expected to receive in the future. The attribution factor is determined by applying the following tests sequentially (meaning the first test met in the list is the one applied):

- First, for a "fixed" trust with non-discretionary entitlements to income provided for (62 trusts), we determine the trust attribution factor based on the share of distributions to which the family is entitled.

- If the first test is inapplicable and actual distributions have been made to the family in the Project period, we determine the trust attribution factor based on the proportion of total trust distributions the family received over the Project period. This test applied to 26 trusts.

- Finally, if neither of the above apply, we determine the trust attribution factor based on the proportion of assets, if any, the family would be entitled to as final beneficiaries if the trust were wound up (this applies to 17 trusts). This is equivalent to the rights of shareholders in a liquidation.

7.17   Under these tests, the trust attribution factor is zero for 21 percent of trusts. This includes the trusts that met the beneficiary-only test and trusts that did not meet any test, which were 15 percent of trusts.

Economic income measurement for trusts

Trading trusts

7.18   If the trust is a trading trust (that is, has an active business), economic income is measured in the same way as for business entities (chapter 11) and attributed as above. Trustee tax for the year is also attributed as tax.

Trusts other than trading trusts

7.19   The following paragraphs discuss how the economic income from other trusts is measured for the all-income ETR and the asset class ETRs.

All-income ETR

   Income

7.20   If the beneficiary-only test does not apply, total economic income from the trust for the family is the sum of:

- beneficiary income received by the family (already included in the annual net income base)

- the trustee's taxable income x the family's trust attribution factor

- the capital gains on the underlying assets of the trust[50] x the family's trust attribution factor

- for land-rich entities held in trust, the taxable income of the entity, less distributions from the entity to the trust, is also included in income (pro-rated in proportion to the trust's ownership of the entity and following application of the trust attribution factor).[51]

7.21   Distributions from a trust that are taxable to members of the Project population are included in income as part of annual net income/base income. These

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[50] That is, real property held directly by the trust or in a land-rich entity held by the trust, business entities held in trust, and portfolio assets held by the trust as per the portfolio methodology.

[51] The treatment of land-rich entities is discussed in chapters 9 and 11.

distributions do not form part of the trustee's taxable income. Untaxed distributions are not recognised as income to the Project population unless the beneficiary-only test applies. This is because the income used to fund them is recognised as income of the trust and is therefore already included. Distributions of the trust to third parties are not part of income for our purposes.

7.22   If the beneficiary-only test applies, the trust attribution factor is zero and the income to the family members is the amount received as taxable beneficiary income and untaxed distributions from the trust.

Tax

7.23   Tax from trusts included in the all-income ETR is trustee tax plus attributed company tax on companies owned by the trust. This is multiplied by the family's trust attribution factor. Tax on beneficiary income is included in tax on personal taxable income.

Asset class ETRs

7.24   Table 7.1 sets out the income and tax from trusts for the asset class ETRs.

7.25   Because we cannot determine which components of income earned by the trust (for example, rent) have been distributed as beneficiary income and are therefore already in annual net income/base income, we do not attribute to trust beneficiaries any taxable income of the trust for the asset class ETRs. However, non-taxable gains (that is, capital gains) are attributed since they cannot have been included in base income. No trustee tax is attributed on those amounts.

7.26   Where the beneficiary-only test is satisfied, the trust attribution factor is zero. Only taxable beneficiary income is included in the individuals' income for the asset class ETRs. Untaxed distributions are not included as it is not possible to identify which element of income has been distributed.

Table 7.1   Trust asset class income and tax attribution

Trust held asset	Income added (*attribution factor)	Tax added (*attribution factor)
Property ETR (directly held by trust)	Capital gains from trust property	None
Property ETR (land-rich company in trust)	Share of capital gains from property in land-rich company Share of company taxable income	Share of land-rich company tax
Portfolio ETR	Capital gains from portfolio equity investments	None
Business entity ETR	Share of gross capital gains of companies held in trust	Share of company tax
Chapter 13 only **Listed company ETR**	Share of capital gains on trust holdings of company – 100 percent attribution factor	Domestic and foreign company tax

CHAPTER 8

ANNUAL NET INCOME OR BASE INCOME

Introduction

8.1   Annual net income, referred to as base income, is the income base from which economic income is calculated. It only includes income sources taxable at the personal level. It is used in preference to personal taxable income as the treatment of losses more accurately reflects the economic income or loss a family generates during the year from personal taxable income sources. Like personal taxable income, base income constitutes 7 percent of the economic income of the Project population.

8.2   This chapter presents effective tax rates (ETRs) based on annual net income (base income) as the first step in the economic income calculations.

8.3   Income and ETRs in this chapter, and all chapters in Part 3, are calculated for the responder population unless otherwise stated. This is 311 families (311 Individual As, 238 partners and 27 dependent children) or 311 Individual As. The addition of income from children throughout the income categories has proven to be immaterial to the ETRs.

Methodology

8.4   The ETR on annual net income, the **base income ETR**, is calculated as:

$$\frac{Personal\ tax\ assessed}{Annual\ net\ income}$$

8.5   *Annual net income* is sourced from tax assessments Inland Revenue holds for the individual taxpayer. It is the sum of the income types taxable at the personal level minus any allowable expenses. It therefore includes the same income types discussed in chapter 5 - personal taxable income. However, rather than recognising losses that have been brought forward (or claimed) for tax assessment purposes, losses are only recognised in the year they economically occurred. This means annual net income can be a negative amount. Around 3 percent of the responder population have a negative base income amount each year.

8.6   *Personal tax assessed* is the amount of the individual taxpayer's tax liability on their personal taxable income under the personal tax rate schedule for the year. It is calculated in the same manner as in chapter 5. Again, GST is not included in tax in this chapter.

8.7   Calculating an ETR using personal tax assessed divided by annual net income is appropriate as a base from which economic income calculations are undertaken. This is because annual net income better reflects income economically earned in a year, whereas taxable income reflects income as defined under tax law (which could be influenced by earlier years' income). As our goal is to assess how much tax is paid under current tax settings relative to economic income, we use tax assessed on taxable income as the measure of tax. Further, as discussed in chapter 5, an alternative measure of personal tax that imputes a tax benefit for losses on personal income made an immaterial difference to the results.

Results

Income

8.8   The mean annual net income for Individual A is similar to mean taxable income over the period. The mean varies between $794,000 and $879,000 from 2016 to 2020, and then it increases to $1,971,000 in 2021.

8.9   The mean annual net income for the family unit is similar to mean taxable income, being between $929,000 and $1,015,000 from 2016 to 2020 and then increasing to $2,148,000 in 2021.

8.10   The median annual net income for Individual A and the family unit is also similar to taxable income, being between $250,000 and $314,000 for Individual A and between $325,000 and $377,000 for the family unit.

Figure 8.1   Median vs. mean base income Individual A and family
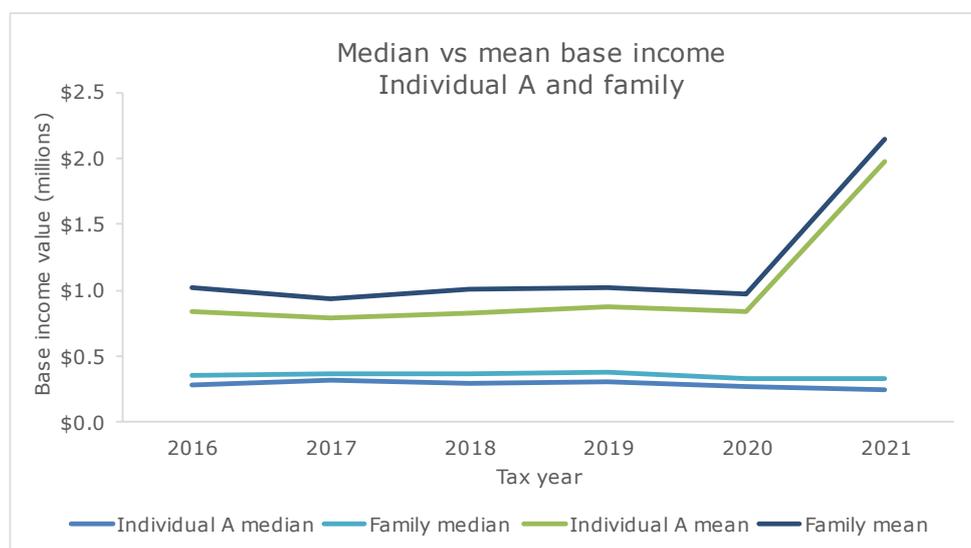
Effective tax rates (ETRs)

8.11   The same ETRs are calculated as for taxable income.

8.12   The base income ETRs have also been calculated for the whole population (352 families and 352 Individual As) as a sensitivity test. The base income ETRs are similar based on the responder or whole population, being on average within 0.2 percentage points. The mean and median base incomes of the responder population are, on average, 4 percent higher than for the whole population of Individual As and 6 percent higher for the family.

Annual base income ETR

8.13   Figure 8.2 shows that, for each year of the Project period, the median annual base income ETR for Individual A is between 29.4% and 30%. The family unit ETR is around 1 percentage point lower, being between 28.4% and 29.2%. On average, this is 0.4 percentage points different to the results for the taxable income ETR.

8.14   As with taxable income, most Individual A/family unit annual base income ETRs are within a small range. The range between the lower and upper quartiles (50 percent of the population) is around 8 percentage points for most years.

Figure 8.2   Annual base income ETR for Individual A
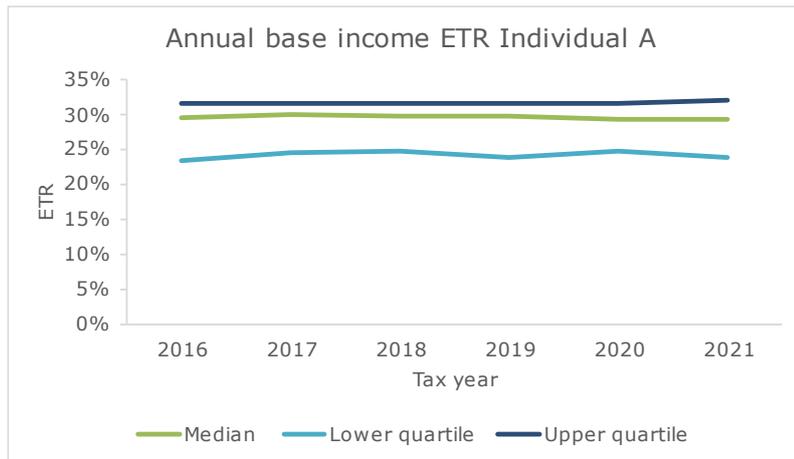
Project period base income ETR

8.15   The median Project period base income ETR is similar for both Individual A and the family unit, being 30.9% and 30.1% respectively. These results are very close to the results for the taxable income ETRs. Figure 8.3 shows the distribution of Project period base income ETRs by ETR band[52] for Individual A. The distribution for the family unit is similar. Some individuals have low ETRs due to having low base income (a negative ETR occurs when base income is negative).

Figure 8.3   Project period base income ETR for Individual A
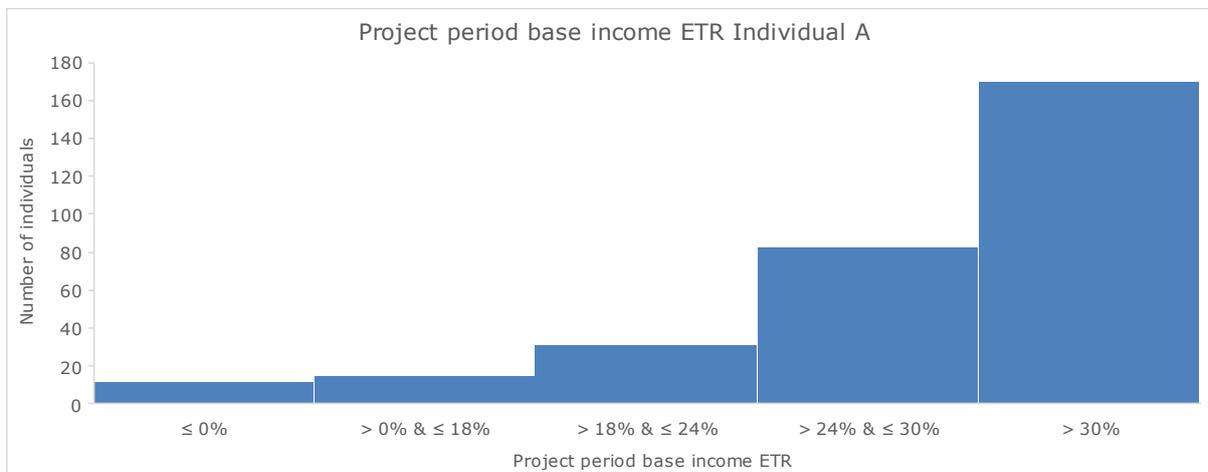
Project period population base income ETR (population weighted-mean ETR)

8.16   The Project period population base income ETR is 32.2% for Individual A and 32.1% for all members of the responder population. This is similar to the taxable income ETRs on the same measure of 32.2% and 31.9% respectively.

Distribution of base income across general population income deciles

8.17   As with taxable income, most families fall into income decile 10 when their base income is considered in comparison to the general population Household

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[52] This shows the number of individuals in each ETR range.

Economic Survey (HES) income deciles. The distribution of taxable income and base income across the general population income deciles (HES 2019) is shown in figure 8.4.[53]

Figure 8.4   Distribution of families' income across household income deciles

Distribution of families across HES 2019 household income deciles
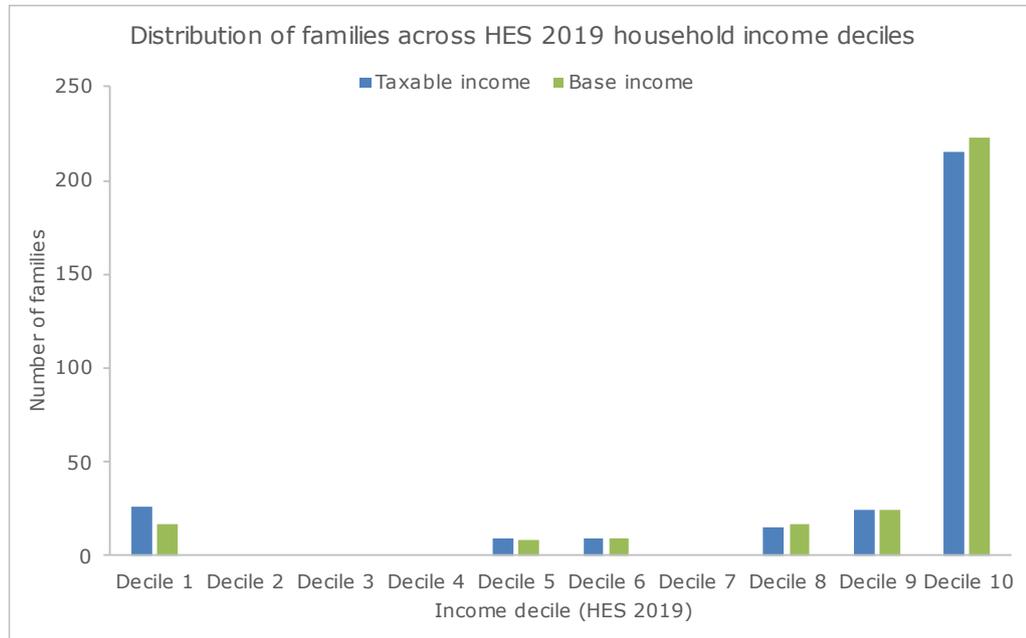
Source: House Economic Survey (2019) and Project data

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[53] Counts below 6 are not disclosed.

Box 3:   Asset Class ETRs

Chapters 9, 10, 11 and 13 calculate asset class ETRs. Asset class ETRs are calculated as if income were earned only from annual net income (base income) and the asset class in question (for example, property). Therefore, asset class ETRs isolate a particular income stream to assess the impact of that income stream on the base income ETR. Tax is added to the numerator of the asset class ETR when an income stream that bears that tax is included.

The asset class ETRs follow a standard format of:

$$ETR = \frac{\text{Personal tax assessed } + \text{ tax from asset class A}}{\text{Annual net income } + \text{ income from asset class A}}$$

Personal tax assessed and annual net income (base income) are included in all asset class ETRs to provide a standard base line to compare how much a particular income source changes the ETR, as compared to the base income ETR of approximately 30%.

The asset class ETR is an income-weighted mean of the base income ETR and the ETR for the income source added. A weighted-mean ETR is a measure of the relevant units ETR that accounts for the proportion of income subject to different tax rates. The extent of variation in the asset class ETR, from the base income ETR, depends on:

- the ETR on income from asset class A; and
- the size of the income from asset class A relative to base income.

If the average ETR on income source A were 30%, the addition of income source A would not reduce the ETR relative to the base income ETR no matter the size of the income source. If the average ETR on income source A were 0%, but income source A was very small (large) compared to base income, then income source A would have minimal effect (a large effect) on the ETR, compared to the base income ETR.

Sub-components of income from an asset class are first added separately. Then all income components of an asset class are added for the all-asset class A ETR. For example, for the portfolio ETR, the asset class ETR is calculated:

- first, only including income from direct holdings of portfolio investments (direct portfolio ETR)
- second, only including income from trust holdings of portfolio investments (trust portfolio ETR).

This allows us to assess if direct or trust holdings of portfolio assets have a bigger impact on the base income ETR. Then, for the all-portfolio ETR, income from both direct and trust holdings is included to show the combined impact of all portfolio income on the ETR. As, personal taxable income and personal tax are included in the all-portfolio ETR, as well as in each of the direct portfolio ETR and trust portfolio ETR, the all-portfolio ETR is not a weighted mean of the direct and trust portfolio ETRs. As illustrated in figure 8.5, the all-portfolio ETR shows the total impact of these income sources on the ETR.

Figure 8.5   All-portfolio ETR vs. component portfolio ETRs
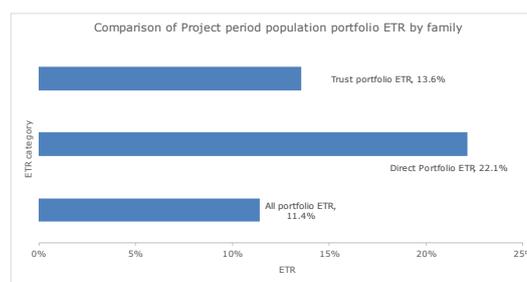
CHAPTER 9

REAL PROPERTY

Introduction

9.1   This chapter examines income accruing to the Project population from real property holdings. It presents asset class effective tax rates (ETRs) assuming income is comprised of annual net income (base income) and economic income from real property holdings (property ETRs).

9.2   The population for this chapter is the responder population unless otherwise stated.

9.3   For the general population, while real property is more widely held than other asset classes, holdings of property are still concentrated in higher net worth deciles. Further, higher net worth deciles have a lower ratio of property liabilities to property assets, meaning higher deciles have a higher share of net than gross real property holdings. Higher deciles also have higher values for real property in trusts. Figure 9.1 shows that when holdings through trusts are included, the top net worth decile holds around 45 percent of net real property assets.[54]

9.4   Owner-occupied housing (OOH) is a greater share of the assets of middle, than higher, income deciles (see figure 9.3, at paragraph 9.32). Figure 9.2 shows that the top net worth decile holds around 70 percent of net real property assets excluding OOH (including property held in trust).

Figure 9.1   Share of total household real estate holdings by net worth decile
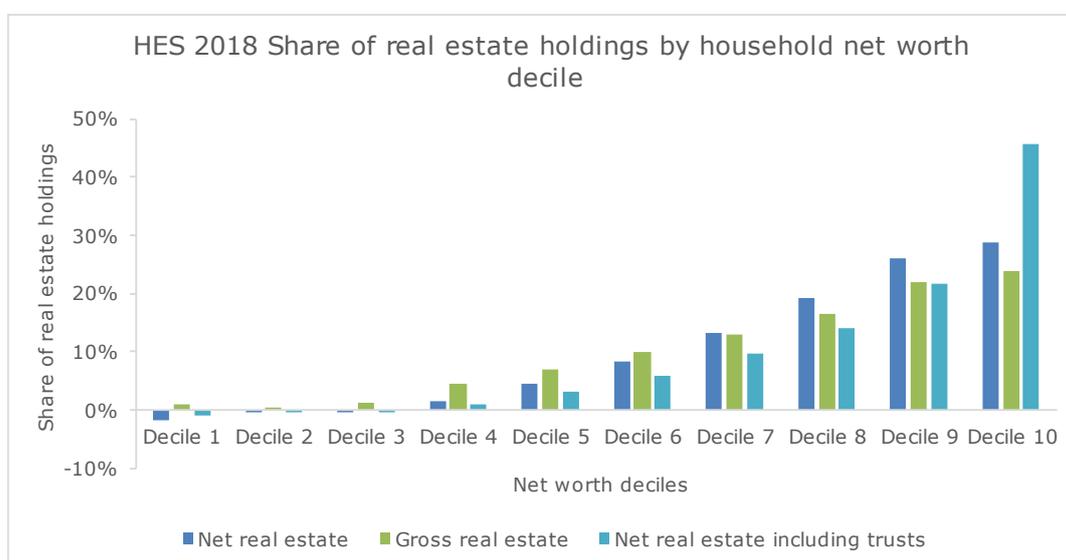
Source: Household Economic Survey (2018)

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[54] Household Economic Survey, Net Worth Supplement (2018). Net real estate assets are net of real estate loans. Trust holdings may contain some non-financial assets other than real estate.

Figure 9.2   Share of total household real estate holdings by net worth decile excluding OOH

HES 2018 Share of real estate holdings by household net worth decile excluding OOH

■ Net other real estate   ■ Gross other real estate   ■ Net other real estate including trusts
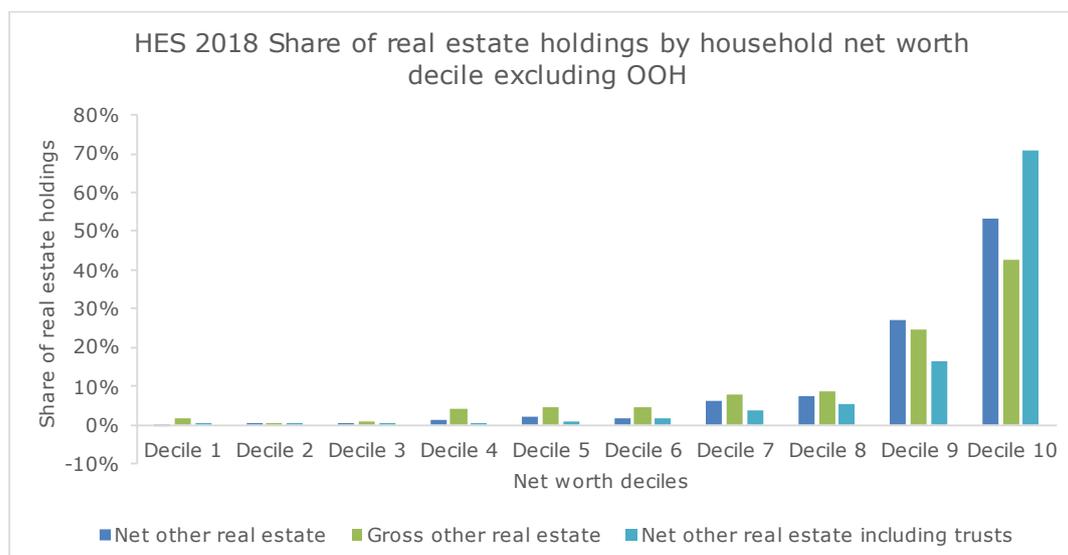
Source: Household Economic Survey (2018)

Included assets

9.5   Income from residential and non-residential New Zealand property held directly by individuals or indirectly through land-rich entities and trusts is included in the property ETRs. Property ETRs are decomposed into the following sub-categories based on how property is held:

- direct property ETR,

- land-rich entity ETR, and

- trust property ETR.

9.6   These property income and tax sources are combined for calculating the all-property ETR. Additionally, imputed rental is included in an all-property ETR.

Methodology

9.7   To calculate the property ETRs, we start with the base income ETR presented in chapter 8 (personal tax assessed/annual net income) and add in income from property holdings as discussed below.

Directly held property

9.8   Directly held property is property held in an individual's name. This includes property held in a general partnership.[55] Capital gains (accrued and realised) from directly held property are added to annual net income to calculate the direct property ETR.

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[55] Information was collected on trustee holdings of property in the Financial Collection. Where the individual was on the property title only in the capacity of a trustee (and was not a beneficiary), this property has been removed from the data. Similarly, where a property was held on an individual's behalf by another person in a bare trustee or nominee capacity, this property has been included.

9.9   The **direct property ETR** is:

$$\frac{Personal\ tax\ assessed}{Annual\ net\ income\ +\ capital\ gains\ from\ directly\ held\ property}$$

9.10   For directly held property, any rental/lease income will already be included in the individual's annual net income. Additionally, the tax paid on rental/lease income is already included in personal tax assessed, as is any tax paid on capital gains, such as under the bright-line test. However, as we cannot identify these taxable capital gains, our measure may double count some gains.

9.11   For directly held property, debt and other rental expenses on a rented/leased property will be taken into account as they will reduce net rental income (an element of annual net income) and tax on taxable income. For owner-occupied property, debt is considered in the calculation of imputed rental (see below).

Property held in trust

9.12   Economic income from real property held in trust will be calculated and attributed to families in accordance with the trust attribution methodology.

9.13   When the trustee of the trust holds the property directly, the income added is the capital gain on the property. The taxable income (rental and bright-line gains) of the trust from owning the property (and associated costs) is not attributed in the asset class ETR[56] because taxable income amounts are often paid as beneficiary income. No additional trustee tax is attributed for the asset class ETR given only non-taxable trust income has been included.

9.14   The **trust property ETR**, when the trustee directly holds the property, is:

$$\frac{Personal\ tax\ assessed}{Annual\ net\ income\ +\ capital\ gains\ from\ trust\ property^{57}}$$

9.15   A trust may also own a company that holds property. If the company is land rich, the income (and associated tax) will be calculated in the same manner as for land-rich entities (see below).

Property held within entities

9.16   Companies and trading trusts that predominantly hold property investments are regarded as land rich and are included in the land-rich entity ETR.

9.17   Companies and trading trusts will be deemed to be land-rich entities when the average annual value of the entity's property interests is greater than the average annual equity value of the entity over the Project period. For example, if an entity has an average annual value of property of $5 million, as well as an average annual business value (using the method set out in chapter 11) of $2 million, the entity will be valued based on its property interests only.[58]

9.18   For limited partnerships, all property held by a limited partnership is included in the land-rich entity ETR in proportion to the limited partner's partnership interest.

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[56] Trustee income is included in the all-income ETR.

[57] Multiplied by the trust attribution factor.

[58] The comparison is between the gross value of property and the equity value of the entity.

9.19   The economic income of a land-rich entity (including limited partnerships) is the change in market value of the entity's real property assets plus taxable income[59] (assumed to be mainly rental and lease income) from the entity. For entities identified as property trading companies through their Business Industry Classification (BIC) code, we assume the taxable income of the entity includes realised capital gains. In this case, we do not include the realised capital gains (or gains on that property prior to the year of sale) in economic income so that we do not double count capital gains.

9.20   As dividends paid by a land-rich company to the individual are included within the individual's personal income and the company's taxable income, they are subtracted from the income calculation.[60] This avoids double counting of income generated by the entity.

9.21   When income from land-rich entities is included in the ETR, company tax and trustee tax from trading trusts on that income are added to the numerator of the ETR. The amount of tax met with imputation credits from the same company is removed from tax to avoid double counting. Both income and tax are attributed to the individuals (and trusts) in proportion to their ownership.

9.22   Unlisted companies and trading trusts that are not land-rich entities are valued in accordance with the methodology in chapter 11.

9.23   The **land-rich entity (LRE) ETR** is:

$$\frac{Personal\ tax\ assessed + attributed\ entity\ tax - imputation\ credits\ from\ LRE}{Annual\ net\ income + property\ capital\ gains\ and\ taxable\ income\ from\ LRE - dividends\ from\ LRE}$$

All-property ETR

9.24   The all-property ETR includes all sources of property income from direct, trust and land-rich entity holdings and all tax included in the property ETRs (that is, personal tax and attributed entity tax from land-rich entities). The all-property ETR shows the combined impact of all property income (and tax) on the base income ETR, whereas the component ETRs above show the significance of each source of property income individually. As tax is spread across more income in the all-property ETR, it is lower than the component ETRs.

9.25   The **all-property ETR** is:

$$\frac{Personal\ tax\ assessed + attributed\ entity\ tax - imputation\ credits\ from\ LRE}{Annual\ net\ income + all\ property\ capital\ gains + taxable\ income\ from\ LRE - dividends\ from\ LRE}$$

Calculation of capital gains

9.26   Capital gains on real property have been calculated as the annual change in value of the property over the Project period. The way in which a real property's annual value is determined depends on whether the property is residential or non-residential.

9.27   For residential property (including lifestyle), annual valuations have been obtained from a third-party automated property valuation service. This uses an

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[59] In the case of a limited partnership, the taxable income is already included in annual net income.

[60] In the case of trading trusts, beneficiary income does not need to be subtracted as it is not included in the trustee income. For the asset class ETRs, dividends from land-rich companies held in trust are not removed as trustee income is not included in the ETR.

Automated Valuation Model (AVM) based on comparable sales data.[61] The annual (accrued) change in value is measured using the relevant year's closing AVM for the property less the previous year's closing AVM, when the property was not disposed of in that year. Realised gains included in economic income are calculated for a sales year based on the AVM for the year of sale less the prior year's closing AVM, with the capital gain for the sales year pro-rated for the portion of the year the property was held.[62]

9.28   For non-residential property, the properties are split into sub-categories depending on the property type and region. The sub-categories of non-residential property are:

1. Commercial.

2. Industrial.

3. Rural/Farm.

4. Forestry.

9.29   For non-residential property, an initial 2015 valuation is established from the rateable value.[63] Annual values are then calculated by applying an annual growth rate to the rateable, and then subsequent years', value.[64] The growth rate is derived from comparable sales data and is applied at the level of each non-residential sub-category and region (the growth rates are provided at the end of this chapter). Where a disposal occurs, the realised gain included in economic income is valued based on the calculated valuation, less the prior year's value, pro-rated for the portion of the disposal year held.

9.30   An allowance has been made for assumed expenditure on improvements for property (capital expenditure). Where the change in improvement value for the property in our data exceeds 4.4 percent per annum, we assume the excess is capital expenditure.[65] The change in value of the property is then reduced by the amount of the estimated capital expenditure.

Imputed rental

9.31   Imputed rental is the foregone rental from living in one's own home. It represents the consumption benefit that an owner-occupier receives from home ownership. It is included as a component of economic income to ensure equal treatment of homeowners and renters (see chapter 6).

9.32   Figure 9.3 shows that owner-occupied housing represents a smaller proportion of the total assets of decile 10 than other deciles.[66] For the Project population, owner-occupied property is small compared to total assets, at around 1.8

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[61] There were some gaps in the AVM data that were filled by using territorial authority growth rates. Where a residential property has no AVM valuation for any years, the property's rateable value is used.

[62] We investigated use of the sales price. However, this was not comparable with the AVM-based purchase price. Actual purchase prices were generally not available in our data.

[63] The rateable value (RV) used for the 2015 opening value is the closest RV prior to this date.

[64] The six-year average growth rate has been used due to the annual volatility in growth rates.

[65] This is the average annual change in the CPI - Purchase of Housing index. This is used as an estimate of the expected change in the capital value of the house.

[66] Household Economic Survey, Net Worth Statistics (2018). Decile 1 have higher gross assets and higher holdings of owner-occupied dwellings than decile 2 but have lower net worth due to higher liabilities. This leads to the relatively high proportion for decile 1.

percent. Nonetheless, for the Project population, imputed rental is 16 percent of base income over the Project period.

Figure 9.3   Share of total household assets held in owner-occupied housing by net worth decile compared to Project population

HES 2018 Share of total household assets held in owner-occupied housing by net worth decile
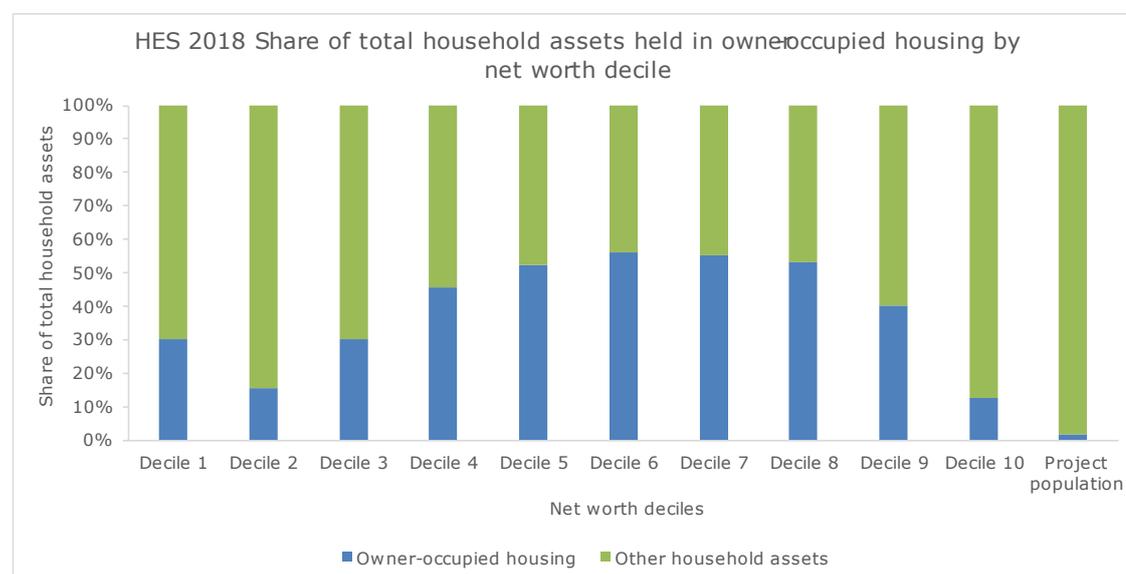
Source: Household Economic Survey (2018)

9.33   The Project sought information from each family on their principal residence and the amount of mortgage borrowing secured over it, if any. The principal residence is valued using the AVM method. Imputed rental on the owner-occupied property is calculated as:

$$Imputed\ rent = Family's\ net\ equity\ in\ owner-occupied\ property\ x\ territorial\ rental\ yield[67]$$

9.34   As the imputed rental calculation is based on the net equity value of the property, it accounts for the debt the owner may have on the property. Imputed rental is only calculated on one property. In reality, families may be benefiting from the use of more than one property (for example, a main home and a holiday home). The imputed rental included may therefore be under-measured.

Data sources

9.35   Publicly available title data from LINZ is held by Inland Revenue and has been used by the Project to identify both direct holdings and holdings through entities.

9.36   Limited information was sought from the Project population on property ownership in the Entity and Financial Collections. As trust-held property generally displays the names of trustees on the title, details regarding trustee- or nominee-held property were requested from the Project population to ensure title data was correctly matched with the beneficial owners of the real property. Details relating to the primary residence were also sought from the Project population for the purpose of calculating imputed rent.

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[67] Territorial rental yields ranged from 2.9 percent (for Dunedin) to 5.7 percent (for Auckland) with an annual average of 3.7 percent.

9.37   Non-residential property growth rates and AVMs for residential property were obtained from specialist property valuation companies. Residential territorial authority growth rates are sourced from The National Policy Statement on Urban Development data catalogue (Data.gov.nz, 2019).

Results

Income

9.38   Figure 9.4 shows the annual amount of base income, capital gains on directly held and trust-held property, capital gains and taxable income of land-rich entities and imputed rental for all members of the responder population for each year. Together, these are the elements of income for the all-property ETR.

Figure 9.4   Property income value compared with base income value for family
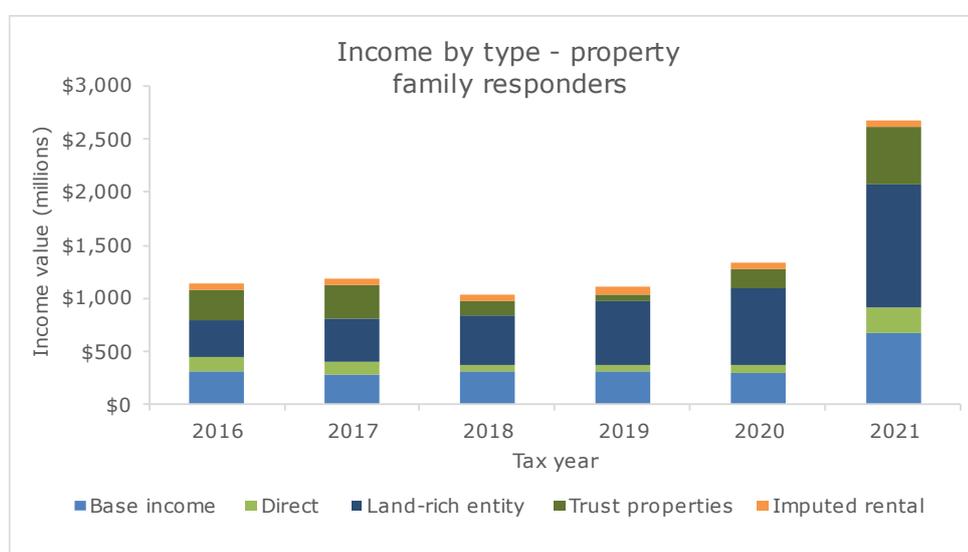
9.39   The total value of income from land-rich entities and trust properties is larger than for directly held property. As shown in table 9.1, the population hold many properties in land-rich entities. Properties held in trust tend to have a higher value than properties held directly, leading to higher capital gains for trust-held than directly-held properties. Table 9.1 also shows that the growth rates for properties of the Project population, over the Project period, are in line with average growth rates over the Project period (see paragraph 3.18).

9.40   Figure 9.5 shows the capital gains included in economic income from residential and non-residential property by ownership type. Capital gains are larger for non-residential property, with 41 percent of capital gains being derived from residential and 59 percent from non-residential property.

9.41   Additional work on forestry capital gains was done to analyse the effect of the mismatch of capital gains accruing before sale versus the imposition of tax that is deferred until the trees are sold. To do this for the all-property ETR, a sensitivity test was completed. At 1 decimal place, there is no difference in any of the ETR calculations when forestry capital gains are excluded. As such, forestry capital gains income has been included in the property ETR calculations.

Table 9.1   Average growth rate and number of residential and non-residential properties by class[68]

Property holding type	Average number of properties per year	Average value growth, p.a.
	2016 – 2021	
Direct	1,279	10.2%
…. Residential	874	9.8%
…. Non-residential	405	11.1%
Trust	1,126	9.6%
…. Residential	812	8.7%
…. Non-residential	314	12.2%
Land-rich entity	4,581	11.3%
…. Residential	3,421	10.9%
…. Non-residential	1,160	13.1%

Figure 9.5   Total capital gains from residential and non-residential
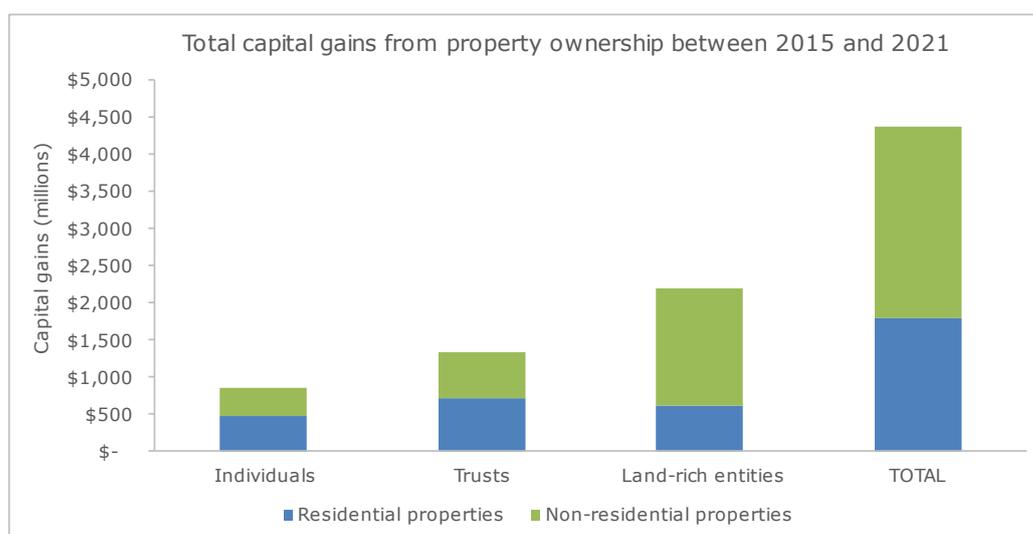
Effective tax rates (ETRs)

9.42   The same ETRs are calculated for each of the property ETRs as for the base income ETR (that is, annual, Project period and Project period population).

9.43   As the trust attribution methodology applies on a family basis, trust property income has been grouped by family. As such, the following ETRs will mainly

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[68] The *Average number of properties* is calculated as the average annual number of unique properties that members of the Project population have a share in during the Project period. The *Average value growth* is calculated as the simple average of the annual growth rate of all properties from 1 April 2015 to 31 March 2021.

focus on the family rather than Individual A. For all ETR measures, income is base income plus property income unless otherwise stated.

9.44   For directly held property, measures have also been calculated for the whole population as a sensitivity check.[69] Based on the whole population, the median Project period ETR and the Project period population ETR are less than 1 percentage point different from measures for the responder population.

Annual property ETR

9.45   Figure 9.6 shows the median annual base income ETR (on average, 29% across the six-year period) compared to the median annual all-property ETR for the family unit.

9.46   Over the Project period, the family median annual all-property ETRs (excluding imputed rental) vary between 5.5% and 9.3%. The ETR is lowest in 2021 due to higher capital gains in this year.

Figure 9.6   Median annual all-property ETR for the family
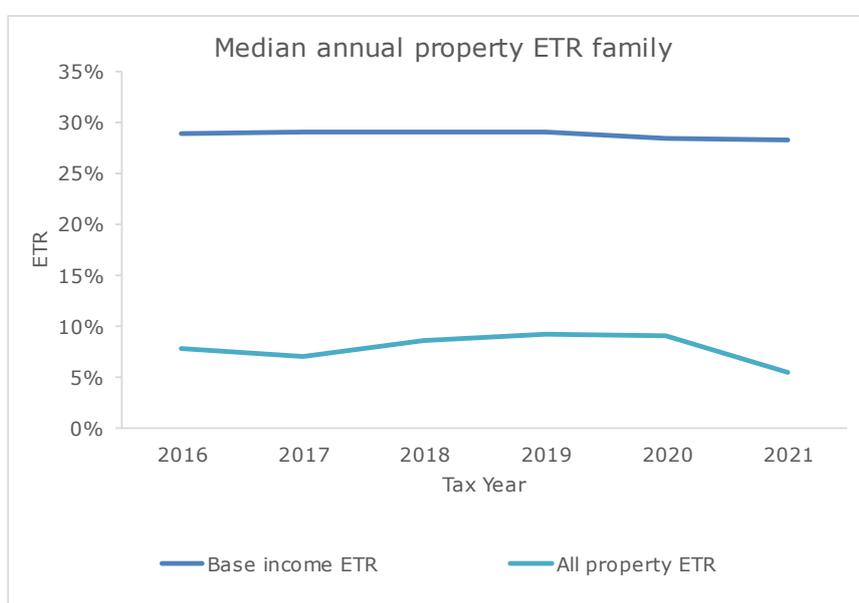
Project period property ETR

9.47   For the Project period property ETRs for the family, all median property ETRs are lower than the median base income ETR. This is due to capital gains that are not subject to tax.

9.48   The family median all-property ETR on this measure is 9.4%. When imputed rental income is added, the ETR reduces to 8.5%. In comparison, the family median Project period base income ETR is 30.1%.

9.49   For the median Project period asset class ETRs, the trust property ETR is lower than the direct property and land-rich entity ETRs. This is consistent with higher capital gains on trust property than directly held property. The land-rich entity ETR is the highest. This is because land-rich entity income is concentrated in a

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[69] As the whole population includes people who did not respond to the information collection, we could only calculate gains from directly held real property for them. This is because we can match individual's names with property holdings in public records, but we could not do this for property held in companies and trusts that we did not have information on.

small number of families and is therefore relatively small for the median person. Further, land-rich entity income bears tax at the entity level.

9.50   Figure 9.7[70] shows the median Project period property ETRs for the family. The direct property ETR is 22.9% (for Individual A, 24.8%), the land-rich entity ETR is 24.0% and the trust property ETR is 18.1%.

Figure 9.7   Project period property ETR for the family
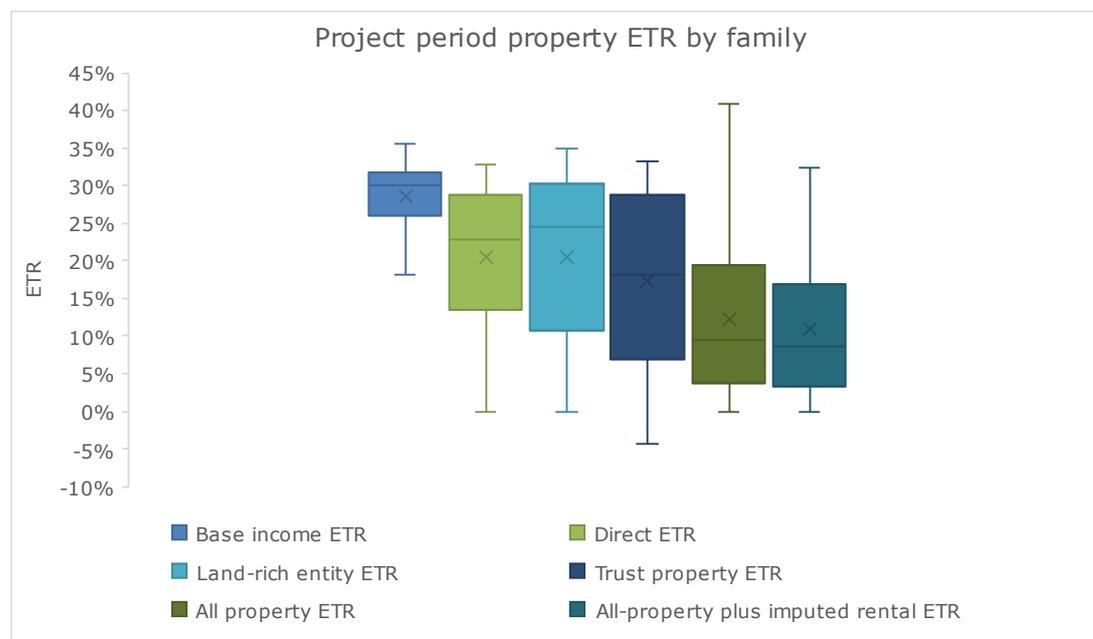
Project period population property ETR (population weighted-mean ETR)

9.51   As seen in the other property ETR measures, the inclusion of property capital gains and income significantly lowers the Project period population ETR compared to the base income ETR. On this measure, the all-property ETR for the family is 11.5%. When imputed rental is included, it is lower at 11.0%.

9.52   Of the income sources, properties in land-rich entities are the most significant in reducing the ETR at the population level. This is different to the median ETRs as capital gains from land-rich entities are concentrated within the Project population. A small number of families earn large capital gains from land-rich entities and have low ETRs. This results in the land-rich entity ETR for the population measure being the lowest of the three asset classes.

9.53   Compared to the base income ETR, the direct property ETR is reduced slightly more (7.8 percentage points) when the family is considered, as opposed to just Individual A (6.9 percentage points).

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[70] In the box plots, the line in the center of the boxes is the median and the x is the simple mean.

Table 9.2   Project period population property ETR for Individual A and all responders

Project period ETR by Population	Individual A	Difference to base income ETR (percentage points)	All responders	Difference to base income ETR (percentage points)
Base Income	32.2%		32.1%	
Direct	25.3%	6.9	24.3%	7.8
Land-rich entity	20.3%	11.9	15.9%	16.2
Trust property			18.8%	13.3
All-property			11.5%	20.6
All-property plus imputed rent			11.0%	21.1

Realised capital gains on property

9.54   This section presents a calculation of the Project population's realised capital gains (that is, the gain on assets sold) from real property over the Project period. The realised capital gains are calculated as the difference between the sales price and the price at the later of 1 April 2015 or the purchase date. This provides a static measure of realised capital gains, based on current tax settings. Values would likely be different if a realised capital gains tax were imposed.

9.55   We considered two approaches to calculating realised capital gains from real property: using sales/purchase prices or using AVMs. While sales data may be more accurate, there were several problems with using it. In particular, sales data was not necessarily available for both the purchase and sales prices. Mixing sales data and AVMs can lead to inconsistent results.

9.56   For this reason, we calculate realised capital gains on real property as the difference between the AVM price at the time of sale and the AVM at the later of the purchase date or 1 April 2015. The total value of realised capital gains was:

Table 9.3   Realised capital gains on property

Holding type	Realised capital gains	Percent of total capital gains in each category
Direct holdings	$237,000,000	28%
Trust holdings	$137,000,000	10%
Land-rich entity holdings[71]	$1,024,000,000	47%

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[71] This excludes the realised capital gains of entities identified as property trading entities.

PART THREE: ECONOMIC INCOME ETRs OVER THE PROJECT PERIOD

Comparison to real property capital gains of the general population

9.57   The mean total (realised and accrued) capital gain from residential property for the families in the Project population is higher than the mean capital gain on real property for households in the general population. Figure 9.8 estimates mean capital gains from real property by household net worth decile, based on HES 2018, compared to the Project population's returns on residential property for the same year.[72] Gains are calculated including and excluding owner-occupied housing (OOH).[73]

9.58   For the general population, an estimate of property held in trust is included in the estimates. For the Project population, both directly held residential properties and residential properties held in trust are included. Properties held in land-rich entities are not included.

9.59   For the Project population, the property growth rate is calculated as an average AVM growth rate in 2018 for properties in our data base. For the general population, the Core Logic house price index growth rate in 2018 is used.[74] Both growth rates are 2.8 percent for the 2018 year.

Figure 9.8   Mean capital gain on residential real property for general population and Project population

	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Project Population
General population, total	$1,147	$336	$1,237	$4,563	$6,996	$10,267	$13,633	$17,748	$25,954	$50,992	
General population, excl. OOH	$448	$106	$179	$901	$1,040	$1,416	$2,512	$3,360	$9,432	$36,125	
Project population, total											$818,446
Project population, excl. OOH											$745,328

Source: Household Economic Survey (2018) and Project data

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[72] For the general population, the mean is reduced by non-property-owning households.

[73] As noted previously, HES underestimates decile 10 wealth. Further, the Project population are in the upper end of decile 10. This explains why the mean for the Project population is higher than decile 10.

[74] We used Core Logic House price index data as reported in the Reserve Bank's Monetary Policy Statements. The growth rate is calculated as a percentage change between the March quarters of 2018 and 2017.

Non-residential property growth rates

Table 9.4   Commercial and industrial six-year annual property growth rates

Region	Commercial properties	Industrial properties
Auckland	7.9%	11.9%
Canterbury	7.3%	7.1%
Wellington	6.5%	15.9%
Tauranga City	21.1%	12.7%
Hamilton City	5.6%	15.7%
Rest of North Island	10.5%	12.7%
Rest of South Island	5.4%	9.0%

Table 9.5   All farm and forestry six-year annual property growth rates

Region	Rural / Farms (all farms)	Forestry
Auckland	6.5%	13.2%
Bay of Plenty	11.9%	13.2%
Waikato	4.0%	13.2%
Wellington	19.4%	13.2%
Canterbury	4.0%	13.2%
Rest of North Island	6.6%	13.2%
Rest of South Island	0.7%	13.2%
New Zealand	2.6%	13.2%

CHAPTER 10

PORTFOLIO INCOME

Introduction

10.1   This chapter examines income accruing to the Project population from ownership of portfolio financial assets. It presents asset class effective tax rates (ETRs) assuming income is comprised of annual net income and income from portfolio financial assets (portfolio ETRs).

10.2   The population for this chapter is the responder population.

10.3   For the general population, holdings of financial assets are highly concentrated in the top net worth decile. Figure 10.1 shows that decile 10 held 71 percent of total household financial assets in HES 2018.[75] Within decile 10, financial asset holdings are also skewed. The 99th percentile (top 1/10th of decile 10) holds around 37 percent of decile 10 financial assets, that is, just over a quarter of all household financial assets.

Figure 10.1 Share of total household financial assets by net worth decile and share of decile 10 financial assets by decile 10 percentile
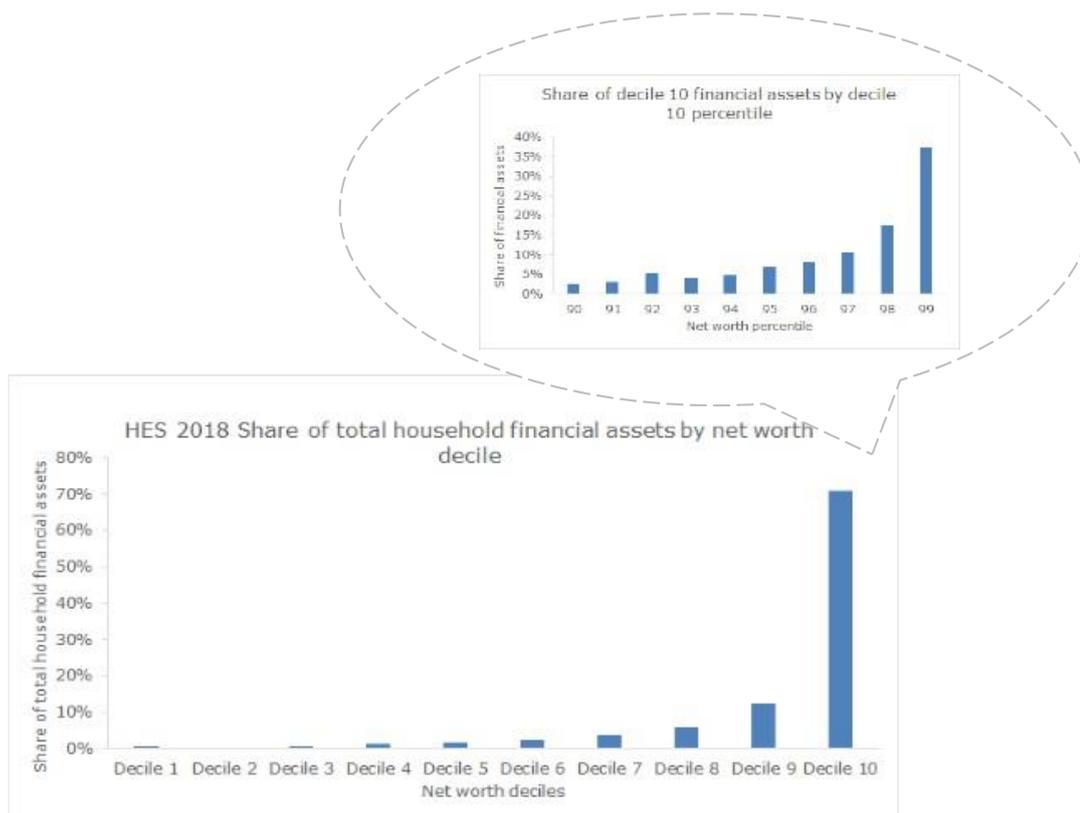
Source: Household Economic Survey (2018)

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[75] The financial assets included here are currency and deposits, pension funds and other household financial assets. This includes non-portfolio holdings.

Included assets

10.4   Portfolio financial assets are investments in equity and debt instruments held directly or through a trust. They include domestic and overseas investments such as:

- equity investments when the family, together with trusts, holds less than a 10 percent ownership interest or when the entity had neither gross assets over $1,000,000 nor taxable income over $1,000,000,

- debt instruments,

- investments in managed funds, such as investment trusts, unit trusts, managed and superannuation funds, and

- other investments, such as cryptocurrency, options and hybrid securities.

10.5   ETRs are decomposed into the following sub-categories:

- direct portfolio ETR, and

- trust portfolio ETR.

10.6   These income sources are combined for calculating the all-portfolio ETR.

Methodology

10.7   To calculate the portfolio ETRs, we start with the base income ETR presented in chapter 8 (personal tax assessed/annual net income) and add in untaxed income from portfolio financial assets (PFA). The all-portfolio ETR includes income from direct and trust portfolio holdings.

10.8   The **all-portfolio ETR** is:

$$\frac{Personal\ tax\ assessed}{Annual\ net\ income\ +\ capital\ gains\ from\ domestic\ PFA\ +\ untaxed\ income\ from\ overseas\ PFA}$$

10.9   The **direct portfolio ETR** and **trust portfolio ETR** are calculated in the same way, but each only includes income from direct and trust portfolio holdings, respectively. These subcomponents allow us to see whether direct portfolio holdings or trust portfolio holdings are more significant in the reduction in the ETR from the base income ETR to the all-portfolio ETR.

10.10   The approach we use makes several assumptions. The results seek to estimate average market returns for portfolios of the size held by the Project population rather than to estimate the actual returns of a particular individual or family.

Income from portfolio financial assets

10.11   Financial asset portfolios often comprise several small investments that may be traded frequently. Consequently, the income from portfolio financial assets is measured by aggregating all portfolio financial assets together into a single portfolio for each person analysed rather than estimating the income from each asset separately. For this reason, we also do not calculate the realised gains from portfolio financial assets separately to economic income.

10.12 To calculate the income from portfolio financial assets, we use the annual value of the portfolio as disclosed in the Financial Collection. Individuals disclosed a total portfolio value, for each year, that included overseas and domestic portfolio assets (including debt and equity instruments).

10.13 The economic income from portfolio financial assets includes personal taxable income from interest, dividends and overseas income and non-taxable accrued and realised capital gains from equity and other investments.[76] Our methodology ensures that the income already included in base income/annual net income is not double counted.

10.14 For each year, the total portfolio value is divided into asset sub-categories. These categories are based on annual data from the Reserve Bank Managed Funds Survey (table 10.2). The categories are:

1. Overseas assets.

2. Domestic equities and other financial assets, including units in unit trusts.

3. Domestic bonds.

4. Cash.

10.15 The income from the domestic and overseas portfolios is then calculated as set out below. Our approach is based on market rates of return rather than actual returns. We assume the Project population earned the average market return.[77]

Income from directly held overseas portfolio assets

10.16 Base income already includes overseas income from foreign investment funds (FIFs) and interest from foreign portfolio holdings.[78] For FIFs, the amount included in overseas income (a part of base income) will often be calculated based on a deemed rate of return (DRR) of 5 percent. Income calculated through application of the DRR will differ from actual returns. Base income also includes some other forms of overseas investment income, such as overseas rental income.

10.17 Untaxed income from the overseas portfolio is added to base income for the ETR calculation. Untaxed income is the difference between overseas income from the tax return and imputed overseas portfolio income. Imputed overseas portfolio income seeks to measure the full economic return from the asset holding.

10.18 To calculate imputed overseas income, we assume that the overseas portfolio is made up of 60 percent equities and 40 percent bonds. This is likely to be a conservative assumption. If, alternatively, the overseas portfolio was assumed to be 80 percent equities and 20 percent bonds, total portfolio income over the six-year period would be 14.4% and 16.8% higher for directly held and trust portfolios, respectively, and ETRs would be lower under this assumption.

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[76] Note that any taxable capital gains on debt investments (such as bonds) are already included in base income.

[77] Some work, such as Saez and Zucman (2016), argues that, on average, high-wealth individuals receive higher returns. However, without clear evidence of this in New Zealand, we use market returns. This may mean we underestimate total income.

[78] Also, dividends from foreign portfolio holdings if the shares were not taxable under the FIF regime, such as if total foreign equities had a cost of less than $50,000. As noted in chapter 5, PIE income is not included in base income.

10.19   The equity portion of the overseas portfolio is multiplied by an equity total rate of return (in New Zealand dollars, NZD) to impute total returns from equities. This includes both price and income (that is, capital gains and dividends). The bond portfolio is multiplied by an NZD total rate of return for bonds. This estimates foreign bond income as under the financial arrangement rules. Income from the equity and bond portions is summed together for each year. The excess of imputed income over overseas income from the tax return is added to income.

Income from directly held domestic portfolio assets

10.20   Dividends and interest on the domestic portfolio are already included in base income. Therefore, the only elements of domestic portfolio income missing from base income are accrued and realised capital gains on the equity portion of the portfolio.

10.21   Based on the estimated portfolio composition, capital gains on the equity portion of the domestic portfolio are calculated by multiplying the annual opening value of that equity portion by a domestic price rate of return. The price rate of return is the change in price of the asset and excludes any dividend return (that is, it is the accrued and realised capital gains).[79]

10.22   No capital gains are calculated on the domestic bond or cash portfolio as these are treated as interest income under the financial arrangement rules and are already included in base income (and the corresponding tax in personal tax).

Trusts

10.23   Income from portfolio financial assets held in trust is calculated in a similar manner as for direct holdings and attributed to the family using the trust attribution methodology.

10.24   However, for the portfolio asset class ETRs (the trust portfolio ETR and all-portfolio ETR), only the capital gains on overseas and domestic equity investments are added to base income. We only include capital gains from trust portfolio equity investments in these asset class ETRs because taxable elements of income, such as interest and dividends, earned by the trust may have been distributed by the trust and already included in base income. We are not able to separately identify which elements of income of the trust have been distributed and taxed as beneficiary income.

10.25   In contrast, trustee taxable income is included in income for the all-income ETR in chapter 12. In that case, the income from portfolio assets in trust is calculated in the same manner as for direct holdings.

Tax paid on portfolio income

10.26   For the tax calculation, the individuals' tax on personal taxable income amount is used. This includes the tax on dividends, interest and overseas income. Where overseas tax is met with a tax credit, this will be included in tax.

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[79] It is possible some capital gains on directly held portfolio domestic equities are taxable and are therefore already in base income. The tax on this income would also be included in personal tax. We are not able to identify these assets so do not account for this, although we consider the amount would not be large relative to total portfolio domestic equities. However, this could lead to some overestimation of income and an underestimation of ETRs.

10.27   For trusts, no additional tax is included for the asset class portfolio ETRs. This is because only non-taxed income is included, given that taxed amounts could be distributed as beneficiary income.

10.28   As trustee taxable income, and the associated trustee tax, is included in the all-income ETR (chapter 12), dividends, interest and overseas taxable income of the trust and associated tax are included in the all-income ETR to the extent they have not been paid out as beneficiary income.

Data sources

10.29   Information on the value of portfolio financial assets was sought from the Project population through the Financial Collection. Disclosures were subject to reporting thresholds. In particular, the Project population were able to round their portfolios to the nearest $500,000. This is a further reason the estimates in this report are approximations rather than precise estimates of portfolio income.

10.30   Tax administration data is used for taxable investment income (interest, dividends and overseas income).

10.31   Market returns are sourced from S&P Global Broad Market Index (international equities), S&P Global Developed Aggregate Ex-Collateralized Bond Index (International Bonds) and S&P/NZX 50 Index (domestic equities). Portfolio compositions are sourced from the Reserve Bank Managed Funds Survey. Table 10.2 provides the portfolio compositions and table 10.3 provides the market returns.

Information disclosed by the Project population

10.32   In the Financial Collection, the Project population were required to report the total market value of their portfolio financial assets each year. They were also asked to report any payments from, or contributions to, the portfolio each year.

10.33   Originally, our methodology was to calculate capital gains (and reinvested dividends/interest) on portfolio assets as the difference between the closing value and opening value of the portfolio each year after accounting for contributions and withdrawals. However, following analysis of the responses provided and further investigations, we did not have sufficient confidence in the data to use this approach. On review, the amounts of contributions and withdrawals disclosed were unreliable, and therefore the original approach was discarded and replaced by the market rate of return approach discussed above.

Results

Income

10.34   Figure 10.2 shows the annual amount of base income (minus interest, dividends and overseas taxable income) and all elements of direct and trust portfolio income for all members of the responder population for each year.

10.35   In all years, trust portfolio income is notably higher than direct portfolio income. This is because substantially more portfolio assets are held in trust than directly (see table 15.1). The 2021 tax year saw high income due to high capital gains on equities that year.

Figure 10.2 Portfolio income value compared with base income value for family
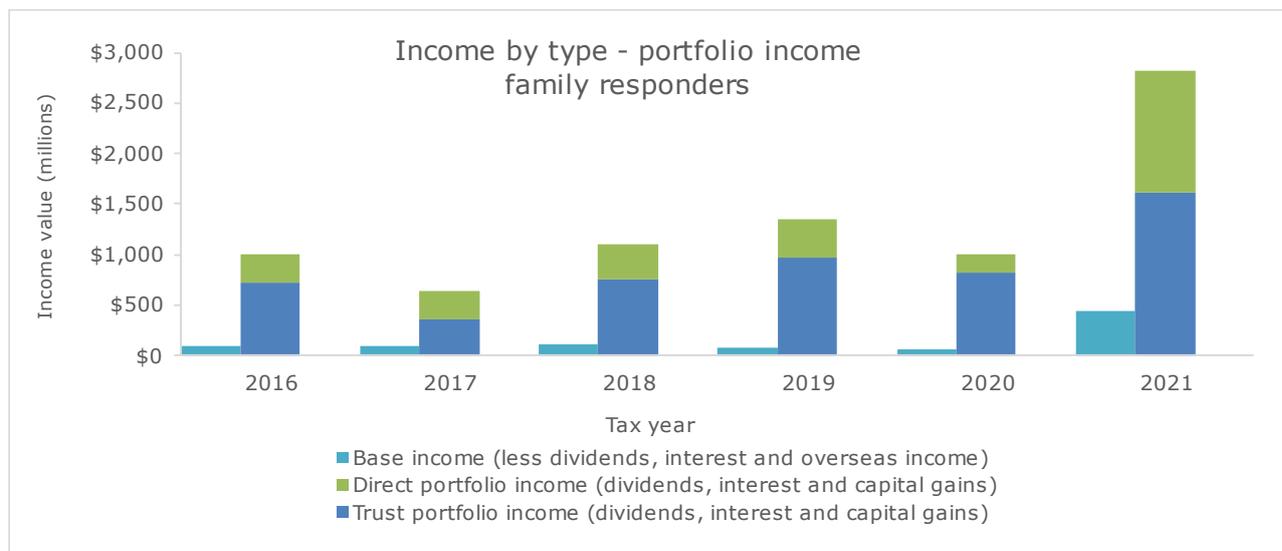
Effective tax rates (ETRs)

10.36   The same ETRs are calculated for each of the portfolio ETRs as for the base income ETR (that is, annual, Project period, and Project period population).

10.37   As the trust attribution methodology applies on a family basis, trust portfolio income has been grouped by family. As such, the following ETRs will mainly focus on the family rather than Individual A. For all ETR measures, income is base income plus portfolio income unless otherwise stated.

Annual portfolio ETR

10.38   Figure 10.3 shows the median annual base income ETR (on average, 29% across the six-year period) compared to the median annual all-portfolio ETR for the family unit.

10.39   Over the Project period, the family median annual all-portfolio ETRs vary between 6.1% and 22.9%. There is an increase in the ETR in 2020 due to lower returns that year (at 3.1 percent for the portfolio). The ETR then declines significantly for 2021, due to high returns on financial assets in this year (at 18.1 percent for the portfolio).

Figure 10.3 Median annual all-portfolio ETR for the family
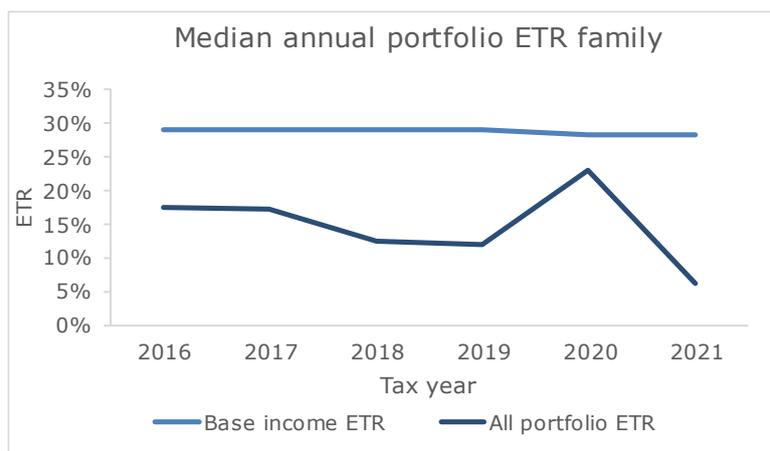
Project period portfolio ETR

10.40   The family median Project period ETRs for both types of portfolio income are lower than base income, being 27.4% for the direct portfolio ETR (28.2% for Individual A) and 16.3% for the trust portfolio ETR. This is consistent with portfolio income earned through trusts being larger than direct holdings.

10.41   The family median Project period all-portfolio ETR (that is, combining direct and trust portfolio income) is 13.4%. The family median base income ETR for this measure is 30.1%.

Figure 10.4 Project period portfolio ETR for the family
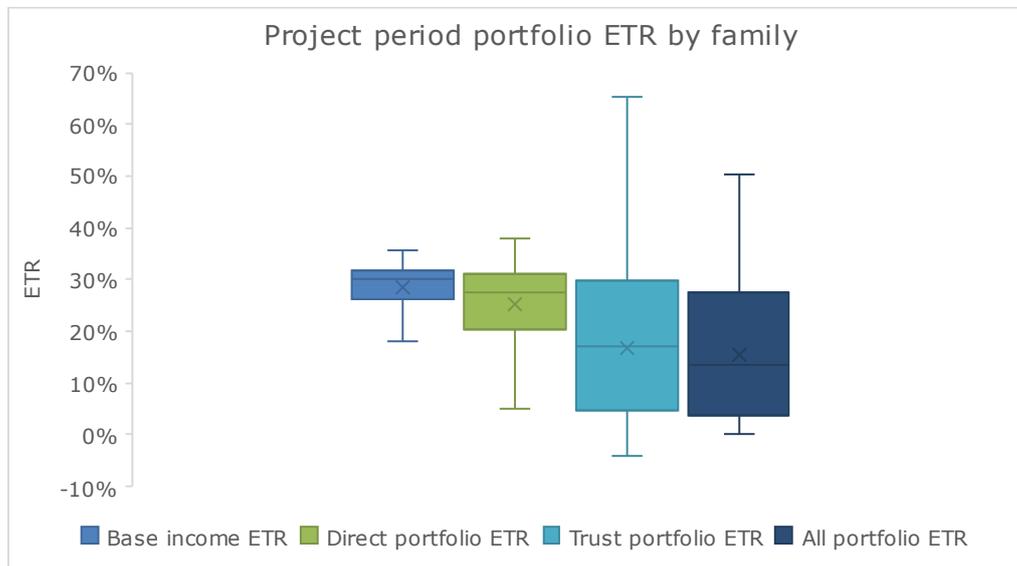
Project period population portfolio ETR (population weighted-mean ETR)

10.42   Table 10.1 shows the Project period population portfolio ETR is also declining from base income through to the all-portfolio income ETR of 11.4%. The decline in the ETR is due to capital gains that are not taxed.

10.43   The trust portfolio income ETR on this measure declines more than the direct portfolio ETR. This is due to higher income being derived from portfolio income in trusts than from direct holdings. There is only 0.1 percentage point difference between the Individual A and the all-responder population direct portfolio ETRs.

Table 10.1   Project period population portfolio ETR for Individual A and all responders

Project period ETR by Population	Individual A	Difference to base income ETR (percentage points)	All responders	Difference to base income ETR (percentage points)
Base Income	32.2%		32.1%	
Direct portfolio	22.2%	10.0	22.1%	9.9
Trust portfolio			13.6%	18.5
All-portfolio			11.4%	20.7

Comparison to returns on financial assets of the general population

10.44   Figure 10.5 compares the mean return on financial assets of the general population, by net worth decile, to the mean return of the Project population based on the 2018 year. For the general population this is based on HES 2018 data on financial asset holdings (including financial equity in trusts). The return on assets has been calculated using the same portfolio composition assumptions and returns as for the Project population.[80]

Figure 10.5 Mean returns on financial assets general population vs. Project population
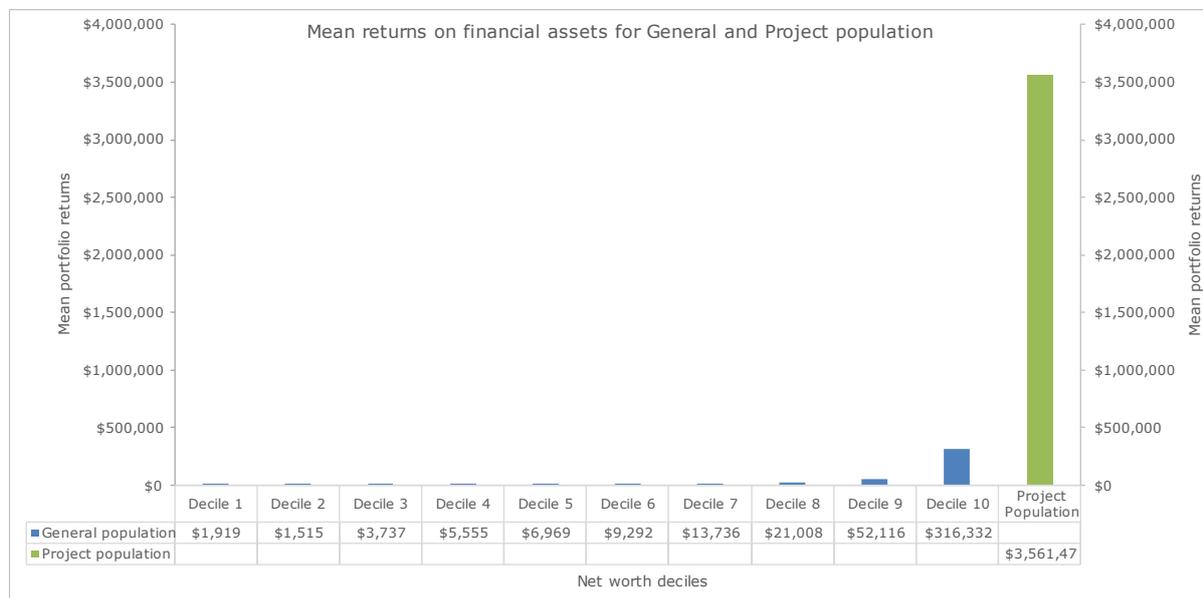
Source: Household Economic Survey (2018) and Project data

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[80] As noted previously, HES underestimates decile 10 wealth. Further, the Project population are in the upper end of decile 10. This explains why the mean for the Project population is higher than decile 10.

Portfolio composition and growth rates

Table 10.2   Portfolio composition

Year	Overseas portfolio percentage	Domestic equities percentage	Domestic bond percentage	Domestic cash percentage
2016	39.4%	23.4%	17.9%	19.4%
2017	39.2%	23.6%	18.7%	18.5%
2018	40.9%	24.0%	17.4%	17.7%
2019	41.8%	24.0%	16.4%	17.7%
2020	42.4%	23.6%	16.3%	17.8%
2021	44.3%	22.4%	17.0%	16.3%

Source: Reserve Bank Managed Fund Survey

Table 10.3   Portfolio returns (after exchange rate adjustments)

Year	Stocks domestic price return	Stocks international total return	Stocks international price return	International Bonds
2016	9.7%	6.1%	3.6%	15.9%
2017	3.1%	12.0%	9.3%	-5.9%
2018	11.6%	12.5%	10.3%	3.2%
2019	14.3%	9.0%	6.1%	5.5%
2020	-2.4%	-5.7%	-8.1%	17.7%
2021	23.2%	40.7%	38.0%	-11.1%

Source: S&P Global, see SPGlobal.com. Stocks domestic price return based on S&P/NZX 50 Index. Stocks international total and price return based on New Zealand Aggregate Bond Index. International bonds based on Global Developed Aggregate Ex-Collateralized Bond Index.

<h1 style="text-align:center;">CHAPTER 11</h1>

<h1 style="text-align:center;">BUSINESS ENTITIES</h1>

Introduction

11.1   This chapter examines income accruing to the Project population from ownership of listed and unlisted business entities over the Project period. It presents asset class effective tax rates (ETRs) assuming income is comprised of annual net income and economic income (and associated tax) from ownership of business entities (business entity ETR).

11.2   The population for this chapter is the responder population.

11.3   As discussed previously, the ownership of financial assets (including equity in businesses) is concentrated in the top net worth decile in New Zealand (and within the top decile, within the top percentile). Some international studies find that business income is much more important to the top 1 percent, and especially 0.1 percent, of income earners than to those with lower income. Other studies find that owner-managers of high-profit closely held companies retain considerable amounts of profit in their companies each year, which is eventually realised as a capital gain (such as Delestre et al. 2022). We also find that business income is significant for the Project population.

Included assets

11.4   This chapter includes income (and tax) from ownership interests in listed and unlisted business entities (companies and trading trusts) that the Project population held either directly or indirectly over the Project period. Income from business entities that are companies held in trusts is also included.

11.5   Income and tax from companies and trading trusts meeting the following criteria are included:

- for a company, the company is a New Zealand registered company that had gross assets greater than $1,000,000, and/or taxable income greater than $1,000,000, for any year of the Project period and the family, together with trusts, had a total direct and/or indirect ownership interest exceeding 10 percent of the total ownership interests in the company for any year in the Project period, and

- for a trading trust, a member of the family was a settlor, appointer or beneficiary, the trust was registered for GST at some point during the Project period and the trust had more than $100,000 of business income.

11.6   Unlisted entities meeting these criteria, but identified as being land-rich, are valued using the real property methodology and are not included in this chapter. Interests in companies below the thresholds in paragraph 11.5 are included as portfolio financial assets. Listed companies meeting the thresholds in paragraph 11.5 are included in this chapter. This is a subset of the companies included in the listed company ETR in chapter 13.

11.7   The total number of entities identified and included in the methodology in this chapter or chapter 9 is 2,695. Of these, 550 were identified as being land-rich entities.

11.8   Capital gains from business assets held as a sole trader or via a general or limited partnership are not included in business entity income. If an individual is a partner, the share of the partnership's taxable income returned by that partner will be included within the individual's base income. However, if the partnership has real property, the capital gains on that property are included in the property ETRs and the all-income ETR. This applies similarly for sole traders.

11.9   Companies that meet the above criteria but are foreign companies, for example, controlled foreign companies (CFCs), have not been included within the ETR.[81] This is due to a lack of information on how much tax was paid by such companies. Individuals who report owning an interest in a CFC must complete a disclosure. Review of these disclosures indicated that members of the Project population hold minimal direct interests in CFCs.

11.10   The following ETRs are calculated:

- personal business entity ETR (this includes income and associated tax from direct and indirect holdings of companies),

- trust entity ETR (this includes income and associated tax from trading trusts and companies held in trust).

11.11   These income and tax sources are combined for calculating the all-business entity ETR.

Methodology

11.12   To calculate the business entity ETRs, we start with the base income ETR presented in chapter 8 (personal tax assessed/annual net income) and add in capital gains, untaxed distributions and tax from business entities. The all-business entity ETR includes income and tax from all business entities meeting the inclusion criteria.

11.13   The **all-business entity ETR** is:

$$\frac{Personal\ tax\ assessed + attributed\ entity\ tax - imputation\ credits}{Annual\ net\ income + capital\ gains\ from\ entities + untaxed\ distributions + attributed\ entity\ tax - imputation\ credits}$$

11.14   The **personal business entity** and **trust entity ETRs** are calculated in the same way, but only include income and tax from the entities noted in paragraph 11.10. These subcomponents allow us to see which type of business entity income is more significant in the reduction in the ETR from the base income ETR to the all-business entity ETR.

11.15   Companies (both listed and unlisted) that are held via a trust, and trading trusts, will have their income and tax attributed to the family in accordance with the trust attribution methodology.

Business entity income

11.16   Business entity income is the sum of the distributions received from the entity by Individual A or the family plus both accrued and realised capital gains from equity interests held in the entity during the Project period. As taxable distributions (including beneficiary income) are already included in base income, only non-taxed distributions and capital gains are added to base income/annual

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[81] As noted in chapter 6, income from offshore subsidiaries of listed companies will be picked up in the value of the listed company as stock market prices are used.

net income. The tax of the entity (not including amounts distributed as imputation credits or tax withheld by the trustee on beneficiary income that are already included in base income) is also added to income to ensure a gross income measure is used.

11.17   The distributions already included in annual net income are:

- Gross dividends (for businesses held in companies).

- Owner's basis look-through company (LTC) income (for businesses held in companies with LTC status).

- Gross beneficiary income (for businesses operating through a trading trust).

11.18   For listed business entities, capital gains are calculated as set out in chapter 13.

11.19   The annual capital gain of an unlisted business entity is derived by calculating the annual change in value of the individual's or trust's equity interest. This is discussed below.

Calculating the equity value of unlisted entities

11.20   Unlisted business entities do not have publicly available market valuations. Consequently, unlisted entities have been valued based on financial statement information held by Inland Revenue. A comparable company multiple method (described below) is used to calculate the business value of the entity. This is based on the entity's earnings, revenue, or book value. This method seeks to provide a reasonable, rather than precise, estimate of business value.

11.21   The broad premise of this method is that private companies with similar financial characteristics to comparable publicly listed companies can be valued based on a similar ratio (multiple) of price to earnings, revenue, or book value. The multiple will be influenced by expectations as to the economic or industry outlook, with the multiple being higher if the economic outlook is improving.

11.22   Entities are valued in one of three ways. Each of these methods applies a comparable multiple, sourced from data on publicly listed companies, to each entity's earnings, revenue or book value to calculate the entity's total value or equity value. These methods apply sequentially (that is, the first in the list that can be applied is the test used):

- When an entity had positive EBITDA[82] for all six years, an enterprise value to EBITDA multiple is applied to the entity's EBITDA to calculate the entity's total value. This method is used for 37 percent of business entities.

- When an entity had positive revenue for all six years, an enterprise value to revenue multiple is applied to the entity's revenue to calculate the entity's total value. This method is used for 16 percent of business entities.

- Finally, a market value to book value multiple is applied to the entity's book value of net assets to calculate the entity's equity value. This method is used for the remaining 48 percent of business entities.

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[82] Earnings before interest, tax, depreciation and amortisation.

11.23   The applicable comparable multiple has been determined for each entity based on the entity's Business Industry Classification code. It therefore represents an average multiple for an entity in that industry. Where an industry does not have a comparable multiple, we use an average of all industry multiples (this was the case for 19 percent of entities). As the average for all industries is lower than the average multiple for entities in our population, this is likely to be a conservative assumption.

11.24   When an EBITDA or revenue multiple is used, once the total business value is calculated, we then calculate the value of equity of the unlisted business entity. This is done by subtracting debt from, and adding cash to, the business value. In essence, net debt is removed from the business value as net debt reduces the value of the business for a prospective purchaser.

11.25   For all methods used, an illiquidity discount is then applied to the estimated value of equity. This illiquidity discount recognises that the private entity is unlikely to be readily sold in the open market. This warrants a discount to be attached to the valuation. A discount of 25% is applied. This means that once the equity value is calculated, it is multiplied by 0.75 to get the estimated value of the equity.[83]

11.26   An individual's, or trust's,[84] equity value is then calculated based on their percentage ownership (or the trust attribution factor for a trading trust). Each family member's equity interest is summed to derive values for the family.

11.27   When looking at indirect holdings of entities, that is, group structures, it is each individual entity (meeting the criteria in paragraph 11.5) within the group that is valued rather than the consolidated group. Some adjustments are required for group structures to ensure income from an indirect investment is not double counted. Intra-group dividends derived from subsidiaries are removed from earnings when the company is valued; similarly, the value of subsidiaries included in a business's book value is removed.

Tax

11.28   The annual tax included in the business entity ETR numerator is the sum of personal tax assessed plus the individual's or trust's attributed company tax, or tax paid by a trading trust.

11.29   Company tax is attributed proportionately to the individual's or trust's ownership interest of a company. Where company ownership interests are held via a trust, the trust's ownership interest is then multiplied by the family trust attribution factor.

11.30   For trading trusts, the tax is attributed based on the total trustee tax of the trust (not including tax withheld by the trustee on beneficiary income) multiplied by the family trust attribution factor. Any tax paid on beneficiary income will be included in tax on personal taxable income.

11.31   For unlisted companies, only domestic tax is included (consistent with capital gains from foreign subsidiaries not being included). Where a company is owned by an individual, company tax is reduced by imputation credits paid. This ensures there is no double counting of company tax, as imputation credits attached to dividends received by the individual are already included in personal

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[83] Estimates generally vary from 15 to 35% (Damodaran, 2006)*.

[84] For a company held in trust, both the trustee ownership interest in the company and the family trust attribution factor are applied.

tax. Where a company is held in trust, company tax is not reduced by imputation credits paid for the business entity ETRs. This is because trustee tax (including imputation credits received) is not included within the business entity ETRs. However, for the all-income ETR, trustee tax is included in the ETR. Therefore, imputation credits are removed from company tax for both direct and trust holdings in the all-income ETR.

11.32   For listed companies, domestic and foreign tax are included (calculated as set out in chapter 13). Foreign tax is included as these companies are valued based on their market share price, which includes the value of foreign subsidiaries.

11.33   The following tax items are already included in personal tax:

- Imputation credits attached to dividends.

- Resident withholding tax attached to dividends or interest.

- Tax on look-through company income, which is ordinarily paid at the shareholder level.

- Tax on beneficiary income.

Data sources

11.34   Information was collected on the Project population's ownership of business entities in the Entity Collection. Some supplemental financial information was collected in the Financial Collection. This has been joined with financial information from tax administration data to calculate the value of unlisted business entities. The valuation of listed business entities is based on stock exchange data (chapter 13).

11.35   Industry-comparable multiples were sourced from S&P Capital IQ Pro. Developed capital markets in the Asia-Pacific, Europe and North America regions are used to ensure the population size for comparable data is sufficiently large.

11.36   Information was collected on share sales for the purpose of calculating realised capital gains. However, given the small number of sales and following review of the data quality, this information was deemed unreliable. For this reason, no estimate of realised gains for unlisted entities is made.

Results

Income

11.37   Figure 11.1 shows the annual amount of base income and additional[85] personal business entity income (that is, income from direct and indirect company holdings) and trust entity income (that is, income from trading trusts and companies held in trust). It also shows all-business entity income, additional to base income, for all members of the responder population.

11.38   Base income is comparatively small compared to business entity income. Trust entity income is generally greater than personal business entity income, with about 55% of all business entities of the Project population being in trust.

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[85] That is, gross capital gains and untaxed distributions.

11.39   Business entity income is considerably more volatile than other forms of income, ranging from -$900 million in 2019 to $9,000 million in 2021. The significant increase in business entity income from 2020 to 2021 is in part due to an increase in the comparable multiples used when valuing the business entities annually. For example, the average book value multiple used increased from 1.69 in 2020 to 1.79 in 2021. Growth in business fundamentals also contributed to this increase in business entity income, with those firms valued using an earnings-multiple on average increasing their earnings by 10% from 2020 to 2021, the highest annual growth rate during the Project period.

Figure 11.1 Business entity income value compared with base income value for family
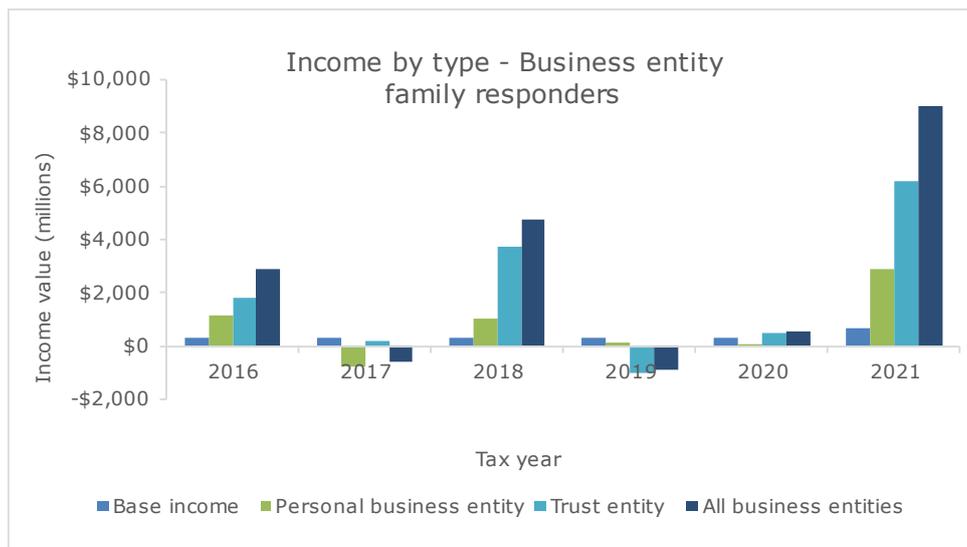
Effective tax rates (ETRs)

11.40   The same ETRs are calculated for the business entity ETRs as for the base income ETR (that is, annual, Project period and Project period population).

11.41   As the trust attribution methodology applies on a family basis, trust entity income has been grouped by family. As such, the following ETRs mainly focus on the family rather than Individual A. For all ETR measures, income is base income plus business entity income unless otherwise stated.

Annual business entity ETR

11.42   Figure 11.2 shows the median annual base income ETR (on average, 29% across the six-year period) compared to the median annual all-business entity ETR for the family unit.

11.43   Over the Project period, the family median annual all-business entity ETRs vary between 2.2% and 9.7%. This declines over the period, with 2019 to 2021 seeing lower ETRs than prior years for the median person.

Figure 11.2 Median annual all-business entity ETR for family
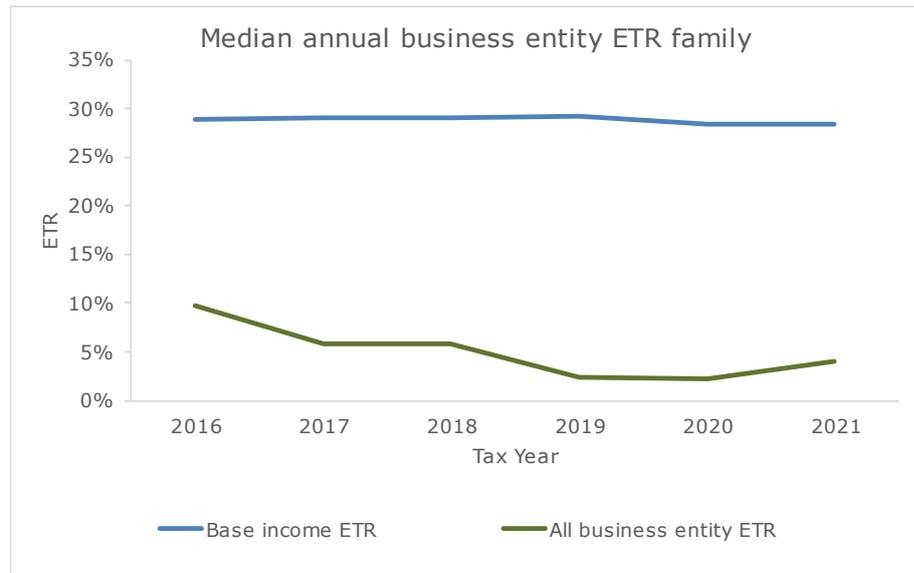
Project period business entity ETR

11.44   The family median Project period all-business entity ETR is 12.8%. This is significantly lower than the base income ETR on this measure of 30.1%. There is a wide range between the upper quartile, of 28.2%, and the lower quartile of 1.8% (50 percent of the Project population fall in this range).

11.45   We do not show the median Project period personal business entity and trust entity ETRs as families often held business assets either directly or in trust and the median person in these ETRs either did not hold the asset or held only a low value of the asset.

Figure 11.3 Project period business entity ETR for the family
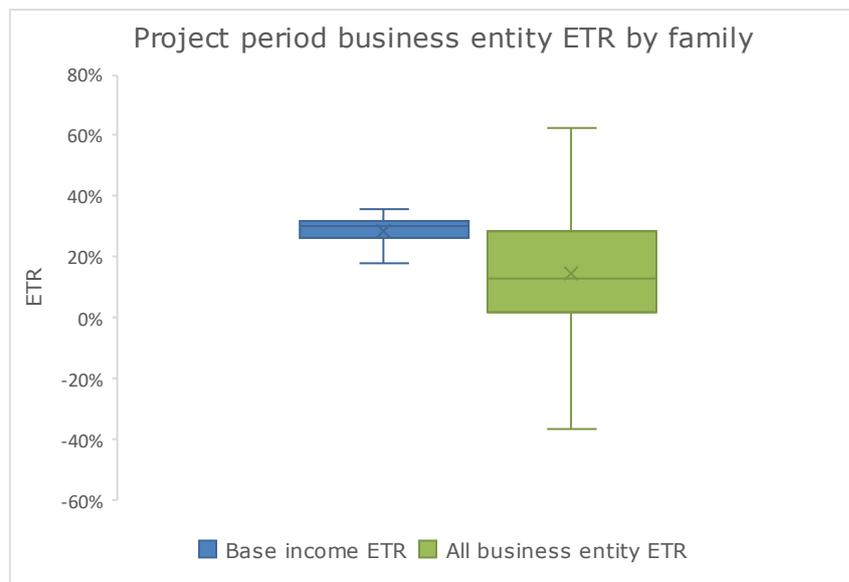
Project period population business entity ETR (population weighted-mean ETR)

11.46   Table 11.1 shows all Project period population business entity ETRs are significantly below the same measure of the base income ETR. The all-business entity Project period population ETR is 11.6%.

11.47 Trust entity income reduces the ETR more than personal business entity income, with a variance of 20.0 percentage points as opposed to 14.7. This is because capital gains earned through entities held in trust are larger than capital gains earned from entities not held in trust.

Table 11.1 Project period population business entity ETR for Individual A and all responders

Project period ETR by Population	Individual A	Difference to base income ETR (percentage points)	All responders	Difference to base income ETR (percentage points)
Base Income	32.2%		32.1%	
Personal business entity	17.4%	14.8	17.3%	14.7
Trust entity			12.1%	20.0
All-business entity			11.6%	20.5

CHAPTER 12

ALL-INCOME

Introduction and methodology

12.1   This chapter presents the all-income ETR. This aggregates all sources of an individual's or family's economic income. It starts with base income and then adds all additional income from ownership of real property, portfolio investments and business entities included in the asset class ETRs. The methodology for each of these income components is covered in previous chapters.

12.2   In addition to the income sources included in the asset class ETRs, the all-income ETR includes trustee taxable income and trustee tax (this is in addition to the capital gains on the assets in trust included in the asset class ETRs). At an aggregate level, we can identify income taxed as trustee income and income distributed and taxed as beneficiary income (which is included in base income). However, as discussed in chapter 7, this cannot be done for specific income sources and hence the asset class ETRs do not include any element of trustee taxable income or trustee tax.[86]

12.3   The population for this chapter is the responder population.

12.4   The taxes attributable to each income source, set out in paragraph 6.27, have been included in the all-income ETR. That is, personal income tax, company tax on non-portfolio holdings and trustee tax. When company tax is included as **tax**, company tax that is distributed as imputation credits is not included. This avoids double counting as personal tax includes amounts met with imputation credits.

12.5   When capital gains from business entities are included in income, the individual's, or family's, share of tax of the entity is added to **income** to ensure that a gross income measure is used. The amount of tax added is net of company tax distributed as imputation credits. This avoids double counting, given that base income is gross of imputation credits.

12.6   Table 12.1 summarises the individual components that make up the income (denominator) as well as the tax (numerator) in the all-income ETR.

12.7   Note, however, that if the beneficiary-only test applies for trust interests, the trust attribution factor is zero (meaning that the trustee income and capital gains on assets in trust are not attributed to the family). In this case, untaxed trust distributions received by the family are included in their income. This is in addition to taxable beneficiary income that is already included in base income.

12.8   The Project period and Project period population all-income ETRs are presented both with and without an estimate of:

  - the imputed rental on owner-occupied housing (see chapter 9), and

  - the amount of GST estimated to have been paid by the family.

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[86] As discussed in chapters 9 and 11, trading trusts are treated like business or land-rich entities and income and tax included accordingly.

Table 12.1   All-income ETR tax and income

Income source	Income	Tax
Personal taxable income	Base income/annual net income	Personal tax (including amount met with imputation credits)
Direct holdings of real property (including in a general partnership)	Capital gains income from real property	None
Land-rich entities	Capital gains income based on the property holdings of the entity, plus taxable income of the entity Distributions from these entities are removed from base income to avoid double counting	Individual's share of entity tax
Direct holdings of portfolio investments	Untaxed income from portfolio investments calculated via the portfolio methodology[87]	None
Income from holdings of business entities (that is, direct and indirect holdings greater than 10 percent in both listed and unlisted companies that are not land rich and interests in trading trusts)	Capital gains income from the change in equity value of the business entity Individual's share of entity tax (to make gross income) Non-taxed business entity distributions	Individual's share of entity tax
Trust income	Trustee income and capital gains on assets held in trust[88] x trust attribution factor For land-rich entities held in trust, the taxable income of the entity (less taxable distributions to the trust)	Trustee tax x trust attribution factor Trust's share of company tax for business entities and land-rich entities held in trust x trust attribution factor

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[87] For overseas portfolio assets, the excess of total imputed overseas income over overseas income from the tax return is included.

[88] Real property held by the trust directly or through a land-rich entity, portfolio income as per the portfolio methodology, and business entities.

Results

Income and tax

12.9   Figure 12.1 shows the annual amount of base income compared with additional income from each category: property, portfolio, business entities and trustee income. It also shows all income categories combined (with and without imputed rental). This is for all members of the responder population for each year. Note, base income and trustee income include taxable elements of income from the asset categories, such as interest, dividends and rental income, and therefore these taxable income elements are not included in the all-property, portfolio and business entities income categories.

12.10   Excluding 2021, base income is around $300 million per year for the Project population. The annual economic income of the Project population varies from $1,000 million in 2017 to $14,600 million in 2021.

12.11   The median family economic income for 2018 is around $8 million and the median tax on this income is around $642,000. The mean family economic income for 2018 is around $22 million and the mean tax on this income is around $1.4 million. The tax included in these figures is personal, company and trustee tax, but not GST. In comparison, the median family taxable income for 2018 is around $350,000, with tax of around $98,000, and the mean family taxable income is around $976,000, with tax of around $308,000.

12.12   In the 2021 income year, income was relatively high. This was due to higher base income from higher payments of dividends and shareholder salary (this is 3% of the gain from 2020 to 2021) and, to a much greater extent, higher asset price appreciation of property, portfolio and business entity assets. As discussed in chapter 11, asset price appreciation for business entities in this year was in large part due to a buoyant, low interest rate environment resulting in higher valuations (through an increase in the comparable multiples). Improvement in business financials from 2020 to 2021 also contributed to the capital gain.

Figure 12.1 All-income values for Project population
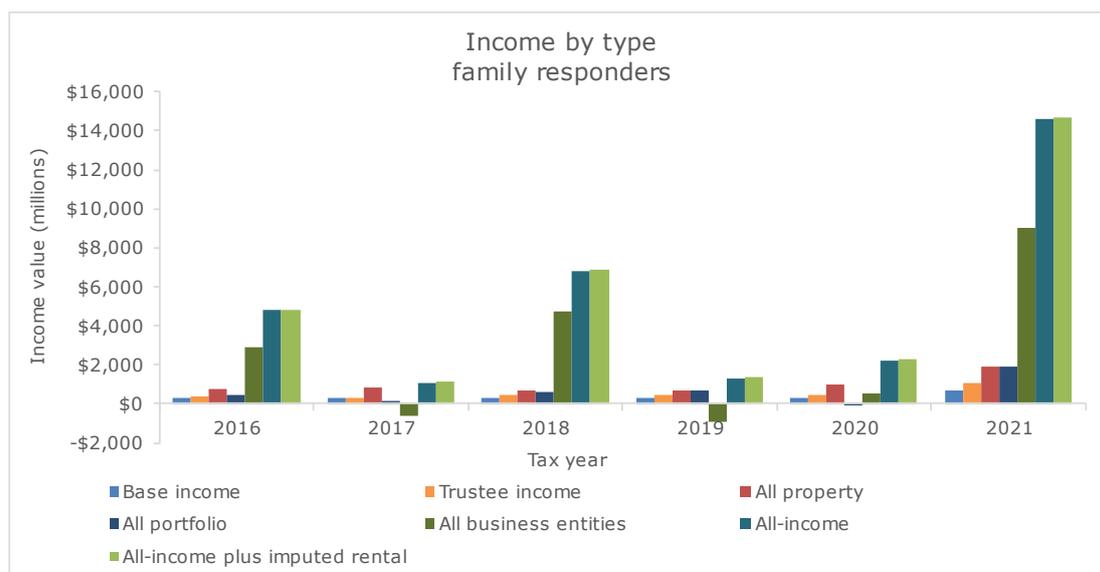
12.13   Figure 12.2 shows the composition of the Project population's income over the six-year Project period. As with figure 12.1, other property, portfolio and business entity income only includes elements of income from these sources that are not included in base or trustee income. In the main, this is capital gains

income. Figure 12.2 shows that 7 percent of the Project population's economic income is from base income and 10 percent from taxable trustee income. Capital gains and other income from business entities is particularly significant, being just over 50 percent of economic income over the Project period.

Figure 12.2 Income sources as a percentage of economic income for responder families 2016-2021 income years
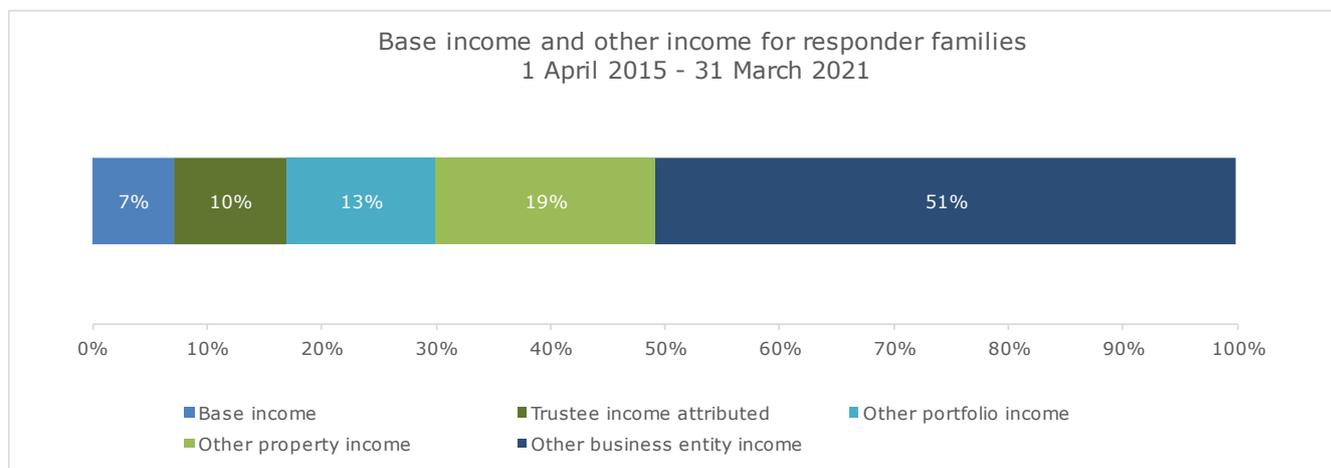
12.14   Across the Project period, 67 percent of economic income was earned through a trust (excluding beneficiary income included in base income). This includes trustee income (which is 10 percent of economic income) and capital gains from property[89], portfolio and business entity assets in trust. Untaxed trust distributions, included in economic income when the beneficiary only test is met, were only 0.1 percent of economic income.

12.15   Figure 12.3 below shows the annual amount of personal tax, company tax and trustee tax attributed to the Project population. We classify personal tax met with imputation credits as personal tax, so company tax is reduced by imputation credits distributed.

12.16   For the first five years, the proportions of tax by type are relatively constant. On average 21 percent of tax was paid by individuals, 38 percent by companies and 40 percent by trustees over the 2016 to 2020 income years.[90] In 2021, prior to the increase in the top personal tax rate to 39%, tax paid by individuals and trusts more than doubled while company taxation more than halved.[91] The total tax (excluding GST) increased from $436 million in the 2016 income year to $511 million in the 2020 income year, showing there was an increasing trend even without the 39% rate increase.[92]

12.17   The amount paid in GST is also included in figure 12.3. This was estimated based on survey data, using responses to questions on the families' expenditure during the 2019 income year.[93] The GST amount for the 2019 income year is

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[89] Taxable income (less distributions) from land-rich entities held in trust is also included.

[90] This is as a proportion of personal, company and trustee tax.

[91] Company tax attributed goes down in 2021 because of the large amount of imputed dividends paid.

[92] Total personal, company and trustee tax were $764 million in the 2021 income year.

[93] As discussed in chapter 14, following accuracy checks, 56 of 324 family responses to the expenditure questions were discarded. For this chapter, the median GST amount for the remaining families ($32,935) was used as an estimate for the families whose responses were discarded.

used for all years. GST is small compared to the other sources of tax, being $14.5 million per year for the Project population.

Figure 12.3 All tax values for Project population
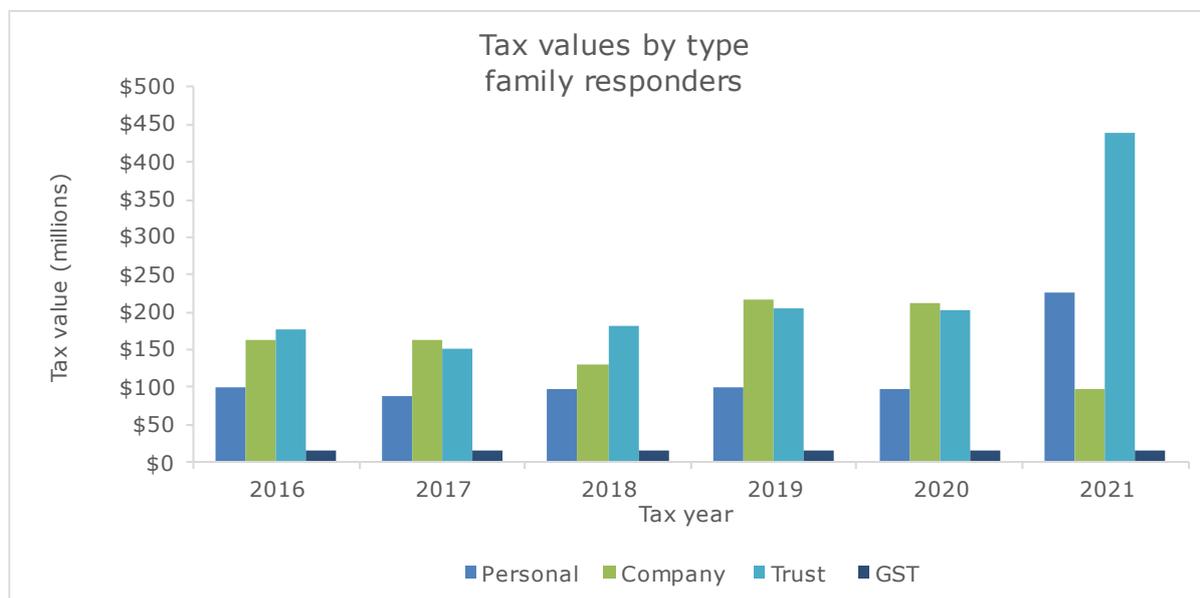
Effective tax rates (ETRs)

12.18   The same ETRs are calculated for the all-income ETRs as for the base income ETRs (that is, annual, Project period and Project period population).

12.19   As the trust methodology applies on a family basis, trust income has been grouped by family. As such, family ETRs include trust income (trustee income and capital gains on trust assets) and tax, when applicable. Individual measures do not include trustee income and trust capital gains or trustee tax. However, beneficiary income is included in both measures. This means that the family measures are the more comprehensive measure.

12.20   The all-income ETRs do not include imputed rental income unless otherwise stated.

Annual all-income ETR

12.21   Figure 12.4 below shows the median annual base income ETR (on average, 30% for Individual A and 29% for the family across the six-year period) compared to the median annual all-income ETR for Individual A and the family.

12.22   The median annual all-income ETRs for both Individual A and the family are significantly lower (on average by 19.8 and 24.1 percentage points, respectively) than the median annual base income ETR. The median annual all-income ETR for Individual A ranges from 6.1% to 12.8%, while for the family it is between 3.5% and 6.7%.

12.23   The family median annual all-income ETR is, on average, 5 percentage points lower than Individual A's. However, the difference is largely driven by the inclusion of trust income (capital gains on assets and trustee income) and tax in the family measure.

12.24   When imputed rental is added to the annual all-income family ETR, the median is, on average, 0.02 percentage points lower.

12.25   Adding GST paid to the all-income tax component increases the ETR. The median annual all-income ETR plus GST, for the family, ranges from 3.9% to 7.6% when imputed rent is also included in income.

Figure 12.4 Median annual all-income ETR for Individual A and family
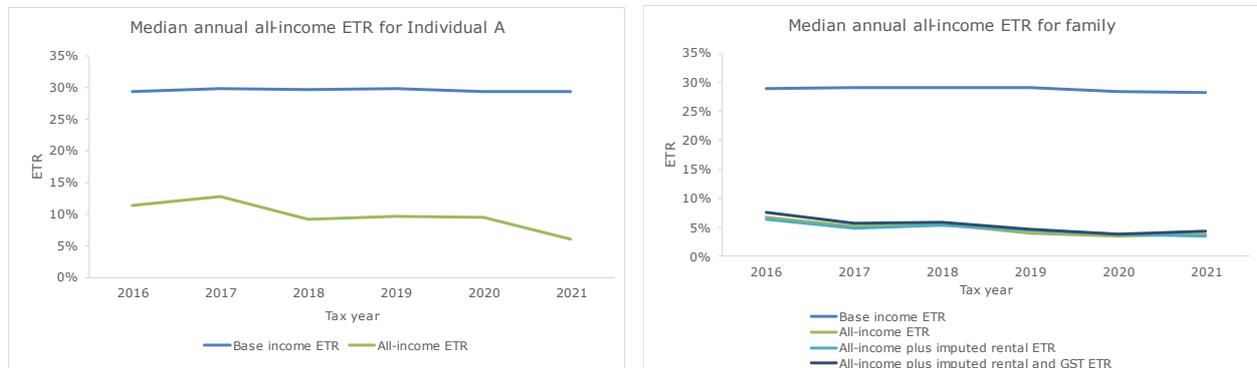
Project period all-income ETR

12.26   As with the annual ETR, the median Project period all-income ETR is significantly lower than the base income ETR on the same measure. The median value for Individual A and the family is 12.9% and 9.3%, respectively, compared with the base income ETR at 30.9% and 30.1%.[94] As with the annual measures, only the family measures include income earned, and tax paid, through trusts.

12.27   When imputed rental is included, the median Project period all-income ETR for the family is 8.9% (0.4 percentage points less). When GST is added to tax, the median Project period all-income ETR (including imputed rental in income) for the family is 9.5%. The median Project period all-income ETR is 0.5[95] percentage points higher when GST is included.

12.28   When considering transfer income as a negative tax for the Project period all-income ETR, the Project period ETR decreases to 8.6% from 8.9% (0.3 percentage points). When both GST and transfer income are considered in the numerator, the Project period ETR is 9.4%, compared to 9.5% when transfer income is not included (a difference of 0.1 percentage points).

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[94] The annual median is often lower than the Project period median. This is because, on an individual basis, untaxed gains and relative tax on economic income tend to be unevenly distributed across years. Many individuals with high economic income for the period have outlier years, with high tax relative to income. Having many individuals with outlier years has an upward effect on the Project period median ETR, but the effect is muted on an annual basis if the outliers are distributed across the period.

[95] This figure is based on rounding the compared ETRs at 2 decimal places.

Figure 12.5 Project period all-income ETR for the family
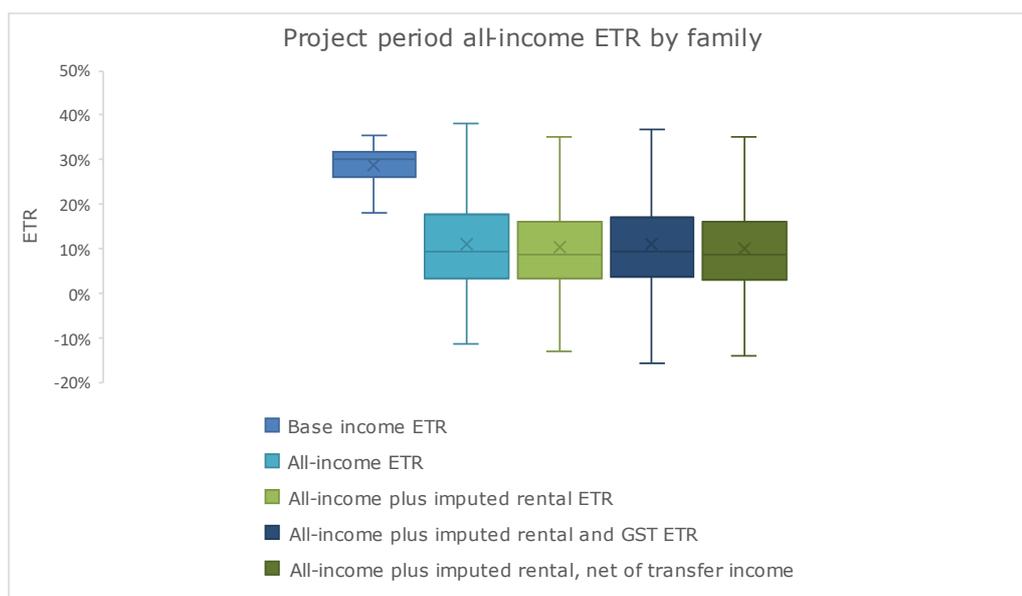
Project period population all-income ETR (population weighted-mean ETR)

12.29   Table 12.2 shows that the Project period population all-income ETR is significantly lower than the base income ETR on the same measure. The family ETR for this measure, excluding imputed rental from income, is 9.9%. The inclusion of imputed rental and GST only makes a small difference to the results, as does deducting transfer income from the tax (the numerator).

12.30   For the Project population transfer income is only .1 percent of economic income. Further, economic income (capital gains and imputed rental) from owner-occupied housing is small compared to total economic income. If transfer income (and tax), capital gains on owner-occupied housing and imputed rental is removed from the population ETR for 2018, the ETR reduces from 6.42% to 6.41%.

Table 12.2   Project period population all-income ETR for Individual A and all responders

Project period ETR by Population	Individual A	Difference to base income ETR (percentage points)	All responders	Difference to base income ETR (percentage points)
Base Income	32.2%		32.1%	
All-income	12.6%	19.5	9.9%	22.2
All-income plus imputed rental			9.8%	22.3
All-income plus imputed rental netting transfers from tax			9.7%	22.4
All-income plus imputed rental plus GST			10.1%	22.0

Comparison of Project period population ETRs (population weighted-means)

12.31   Figure 12.6 compares the Project period population ETRs for the family. It shows the base income ETR on this measure is 32.1%, and when all sources of economic income are included this ETR reduces to 9.8%, being the population all-income ETR (figures in this section include imputed rental and exclude GST).

12.32   The all-property, all-portfolio and all-business entity ETRs are asset class ETRs that only include one component of income in addition to base income (see Box 3 – referred to as all-x ETRs below). These ETRs can be compared to each other to determine which income source has the biggest impact on the reduction from the base income ETR to the all-income ETR.[96] Figure 12.6 shows that each asset class has a similar impact in reducing the ETR from the base income ETR.

12.33   While income from business entities is the biggest income source (see figure 12.2), as the business entity ETR includes entity tax, business entities have a similar impact on the ETR to the other income sources. Business entity tax divided by business entity income (outside of base income) is 9 percent. While property income is larger than portfolio income, property in land-rich entities bears tax, whereas additional portfolio income does not, resulting in similar population level ETRs for these income sources. Land-rich entity tax divided by property income (outside of base income) is 4 percent.[97]

12.34   The all-income ETR includes trustee income and tax, whereas the asset class ETRs do not. Without trustee income and tax (which has an ETR of 33%), the all-income ETR would have been lower at 8.2%. This is shown with the "all-income other than additional trust income and tax" ETR.[98]

Figure 12.6 Comparison of Project period population ETRs

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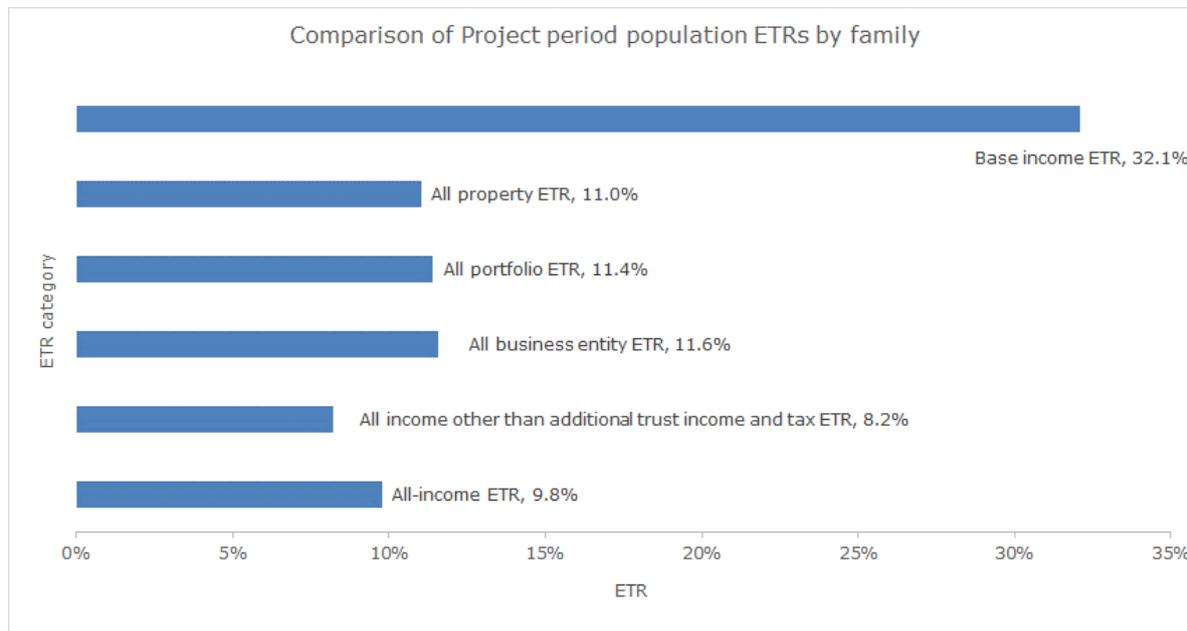
[96] As base income is included in each all-x ETR, the ETRs themselves are not added together to determine the all-income ETR. Rather the all-income ETR adds each income source to base income. The all-income ETR is lower than each all-x ETR as tax is spread across a greater amount of income.

[97] Tax on income outside of personal taxable income and trustee income is 6.2% of other income excluding imputed rental and untaxed trust distributions.

[98] Trading trust tax is included as trading trusts are treated as business entities. Untaxed trust distributions are also removed in this ETR.

12.35   Table 12.3 shows each component of the all-x ETRs (for example, for portfolio holdings, direct and trust portfolio holdings). Like the above discussion of the all-x ETRs, the components can be compared to determine which component has the biggest impact on the all-x and all-income ETR. For example, for portfolio income, portfolio assets in trust can be seen to have a bigger impact on the all-portfolio and all-income ETRs than directly held portfolio assets, as trust portfolio assets result in an 18.5 percentage points reduction in the ETR versus 10 percentage points for direct holdings.[99]

Table 12.3   Comparison of all Project period population ETRs

Type of income	All responders
Base income	**32.1%**
All-property ETR (excluding imputed rental) **Income included in ETR denominator**: base income, direct property, land-rich entity, trust property	**11.5%**
Direct property ETR	24.3%
Land-rich entity ETR	15.9%
Trust property ETR	18.8%
All-property plus imputed rental ETR	11.0%
All-portfolio ETR **Income included in ETR denominator:** base income, direct portfolio, trust portfolio	**11.4%**
Direct Portfolio ETR	22.1%
Trust portfolio ETR	13.6%
All-business entity ETR **Income included in ETR denominator:** base income, personal business entity, trust entity	**11.6%**
Personal business entity ETR	17.3%
Trust entity ETR	12.1%
All-income ETR **Income included in ETR denominator:** all the above sources plus trustee income (excluding imputed rental)	**9.9%**
All-income plus imputed rental ETR	9.8%
All-income plus imputed rental plus GST ETR	10.1%

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[99] As above, the component ETRs are not summed to form the all-x ETRs as each component ETR includes base income.

Cumulative ETR

12.36   Figure 12.7 shows a cumulative Project period population ETR for the family. This sequentially adds each of the income categories, and associated tax, to the ETR, starting with the base income ETR. This graph **cannot be used to determine the relative magnitude** of each income source (property, portfolio and business entity income) to reduce the ETR as the impact each additional income source has on the ETR depends on the order in which income sources are added.

12.37   The order used is:

- Base income (personal tax). [A]

- Base income plus business entity income (personal tax, company tax, trading trust tax). [B]

- Base income plus business entity and property income (personal tax, company tax including tax from land-rich entities, trading trust tax). [C]

- Base income plus business entity, property, and portfolio income (personal tax, company tax including tax from land-rich entities, trading trust tax). [D]

- All income, which includes the above categories plus trustee income and non-taxable trust distributions if the beneficiary only test applies (personal tax, company tax including from land-rich entities, trustee tax including from trading trusts). [E]

12.38   The ETR increase from step D to step E is due to the inclusion of trustee income and tax (which will have an ETR of 33% in itself).

Figure 12.7 Comparison of Project period population cumulative ETRs
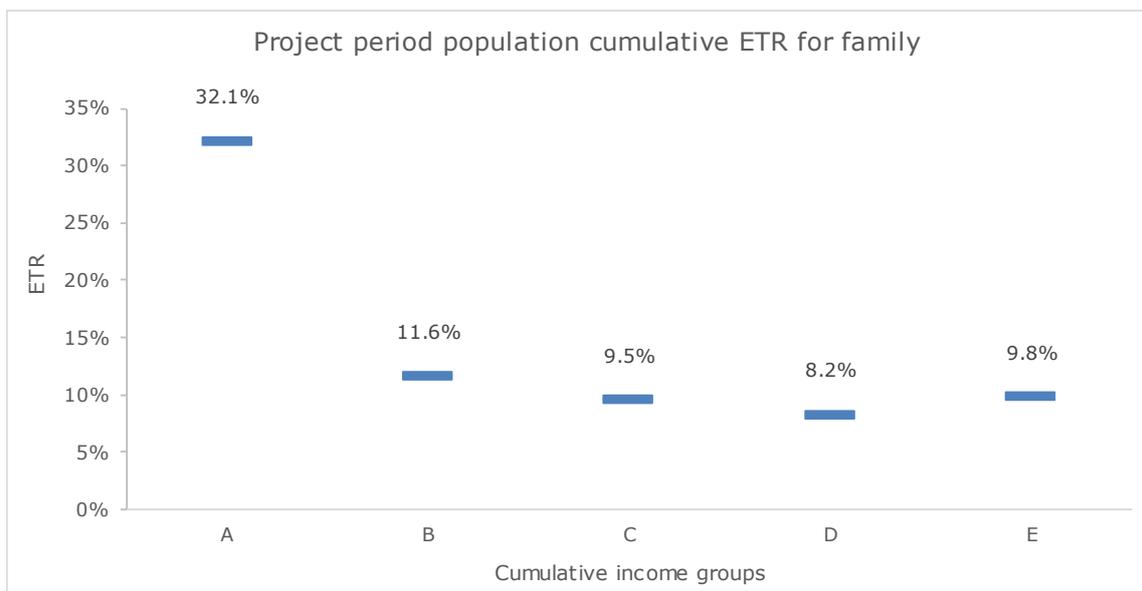
Distribution across income deciles

12.39   Figure 12.8 shows the distribution of the ETRs by income grouping for the Project population. It divides the Project population into 10 groups based on

their base income. These are not income deciles that align with HES income deciles. It shows ETRs generally increase with income.

Figure 12.8 Effective tax rate distributions over family income deciles
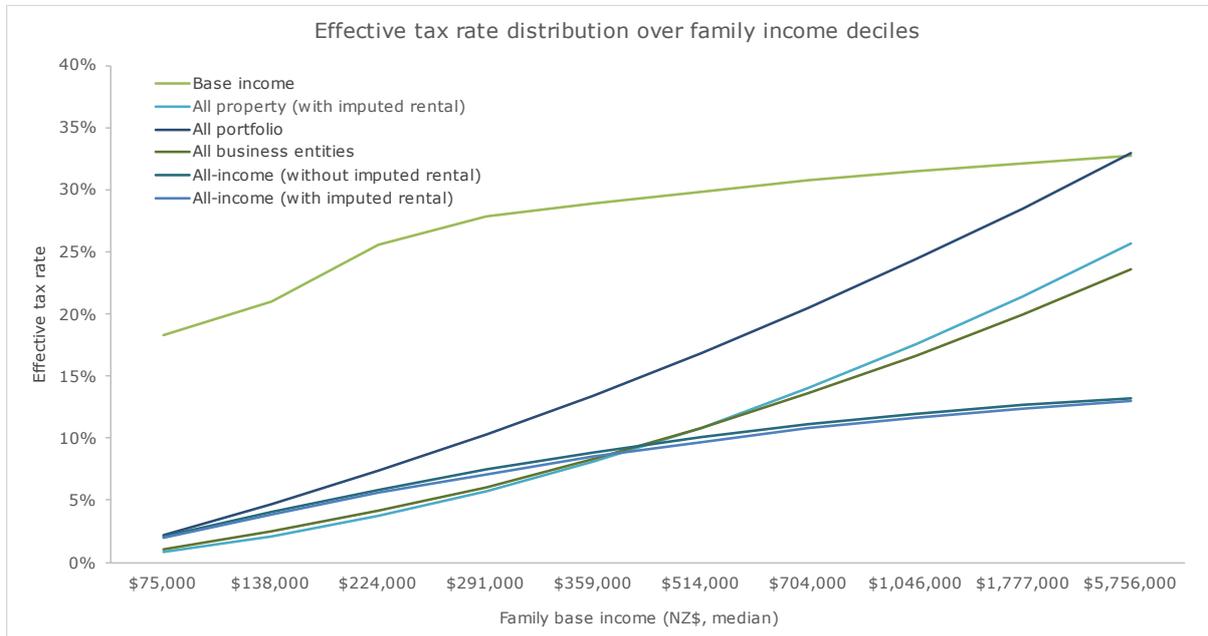
PART FOUR: EXTENDED PERIOD, GST, INHERITANCES & WEALTH

CHAPTER 13

SIGNIFICANT HOLDINGS IN LISTED COMPANIES

Introduction

13.1   This chapter examines income accruing to a subset of the Project population who have significant holdings in listed companies (SHLCs). It presents asset class effective tax rates (ETRs) assuming income is comprised of annual net income and economic income (and associated tax) from significant holdings in listed companies (listed company ETR).

13.2   In this chapter, income and ETRs are calculated over the periods from 2004 to 2021 and from 2008 to 2020. These periods are longer than the Project period used in Part 3, that is, 2015 to 2021. Income from non-portfolio listed company holdings (that is, holdings over 10 percent) earned over the Project period is included in the business entity ETRs and the all-income ETRs in Part 3.

13.3   There are three reasons why SHLCs are presented separately from other business entity holdings:

- the data used for the listed company ETRs is more accurate than the data used to estimate the ETRs of other entities, and therefore the results have a higher degree of reliability,

- a longer period is available for listed company data, allowing the life cycle of the company to be considered, and

- listed company holdings can be very large and provide a significant source of income.

13.4   The analysis in this chapter follows a similar methodology to the business entities chapter. However, there are a few differences between the business entities and SHLC methodologies. For the SHLC methodology:

- holdings may be below the 10 percent ownership threshold used for business entities,

- the period of analysis is longer,

- trust holdings are identified through stock exchange data rather than through collected information,[100]

- the analysis is based on Individual A, although it consolidates some family holdings where they are consolidated in stock exchange information (this is most likely where trust holdings are included), and

- the analysis covers individuals in the whole population who have SHLCs rather than being restricted to the responder population.

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[100] The trust attribution methodology is not applied in this chapter. For holdings through a trust, in effect a 100 percent attribution factor is applied. However, cross-checking against collected data suggests that this assumption is broadly correct. Cross-checking also suggests that most SHLCs by value are held in trust.

Included assets

13.5   Significant holdings in listed companies (SHLCs) are included. Listed company holdings will be SHLCs when, during the period analysed, an individual in the whole Project population was registered as a significant shareholder of a company listed on either the New Zealand Stock Exchange (NZX) or a foreign stock exchange. We exclude holdings when the value of the individual's holding is less than $1,000,000 for all years of the SHLC period.

13.6   In general, these individuals (together with their families and trusts) held at least 5 percent of the company. Alternatively, they may have been an office holder, in which case they may have owned a lower percentage of the company. Holdings through trusts and nominees are also included when they are consolidated in the stock exchange holdings data.

13.7   Forty-five members of the whole Project population (that is, 13 percent of the whole population of Individual As) were identified as having significant holdings in 44 different listed companies on the NZX or a foreign exchange. These individuals are the population for this chapter (the SHLC population).

Methodology

13.8   To calculate the listed company ETR, we start with the base income ETR for the period (personal tax assessed/annual net income) and add in additional income and tax from SHLCs.

13.9   We calculate the **listed company ETR** as:

$$\frac{Personal\ tax\ assessed\ +\ attributed\ company\ tax\ -\ imputation\ credits}{Annual\ net\ income\ +\ capital\ gains\ from\ SHLCs\ +\ attributed\ company\ tax\ -\ imputation\ credits}$$

13.10   SHLC income is the sum of dividends received from direct holdings[101] (these are already in annual net income) and the capital gain or loss (realised and unrealised) from owning shares in the listed company. Attributed company tax (that is, the individual's share of tax) is added to income to ensure that a gross income measure is used. Imputation credits are subtracted from company tax in the denominator to avoid double counting as they are already accounted for in annual net income.[102]

13.11   Capital gains are calculated from stock exchange shareholding data. Capital gains are calculated by taking the individual's holdings on the last day of the quarter multiplied by the change in share price over the next quarter.[103] Realised gains are included in capital gains through changes in holdings, with the sale valued at the end of quarter trading price. This assumes that trades are made at the closing price on the final day of the quarter.

13.12   In addition to personal tax, the listed company ETR numerator includes company tax proportionately attributable to the shares owned by the individual.

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[101] Both dividends, and the associated tax on them, for holdings through trusts will be understated in this chapter. However, as discussed in the sensitivity test section below, this only has a small impact on the ETR. Dividends paid to trusts and the tax on them are included in the all-income ETR which includes trustee income and tax.

[102] The inclusion of company tax in the denominator made less than half a percentage point difference to the weighted-mean ETR.

[103] We tested using the average price for the quarter rather than the end of quarter price. This had a maximum impact of 0.5 percentage points on the SHLC period measures but resulted in a larger reduction for the BCS period measures. Therefore, we only present average price results for the BCS period.

The company tax includes tax paid in New Zealand and foreign jurisdictions by the company consolidated with its subsidiaries. The company tax is reduced by imputation credits attached to dividends from the company that are derived by the individual. This prevents double counting of the company tax, as personal tax met with imputation credits is already included.

13.13 The calculation in this chapter is for the 17-year period 1 April 2004 to 31 March 2021 (the SHLC period). This period was chosen as it is the longest period for which we could obtain public data. A longer period is informative as companies may go through a life cycle. In the start-up or growth phase, taxable profits may be low but capital gains high. In the mature phase, taxable profits may be higher but capital gains lower. The longer period better allows the ETRs to take account of this life cycle and differences in the timing of capital gains and taxable income. A longer period also reduces the impact of short-term cyclical factors. To account for cyclical factors, we also use the 12-year period 1 April 2008 to 31 March 2020 to cover a single, full business cycle as a sensitivity test. We refer to this as the business cycle scenario (BCS) and the BCS period.[104]

Data sources

13.14 Data on listed company holdings, prices and total company tax is sourced from stock exchange data from the S&P CapIQ database. Shareholding data is available for the last day of each quarter since 1 April 2004. Data on imputation credits is calculated from data sourced from the Bloomberg database.

Results

Income

13.15 Figure 13.1 presents the annual value of base income (that is, annual net income) plus SHLC income[105], and the total annual tax (personal and company tax) on that income over the SHLC period. The BCS period is shaded. Over all the years of the SHLC period, the population earned a total of $671 million in base income. By comparison, realised and unrealised capital gains (gross of tax) earned through SHLCs totalled $6,022 million (that is, $6 billion).[106]

13.16 Figure 13.1 shows there is no relationship between capital gains from the SHLCs and tax paid on an annual basis. It also shows that capital gains income is highly volatile, and there can be periods of gains and periods of losses.

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[104] A business cycle is defined here as the period from peak to peak in real GDP (Reddell, 2020, April 20).
[105] Dividends are included in individuals' base income so are not added again. For figure 13.1, base income is only included for years where the individual had a SHLC (when only these years are included, base income is $608 million across the SHLC period). The same approach is taken in calculating the ETRs.
[106] This includes $179 million of attributed company tax to make the ETR based on gross income.

Figure 13.1 Income and tax included in listed company ETR
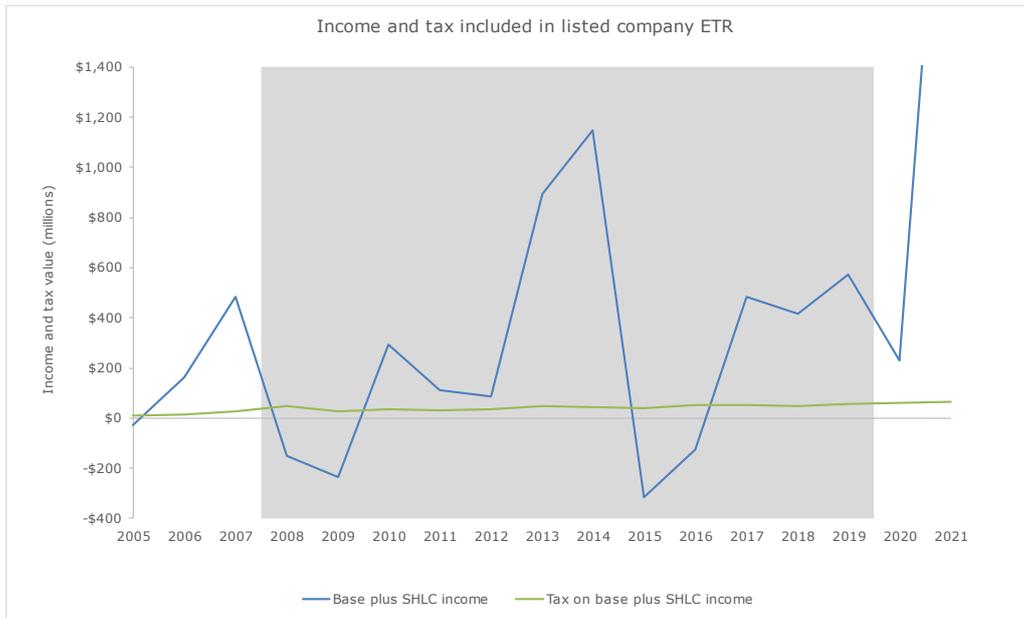
Effective tax rates (ETRs)

Base income ETR

13.17   The population weighted-mean base income ETR is 33% for the SHLC population over both the SHLC and BCS periods. Note, the SHLC period includes some years when the top personal tax rate was 38% or 39%. This explains why the base income ETR is higher than that in chapter 8.

Annual listed company ETR

13.18   Figure 13.2 shows the median annual base income ETR compared to the median annual listed company ETR over the SHLC period (the BCS period is shaded). The median annual listed company ETR is volatile, being between -3.2% and 21.7% over the SHLC period. The impact of the reduction in the top personal tax rate in 2010, from 38% to 33%, can be seen in the base income ETR.

Figure 13.2 Median annual listed company ETR
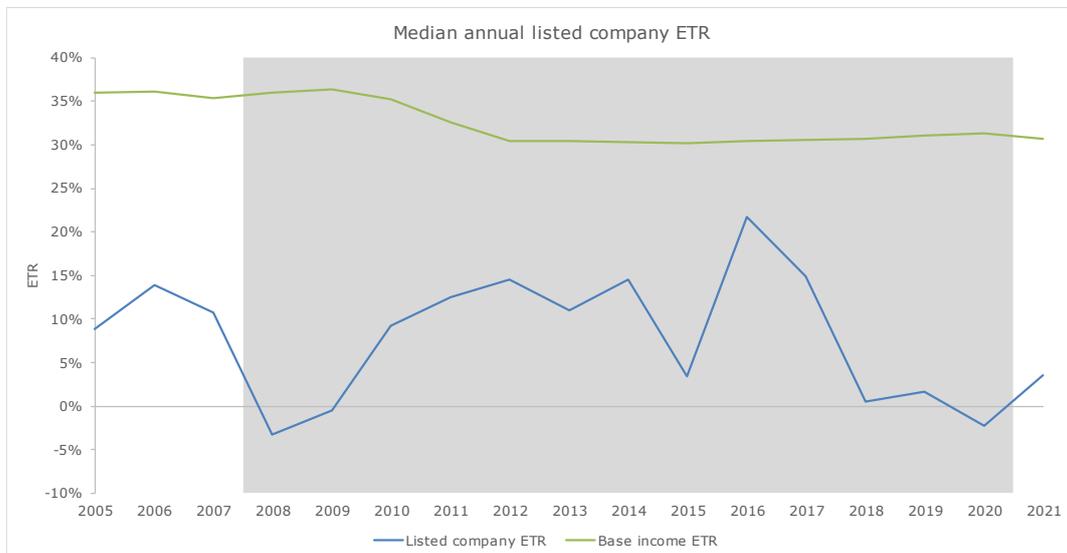
Period listed company ETR

13.19 This section is based on a calculation of individuals' period ETRs (that is, the individual's tax and income over the period). Figure 13.3 shows that, based on end of quarter prices, the median SHLC period listed company ETR is 13.4% and the median BCS period listed company ETR is 14.6%. The median BCS period listed company ETR is 12.3% when based on the average quarterly price. For both periods, around a third of the SHLC population had a period listed company ETR between 0% and 15%. Those with higher capital gains tended to have a lower ETR.

13.20 A low ETR occurs where a taxpayer earned significant capital gains compared to company profits. In these cases, using company profits as a tax base does not provide a good proxy for the income to the individual from capital gains. ETRs could also be negative. This occurs when the individual made negative capital gains in the period, but the company still paid tax. In addition, ETRs could be significantly above personal tax rates when capital gain income is low compared to corporate profits over the period.

Figure 13.3 Period listed company ETRs

Period population listed company ETR (population weighted-mean)

13.21 In this section, the ETR is calculated as the sum of the total tax relative to the sum of the total base plus SHLC income of the population over the period. Based on end of quarter prices, the SHLC period population listed company ETR is 9.9% and the BCS period population listed company ETR is 16.8% (the BCS period measure is 13.9% based on the average price for the quarter). This measure is relatively high for the BSC period as there were several individuals with relatively low income or losses in this period, reducing the total population income over the BCS period.

13.22 These results show that when the period of analysis is extended beyond the Project period, ETRs based on economic income continue to be lower than those based on personal taxable income.

Sensitivity tests

13.23 The results presented in this chapter only include years where the individual was a tax resident and had an SHLC. As a sensitivity test, we also calculated ETRs

including all years in the period. This made minimal difference to the results, increasing the weighted-mean ETR by around 0.5 percentage points.

13.24   SHLCs are included in this chapter if the individual had a holding exceeding $1,000,000 in any year of the SHLC period. This assumption materially affects the median period ETR but not the weighted-mean ETR. Holdings below $1,000,000 have been excluded as they are portfolio holdings and are more appropriately included in the portfolio ETR along with other portfolio assets. For the excluded individuals, the absolute value of their capital gains on these holdings is minimal compared to their base income (around 2 percent). This means that the ETR, calculated per the methodology set out in this chapter, converges to the base income ETR for these individuals.

13.25   For this analysis, we identified holdings based on the whole population of Individual As. It is possible that in some cases joint holdings with partners are included, particularly for holdings through trusts. Therefore, we also provide a sensitivity test where we use the base income and personal tax assessed of the family. This made minimal difference to the results, increasing the ETR around 0.1 percentage points.

13.26   Finally, most SHLCs are held through a trust. Where the company pays a dividend to the trust, and that dividend is not distributed to the individual as beneficiary income, the dividend will not be included in our income measure. Similarly, the tax on that dividend will not be included in tax. We tested the effect of assuming all dividends were paid to trusts and not distributed as beneficiary income and attributing tax on these dividends. This had a small effect, reducing the median listed company ETR for the SHLC period by 0.5 percentage points and increasing the weighted-mean ETR by 0.3 percentage points.

Realised capital gains on SHLCs

13.27   This section presents a calculation of realised capital gains on SHLCs. Realised capital gains are a subset of the $6 billion of total capital gains earned by the SHLC population over the SHLC period. To calculate realised capital gains, two methods were used: first-in-first-out (FIFO) and last-in-first-out (LIFO). The base year for the calculation is the later of the first year of the relevant period and the year of purchase. Consequently, results are biased towards estimating larger gains for later years, as these gains will be measured over a longer time.

13.28   FIFO is where the earliest purchases of shares are deemed to have been sold first when shares are sold. The purchase price is therefore the price paid for the earliest acquisition or the share price at the beginning of the period. LIFO is where the most recent purchases are deemed to be sold first. The purchase price is therefore the price paid for the most recent acquisition and, when that quantity is exhausted, the next most recent acquisition, or the share price at the beginning of the period if no unsold acquisitions since that time remain.

13.29   The total value estimated for realised capital gains for the SHLC population over the SHLC period (1 April 2004 to 31 March 2021) is $1,762,689,560 (FIFO) and $1,707,977,940 (LIFO). This is almost 30 percent of the total capital gains over the period.

13.30   For the Project period (1 April 2015 to 31 March 2021), the realised gains of the SHLC population total $926,353,560 (FIFO) and $925,533,620 (LIFO). This is based on a 2015 base valuation year and is around 23 percent of the total capital gains over the Project period.

CHAPTER 14

GST

Introduction

14.1   This chapter looks at the impost of the Goods and Services Tax (GST), relative to both expenditure and income, across household income deciles. It is based on HES income or taxable income rather than economic income. It extrapolates results for the general population to the Project population.

14.2   GST is a form of value added tax (VAT).[107] In New Zealand, it is an important source of revenue for public finances, raising over a quarter of central government revenue. The incidence of VATs is thought to mainly fall on the consumer, increasing the price consumers pay for goods and services (Obeng, 2018). This gives rise to public discussion regarding the perceived regressivity of VATs and their impact on low-income households. In response, many countries have reduced rates of VAT on necessities, such as food.

14.3   In New Zealand, the GST has a broad base, with limited exemptions, and a single rate. Other tools, such as the progressive income tax and government transfers, are used to address income adequacy concerns. This minimises compliance and administrative costs arising from the GST system and raises significant revenue with a relatively low rate by international standards.

14.4   Alternative designs of the GST have been investigated for New Zealand. Thomas finds that reduced GST rates for necessities would have a progressive effect in New Zealand but would generally provide a greater absolute benefit to the rich rather than poor. Other measures, such as tax credits, were found to provide more targeted income support at lower fiscal cost (Thomas, 2015).

14.5   New Zealand does have some goods and services on which GST is not levied, such as certain financial services (for example, life insurance). As low- and high-income households have different consumption patterns, it is important to understand who benefits from items not being subject to GST. Further, as Perry (2019, p54) and Aziz (2012) note, a comprehensive analysis of the tax and transfer system needs to consider tax paid through both income tax and GST.

14.6   This chapter extends the analysis on the distributional impacts of GST to high-wealth households. In this chapter, GST is considered in isolation. The chapter uses income and expenditure data from the Household Economic Survey (HES) expenditure statistics (for the general population) and survey data on expenditure and taxable income (for the Project population) to estimate the GST-to-expenditure and GST-to-income ratios.

14.7   Neither HES nor taxable income are comprehensive measures of economic income. Further, as noted, a comprehensive analysis of the tax system should consider all major tax types. For this reason, we include GST, as calculated in this chapter, in a measure of the all-income ETR in chapter 12 in combination with other tax types.

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[107] For simplicity, the term GST is sometimes used to generally refer to VATs.

Assessing the distributional impacts of GST

14.8   Given that GST is levied on consumption, it is important to consider the base on which an assessment of the distributional impacts of GST should be made. Some studies assess the impacts of GST relative to current expenditure, while others use current income or both expenditure and income. Both bases are a proxy for the welfare or economic resources of the household. Adam et al. (2011) argues that as households can consume out of savings and borrowings, we would ideally measure the impact of consumption taxes over individuals' lifetime resources. However, data on lifetime income and expenditure is not available and most studies are therefore based on current annual data.

14.9   The choice between an income or expenditure base will impact the outcome. When considered as a portion of annual income, VATs will appear regressive, that is, the tax is a higher proportion of the income of low-income than high-income households. However, when considered as a portion of expenditure, VATs generally appear broadly proportional or, in countries with reduced rates on necessities, slightly progressive (Thomas, 2022).

14.10   Both an income-based and an expenditure-based approach can be useful in providing a perspective on the impacts of GST. For this reason, we take both approaches in this chapter. The arguments for each approach are outlined below.

14.11   Proponents of the expenditure-based approach argue that the GST-to-expenditure ratio provides a better indicator of the lifetime distributional effects of GST (Adam et al., 2011; Thomas, 2015). This is because the GST-to-annual income ratio is significantly affected by savings and borrowings. Households that are currently high income tend to save a greater proportion of their income, and therefore typically have a low impost of GST relative to income. If the household eventually spends that saved income, for example, in retirement, it may then have a high impost of GST relative to income. As the level of expenditure is smoother than income over an individual's lifetime, it is argued that the GST-to-expenditure ratio better measures the lifetime GST impost.

14.12   However, the GST-to-income ratio allows a combined analysis with direct taxes – allowing an assessment of the whole tax system. Proponents of an income-based approach also argue that liquidity constraints limit households' ability to shift resources across time and thereby smooth expenditure (Gastaldi et al., 2017).

14.13   Further, higher income tends to be correlated with wealth. As wealthy individuals are more likely to pass on significant inheritances (and so have lower lifetime expenditure than income), their lifetime GST ratio relative to their income versus expenditure may differ significantly.[108]

14.14   In terms of the incidence of GST, we follow the Mirrlees review (Crawford et al., 2010) and assume the incidence of GST falls fully on the consumer.

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[108] Black et al. (2022) shows for Norway that, on average, wealthy individuals leave significant inheritances while lower wealth deciles do not. The Mirrlees review (Crawford et al. 2010) noted that over a lifetime a uniform consumption tax is equivalent to a proportional tax on wage, transfer and profit income combined with a tax on initial assets and a subsidy to bequests.

Previous studies on New Zealand

14.15   Thomas (2020,2022) assessed the distributional impacts of VAT relative to annual income and expenditure for 27 OECD countries, including New Zealand (based on HES 2016). The results are plotted in figures 14.1 and 14.2 for the 10 income deciles.

14.16   The GST-to-income ratio for New Zealand follows a similar declining trend to that of other OECD countries. For the OECD average, the VAT-to-income ratio declines from around 10.4% in decile 2 to 6.9% in decile 10.[109]

Figure 14.1 VAT-to-income ratio by income decile
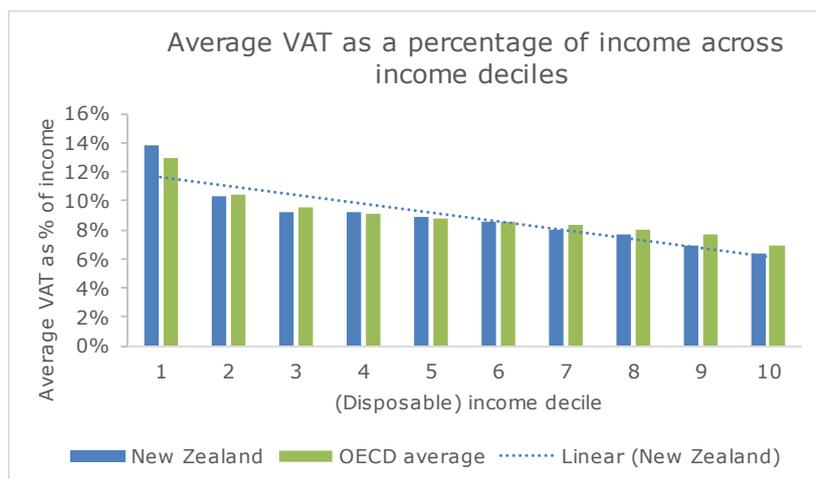
Source: Thomas (2020) Table 2, p26.

14.17   For the VAT-to-expenditure ratio, Thomas finds the ratio is generally broadly proportional or slightly progressive for OECD countries (due to reduced rates on necessities). However, for New Zealand, Thomas found a small degree of regressivity when ordered by income or expenditure.

Figure 14.2 VAT-to-expenditure ratio by income decile
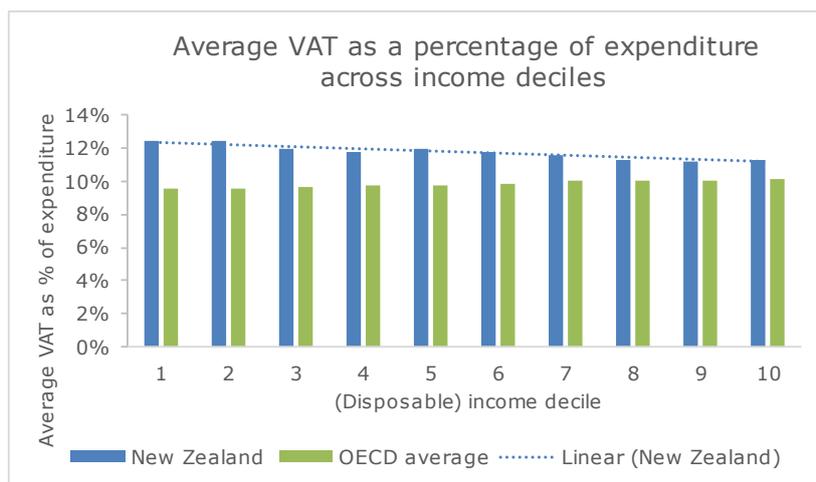
Source: Thomas (2020) Table 3, p27.

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[109] Decile 1 incomes may not be representative of the resources of the individual (for example, if there is an annual loss). Hence, we compare decile 2 and 10.

Methodology

14.18   We have replicated the approach taken by Thomas to estimate both the GST-to-income and GST-to-expenditure ratios for the HES 2018/2019 year. We also cross-checked our approach by comparing results based on the HES 2015/2016 year for the general population to those of Thomas.

14.19   A difference in our approach is that our calculations for the general population are based on the decile median household income and expenditure, whereas Thomas used unit record data. This will make our approach less accurate. Despite that, our results were similar to those of Thomas for the 2015/2016 HES year, providing verification for the broad conclusions from the results for the general population.

14.20   We have extrapolated the results to also estimate the GST impost for the responder Project population. For that purpose, as part of the Financial Collection, we collected information on the expenditure of the Project population for the 2019 year. This provided insights on the Project population's annual consumption expenditures and spending on goods and services that are GST exempt (or zero-rated), which allowed the assessment of their effective GST ratio.

14.21   Our results for both the GST-to-expenditure and GST-to-income ratios are presented by household (for the general population) and family (for the Project population) income deciles.

14.22   To estimate the **GST impost**, relative to **expenditure** and **income**, we needed to estimate the following:

- the consumption expenditure base,

- the income base, and

- consumption subject to GST (to estimate GST).

Defining the expenditure base for the GST-to-expenditure ratio

14.23   To determine the expenditure base for the GST-to-expenditure ratio, we start with HES data on median household expenditure by income decile for the general population and survey data for the Project population. Following other literature, we then remove certain expenditures from the expenditure base to provide an unbiased comparison across income deciles.[110] We also tested the sensitivity of our estimates to the removal of these items. In our results the following are removed:

- **Rent.** This is removed for both the general and Project populations. This ensures that renters and owner-occupiers are treated equivalently. If we were to include rent, this could bias our expenditure base by inflating the expenditure of renters vis-à-vis owner-occupiers. This is because the HES does not include imputed rents on owner-occupied housing, which is the consumption benefit of housing accruing to owner-occupiers.

- **Expenditures related to purchases of motor vehicles and the housing capital stock.** These are removed as these items are large and purchased infrequently. Their inclusion could therefore distort the expenditure base. Ideally, for large durable items, the annual

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[110] For example, Thomas (2022) or Metcalf (1994).

consumption benefit would be included. However, we do not have data to estimate this. For housing, the inclusion of house purchases could also result in comparability difficulties in determining the GST embedded in rent and house purchases.[111]

▪ **Expenditure on loan servicing and contributions to savings**. For the general population, we remove interest payments, contributions to savings, fines, and money gifts, which are all items in HES expenditure. For the Project population, principal and interest payments on mortgages are removed (savings were not included in survey data). The argument for excluding these items is that they are not part of final consumption expenditure. The GST-to-expenditure ratio is sensitive to this exclusion, but it does not impact the GST-to-income ratio.

Defining income for the GST-to-income ratio

14.24   For the GST-to-income ratio, we use median household disposable income by decile from HES for the general population. We estimate disposable income for the general population based on household gross income (individualised) less tax, which may overestimate income.[112] One caveat on the use of HES income is that as elements of it are self-reported, there is likely to be some under-reporting (Decoster et al., 2010). For the Project population, we calculate family disposable income from taxable income (that is, taxable income minus assessed taxes).

14.25   Disposable income is used, as consumption is out of after-tax income. Disposable income also reflects the redistributive effects of income taxes.

14.26   We expect that the differences between HES and taxable income, and between the definitions of family and household, have minimal material effect on our baseline results and the broad direction of the empirical evidence. HES income and taxable income both exclude capital gains and retained earnings from entities and trusts. We also believe that there is only a small difference between the HES definition of household and the definition of family for the Project, given the demographics of a typical Project population family (two individuals with the median age of Individual A of 68). It is reasonable to assume that the family usually forms a household in the context of the HES definition.

Estimating the GST impost

14.27   The GST impost is estimated from HES data for the general population and from survey data for the Project population. We take median expenditures per decile for the general population (less the expenditure excluded from the expenditure base) and remove items that are either exempt from GST or zero-rated.[113] This

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[111] When a person purchases a new house from a GST-registered person, it is subject to GST. Used houses built after the introduction of GST would have had GST charged when they were originally sold by a GST-registered person, and improvements to the house since then were subject to GST. Rent is not directly subject to GST, but landlords cannot claim input tax credits on housing improvements or new housing they purchase. In this way, there is some "embedded" GST in both renting and purchasing housing, whether it is brand new or already existing.

[112] This is because we assume both adults in the family have the same income. If one individual had a higher income, then they would have a higher average tax rate.

[113] Based on the Goods and Services Tax Act 1985. Excluding items that are exempt from GST may understate to some degree the GST paid on those items. This is because the seller of the good may have paid GST on the input costs despite being unable to charge GST on the sale of the output. This is distinct from items that are zero-rated, where the seller can claim an input tax credit on any GST paid on inputs while charging 0% GST on the sale of the output.

amount is then multiplied by the rate of GST to work out GST paid per decile.[114] For the Project population, we follow the same methodology based on their reported expenditure.

14.28   In estimating the tax burden, the following items were treated as GST exempt or zero-rated: international flights and overseas accommodation prepaid in New Zealand,[115] life insurance and fees for financial services, and residential rent. Further, interest payments, contributions to savings, money gifts, and fines are treated as GST exempt. For our main calculations, purchases of motor vehicles and housing purchases are not included in the calculation of the GST impost.

Sensitivity test

14.29   We also estimate these ratios for high-income (top) earners (those above the median income for decile 10) without using survey data from the Project population. This allows us to test if the Project population's characteristics are consistent with general trends.

14.30   To do this, we estimated the expenditure of top earners by modelling the relationship between income and expenditure for the general population and extrapolating this to high incomes. To generate the consumption income elasticity, we first estimated the amount each HES expenditure subclass (such as food, clothing) linearly increases as income increases across all income deciles. We use the constant elasticities estimated to project the expenditure on each subclass for top earners and sum this to estimate total expenditure for top earners. Our estimates are subject to caveats and statistically uncertain but in line with evidence from other studies (such as Fisher et al., 2019).

14.31   We multiplied the extrapolated expenditure by the GST rate to calculate the GST impost for the modelled top earners. We then calculated the GST ratios for top earners in the same manner as we did for the rest of the population.

Caveats

14.32   This modelling is subject to several uncertainties and limitations. It is based on households or families, so it cannot be used to identify individual circumstances. It uses aggregate data and assumptions, which means the results are approximations and should be taken as indicative estimates only. The survey questions for the Project population were more general than those asked in the HES expenditure survey, making our data less granular than HES.

14.33   For the sensitivity test, the consumption income elasticities are considered constant over all income levels. This likely overestimates the amount of actual consumption expenditures made by top earners as consumption of some goods and services (such as food or clothing) may reach a point of satiation.

14.34   Survey data used for the Project population is subject to response error. Some data cleaning was required. For example, where families reported either total expenditure to be less than the sum of sub-components of expenditure or zero expenditure, the survey response was considered unreliable and not used. This exclusion reduced the number of observations to 268 (that is, 86 percent of the responder population). Further, in responding to the survey questions, the Project population were able to round their reported expenditure to the nearest $50,000. This makes the survey data less accurate than HES expenditure. In

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[114] The GST rate is 13% on gross expenditure (15% of net expenditure).

[115] This category should also include expenditures on international flights and accommodation paid outside of New Zealand, but HES doesn't provide reliable data at the decile level, so it is omitted.

addition, expenditure information was only collected for a single year (2019). We assume that expenditure in this year is consistent with general expenditure trends for the Project population. This year was chosen as it was prior to any COVID lock-down.

14.35 There are differences in the data source used for the general population and the Project population. This reduces the accuracy of our results and may result in a level shift between the different data sources.

Results

GST-to-expenditure ratio

14.36 We find that the GST-to-expenditure ratio across HES income deciles in New Zealand is broadly proportional. However, it may be slightly regressive or progressive depending on the expenditure base chosen. Extrapolation of the GST-to-expenditure ratio to the Project population, based on either survey data or modelling for the sensitivity test, largely continues the proportional trend, with an average ratio of 10.2% for disposable income above $350,000.

14.37 Figure 14.3 shows the broadly proportional trend. In this figure, the items noted in paragraph 14.23 are excluded.

14.38 For both populations, the exclusion of cars and housing purchases made minimal difference to the GST-to-expenditure ratio. The results are sensitive to the exclusion of interest costs and contributions to savings from the expenditure base. For the general population, the ratio was broadly proportional when these items were excluded. However, as interest costs and savings are proportionately larger for higher income households, a regressive trend was observed when they were not excluded.

14.39 This result is as expected given the broad base of New Zealand's GST. Items not subject to GST are relatively small in relation to total expenditure.

Figure 14.3 GST-to-expenditure including survey data
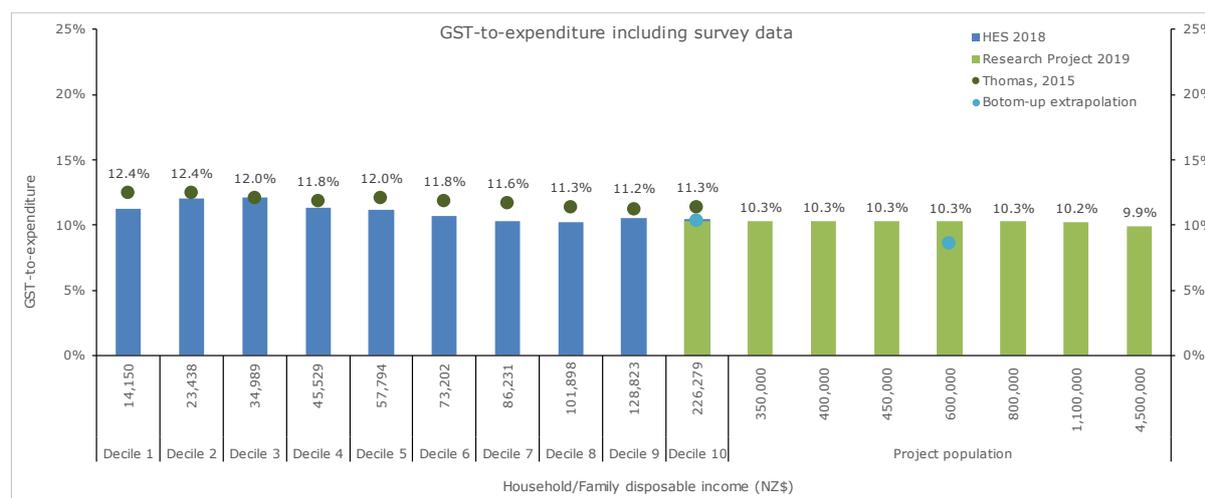
Note: The reported results in figures 14.3 and 14.4 are based on three different survey datasets. For the general population, we used the HES 2018/2019 data. For the Project population, we used data for the 2019 reference period from a survey conducted in 2022. Thomas (2022) used the HES 2015/2016 survey.

GST-to-(HES/taxable)-income ratio

14.40   Consistent with international literature, the ratio of GST to annual (HES) income decreases as income increases across household income deciles for the general population. Based on HES income, we find the GST-to-income ratio for decile 2 to be roughly twice as high as for decile 10.

14.41   When we modelled the GST-to-income ratio for top-income families for the sensitivity test, we found a continuation of the trend of a declining ratio. Based on survey data on expenditure from the Project population and taxable income, the declining trend largely continues.

14.42   However, there appears to be a small level shift in the ratio when we move from HES data to survey data. This may be due to the change in the data source. Alternatively, our data suggests that the expenditure of many high-wealth families may not be constrained by their taxable income. In other words, many high-wealth families reported spending more than their taxable income, likely spending from their stock of assets. This demonstrates that high-wealth families have considerable resources beyond their taxable income.

14.43   For the Project population, the GST-to-income ratio is sensitive to the exclusion of vehicle expenditures. The Project population tends to spend relatively more on cars than the general population.[116] Including these expenditures increases the GST-to-income ratio by 4.3 percentage points to 10.3 percent for the Project population families with taxable income below $400,000.[117] However, as noted, cars are excluded from our baseline estimate as they are durable goods. If the Project population had particularly high car purchases in 2019, the GST on cars will be overstated.

Figure 14.4 GST-to-income including survey data
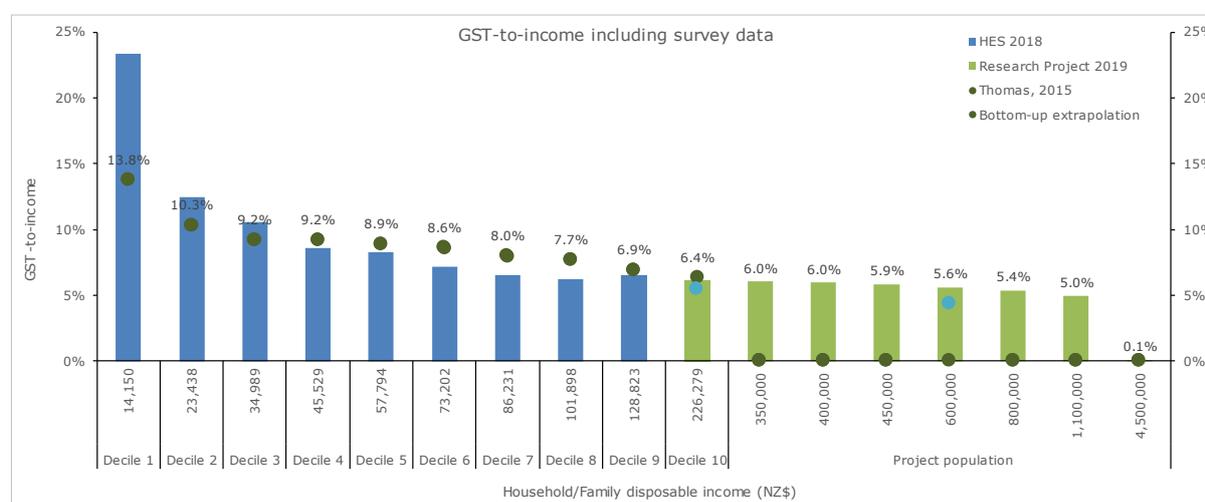
Note: see Figure 14.3.

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[116] The expenditure survey revealed that in 2019 the Project population spent relatively more of their income on cars than an average New Zealand household surveyed in HES 2018/2019 (8.8% vs. 5.2% of their total expenditure); more on travel and financial services (16.6% vs 11.5%); less on housing (19.7% vs 23%); and less on other goods and services (54.8% vs. 60.5%). The differences between the two groups are statistically significant at standard confidence levels.

[117] The $400,000 is the decile median when the Project population is divided into deciles.

CHAPTER 15

INHERITANCES AND WEALTH

Introduction

15.1   This chapter provides information on significant amounts inherited or received in gifts by the Project population over a 50-year period. It also presents estimates of the wealth, or net worth, of the Project population. The purpose of this chapter is to provide further insight into the total level of net worth held at the top end of the net worth distribution and the ways in which net worth is accumulated.

Inheritances

15.2   As noted by Delestre et al. (2022), there is considerable interest in the income inequality literature as to how intergenerational transfers may drive income or wealth inequality. In some countries, such as the UK, there is evidence that inherited wealth as a source of income has been increasing across generations, driven by a combination of increases in parental wealth and a reduction in the average number of siblings. However, in international studies, it is not clear that inheritances increase wealth inequality. Some studies find inheritances have a neutral effect on relative wealth inequality, partly because smaller inheritances at the bottom of the wealth distribution are still a relatively large share of the smaller wealth there.

15.3   For the reasons set out in chapter 6, we do not include gifts and inheritances in the calculation of ETRs. However, this chapter provides information on the amounts received in inheritances or gifts by the Project population.

Information requested

15.4   We collected information on significant gifts and inheritances for the decades from the 1970s until 2020, a total of 50 years. This is a longer period than the Project period over which ETRs are estimated. A longer period was used as inheritances and significant gifts are generally received infrequently, if at all.

15.5   The Financial Collection asked for an estimate, for each decade from 1970, of the total nominal value of gifts and inheritances exceeding $25,000 received from relatives and rounded to the nearest $1,000,000. This included amounts received in trust distributions from testamentary trusts or trusts settled by a relative. This does not include amounts of undistributed income of the trust. No adjustment was made for inflation.

15.6   Due to the extended period and the above reporting thresholds, it was necessarily assumed that this would only provide an estimated picture of the inheritances and gifts received by the Project population.

15.7   Information on inheritances and gifts received in the previous 12 months is collected annually by Stats NZ for the general population via the Household Economic Survey. Stats NZ intends to collect a wider range of information from 2023 onwards. While there are differences in the information sought, this potentially provides some basis for comparison between the general and high-wealth population, but this is not work that the Project has undertaken.

Results

15.8   Sixty-six family units (21 percent of the responder population) declared an inheritance or gift. The total number of individual inheritances or gifts received by families is higher at 91, since some family units received more than one inheritance across the decades.

15.9   The total reported inheritances received by the Project population was $411 million over the 50-year period. Nearly 75 percent of that was received after 2010. In part this may be due to nominal (non-inflation adjusted) amounts being reported. In the decade from 2010 to 2020, 49 inheritances or gifts were disclosed. Eleven of these were for amounts over $5 million.

15.10   When measuring by family, the mean inheritance of those families who reported any gift or inheritance was $6.2 million over the entire 50-year period. [118]

15.11   The median value of inheritances for those families is $1.3 million, indicating that a relatively small number of quite large inheritances have skewed the distribution of the data.

15.12   For those that inherited in the decade of the Project period, the mean inheritance was $6.7 million. We estimate that the total amount of inheritance reported for the Project period is 4.2 percent of the economic income received by this group during the six-year Project period. [119]

Figure 15.1 Total and mean inheritance by decade for family

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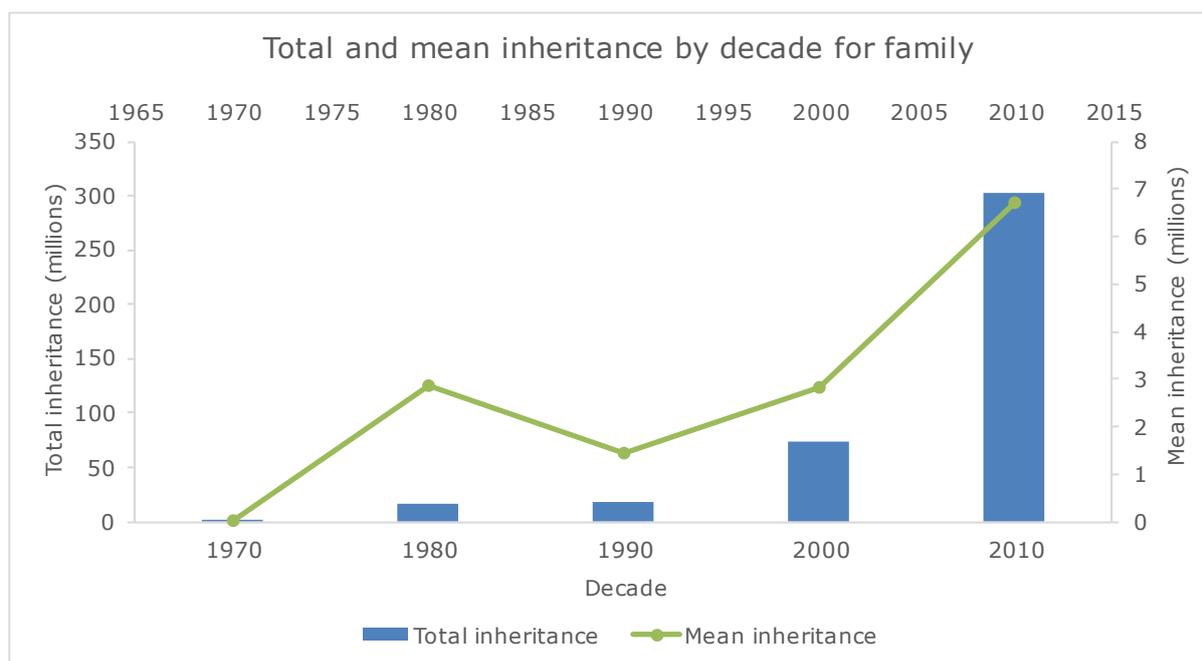
[118] The mean and median exclude values less than $10,000.

[119] As inheritance was reported by decade, to undertake this estimate we have reduced total inheritance in the 2010 decade by a factor of 0.6.

Wealth

15.13   Tables 15.1 and 15.2 below show the mean and median estimated net worth of the responder family population for the 2015, 2018 and 2021 years. Net worth is an individual's or household's assets less liabilities. The tables provide approximations of net worth rather than precise estimates.

15.14   The net worth values in tables 15.1 and 15.2 have been estimated using the methodologies discussed in prior chapters. How real property has been valued is discussed in chapter 9. The value of portfolio assets is based on information collected in the Financial Collection. For entity holdings, we estimate the value of the families' equity holding. For entities that are not land rich, we estimate the value of the families' equity interest using the methodologies discussed in chapters 11 and 13. For land-rich entities, the equity value of the families' holding is estimated by taking the gross value of the entities' real property assets less the entities' net debt, multiplied by the families' ownership share.

15.15   There are some net worth data sources not available to the Project. For example, information on some foreign assets, such as overseas real estate, was not collected. Our figures omit the value of partnership equity in partnerships that are not land rich. However, given the small number of partnerships in our data (88 in total), we do not expect this omission to be material. Furthermore, collected information was subject to *de minimis* thresholds.

15.16   Furthermore, information on personal liabilities was not available to the Project for all asset categories. The main omission is liabilities in respect of direct and trust holdings of non-owner-occupied real property. (Figures are net of mortgages on owner-occupied property as this information was collected.) To account for this, we adjust the value of non-owner-occupied property, held directly or in trust, downwards by an assumed debt-to-asset ratio. The ratio we use is based on that of the top 5 percent of households by net worth in the relevant year's HES (see Appendix G, table G4). We assume portfolio assets are not debt financed or that a net figure has been disclosed.

15.17   For 2021, we estimate mean net worth to be $276 million. Mean total net worth is significantly higher than median total net worth, at $106 million in 2021. This is due to some families holding a significant amount of net worth compared to the rest of the Project population.

15.18   Table 15.3 shows the number and percentage of the responder population in certain net worth bands by year.

Table 15.1   Mean net worth statistics

Net worth summary statistics	2015 mean	2018 mean	2021 mean
Non-trust holdings of unlisted entities and all holdings of listed entities	$114,596,602	$115,051,129	$120,461,946
Trust entity holdings (unlisted entities in trust and trading trusts)	$30,254,545	$43,463,828	$55,105,908
Direct property	$5,398,685	$6,871,824	$8,912,536
Trust property	$8,892,156	$11,773,210	$14,973,146
Land-rich property	$10,357,366	$14,518,999	$19,366,136
Direct portfolio	$10,156,736	$9,846,417	$11,010,069
Trust portfolio	$26,224,717	$36,214,498	$46,140,846
Mean total wealth	$205,880,807	$237,739,905	$275,970,588

Table 15.2   Median total net worth

Median total net worth	2015	2018	2021
	$60,326,151	$86,445,743	$106,090,022

Table 15.3   Frequency by net worth category and year

Net worth	2015		2018		2021	
Less than $50mil	137	44%	93	30%	85	27%
$50mil - $250mil	138	44%	158	51%	149	48%
Above $250mil	36	12%	60	19%	77	25%

APPENDICES

Appendix A

The joint distribution of income and wealth

1. Both income and wealth, or net worth, contribute to material well-being. Households can consume either from income or from stores of wealth. The below framework, from Perry (2019), shows how both income and wealth provide resources for consumption, which contributes to material well-being. Other non-financial factors, such as environmental amenities, also impact on well-being.

Figure A1 Income-wealth-consumption-material well-being framework
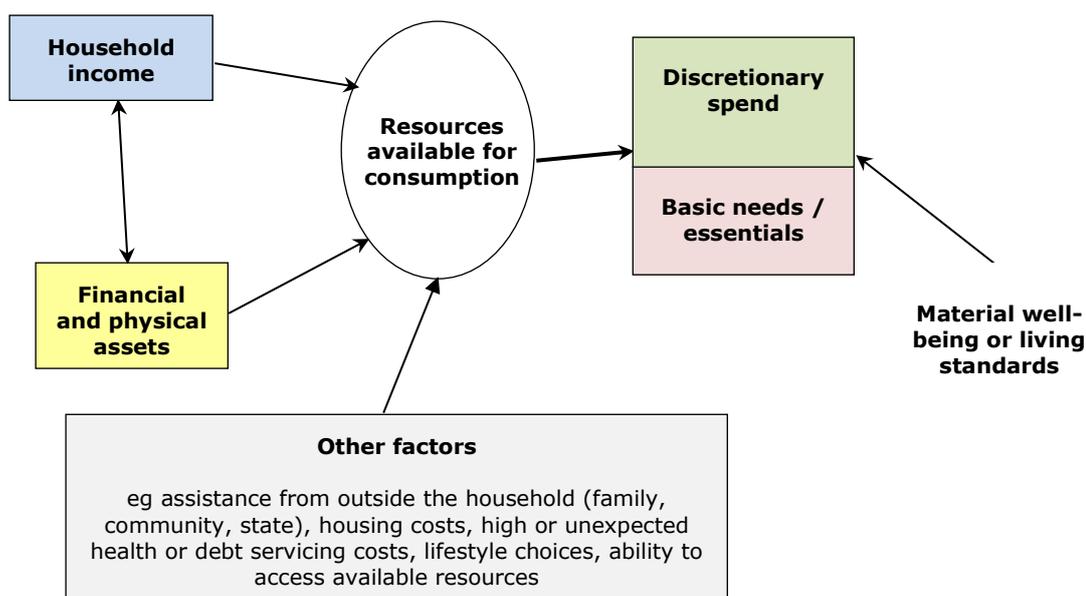
2. Income levels and wealth accumulation vary over the lifecycle. Figure A2 shows that net worth tends to grow steadily through to near retirement age, then it declines as it is used to varying degrees in retirement. Household incomes tend to rise much more rapidly and earlier than wealth, then they fall away as paid employment reduces or ceases (Perry, 2019, p5).

3. This means that, although in general net worth increases with income (table A1, first row), there is not a one-to-one matching of households in high-net worth deciles with those in high- income deciles. Table A1 shows the share of net worth for each household income quintile (second row) and each net worth quintile (third row) from the HES 2018.[120] It shows that many low-income people (income quintile 1) have net worth that they will be able to consume, thereby having higher material well-being than their income may suggest. For example, older people may have relatively high net worth but low income. Further, net worth is less concentrated in the top income quintile than the top net worth quintile – as people with higher incomes may not yet have accumulated enough wealth to be high wealth. Considering the joint distribution of income and wealth is a more comprehensive measure of material well-being than either indicator alone.

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[120] Household Economic Survey 2017-2018, Table 2.03 and 3.03.

Figure A2 Median net worth by age[121]

Table A1 Net Worth by household income/net worth quintile 2018

	1	2	3	4	5
Total quintile net worth by <u>income</u> quintile (millions)	$146,592	$193,764	$196,273	$294,131	$536,850
Net worth share by <u>income</u> quintile	11%	14%	14%	22%	39%
Net worth share by <u>net worth</u> quintile	0%	3%	9%	19%	70%

International comparison of the net worth distribution

5.   Figure A3 shows the share of total country net worth held by the top 1 percent of the population measured by net worth for each OECD country. Figure A4 shows the share of total country net worth held by the top 10 percent of the population measured by net worth for each OECD country. These measures are based on households.

6.   Household surveys in OECD countries occur in different years. The figures show the most recent results from these surveys. The year that the survey was conducted is reported below the country code. The red bar shows the mean across the countries.

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[121] Data sourced from The Treasury, Long Term Fiscal Statement 2021: <u>He Tirohanga Mokopuna 2021 (treasury.govt.nz)</u>, HES Net Worth Survey 2017-2018.

Figure A3 Share of total country net worth held by the top 1% of households

Share of total country net worth held by the top 1% households by net worth for each OECD country
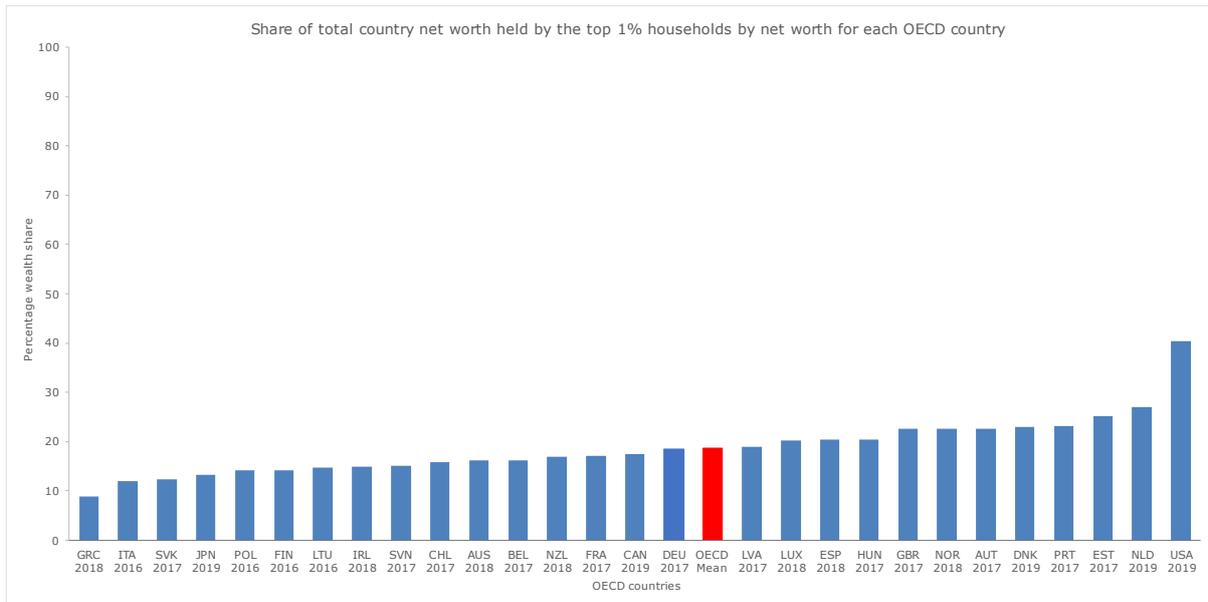
Figure A4 Share of total country net worth held by the top 10% of households

Share of total country net worth held by the top 10% households by net worth for each OECD country
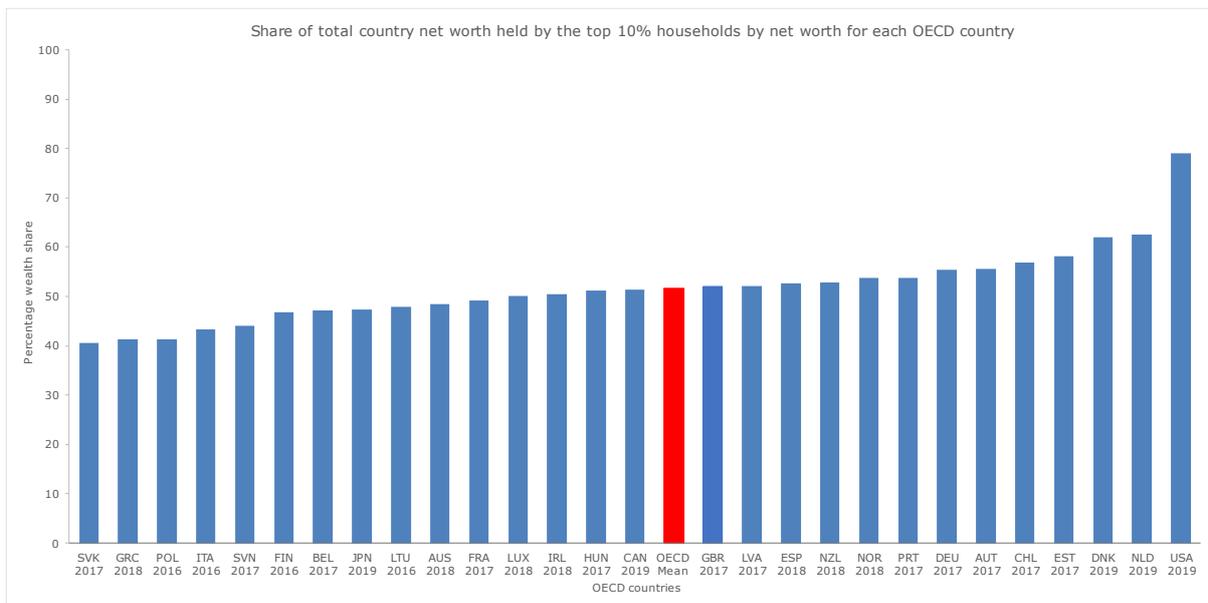
Appendix B

Individual A responder population descriptive statistics

1. These statistics are from internal information rather than survey data. They exclude individuals who do not have an age, physical address or industry classification recorded.

2. The median age of the Individual A responder population is 68, with the mean age being 67. The estimated gender breakdown of the group is 94% male and 6% female.

3. Most of the population list their physical location as the Auckland area (58%), followed by other North Island locations (17%), South Island (15%) and then the Wellington area (10%).

4. There are a mix of personal high-level industry classifications recorded. Table B1 provides details:

Table B1 Industry classifications for Individual A responder population

Industry classification	Proportion
Professional, Scientific and Technical Services	28%
Rental, Hiring and Real Estate Services	26%
Agriculture, Forestry and Fishing	15%
Financial and Insurance Services	13%
Other Services[122]	18%

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[122] Other Services incudes categories that have a count of 8 or less

Appendix C

Information collections

1. Information was collected from the Project population in three stages under section 17GB of the Tax Administration Act 1994. In designing the information collections, Inland Revenue took account of the types of information Stats NZ collect in their Household Economic Surveys. The information collections are available at: High-wealth individuals research project (ird.govt.nz)

Description of Collections

Collection 1: Family Details

2. In November 2021, Individual A was asked for information on their family details, such as the name of their partner and the number of dependent children (as defined) and their name if they had significant income or assets. This information was used to form the family unit for the Project.

3. The notice was sent to 383 individuals (Individual A). After exclusions, 350 responses were required and 325 were received. This is a response rate of 93%.

Collection 2: Entity Collection

4. In February 2022, Individual A and, separately, any partners identified in Collection 1, were asked to supply information in relation to entities and business undertakings over a certain threshold in which they had an interest. An interest included, for example, where the individual was a company shareholder with a certain minimum ownership interest. It also included where the individual was a settlor, trustee, named beneficiary and/or appointer (as defined) of a trust.

5. Individual A was also asked to provide information in relation to entities that their dependent children had an interest in. For trusts this applied to all dependent children. In relation to other interests, this only applied to those dependent children who had significant income or assets.

6. There were 622 responses required and 587 responses were received (94%).

Collection 3: Financial Collection

7. In June 2022, Individual A and, separately, their partners were asked to provide a range of financial information on themselves and on entities they had an interest in. Information was requested where it was not held by Inland Revenue as it related to non-taxable income or could not be obtained from public information, or where it was held in a form that is too aggregated for the Project to undertake the analysis. *De minimis* thresholds applied where appropriate. The notice also included questions on expenditure, for the calculation of GST, and significant gifts/inheritances.

8. There were 623 responses required and 556 responses received (89%).

Collection 3B: Supplemental Financial Statements Collection

9. This notice sought financial information on entities. It was only issued to those individuals for whom Inland Revenue held insufficient or inadequate financial statement information for entities they had previously disclosed. Internal financial data on entities was used wherever reasonably practicable.

10. There were 44 responses required and 41 responses were received (93%).

Appendix D

Sensitivity test – treatment of losses for personal tax

Introduction

1. Chapter 5 calculates ETRs based on tax on personal taxable income over personal taxable income (taxable income). Chapter 8 calculates ETRs based on tax on personal taxable income over annual net income, also known as base income.

2. For taxable income, when net income is negative for a year, taxable income is set to zero. The negative income (loss) is then carried forward and can offset positive income in future years. Tax assessed for the period is also set to zero when there is a loss for the year.

3. Taxable income does not show actual income for the year where there is a loss or if a loss is carried forward. Therefore, when calculating economic income ETRs, we use annual net income rather than personal taxable income. This is a more accurate reflection of the economic income or loss the individual received or incurred in the year.

4. Additionally, as a comparison to the taxable income ETRs and the base income ETRs, this appendix tests the materiality of losses on personal tax. It recognises that a loss generates a future tax benefit to the individual, able to be used the next time positive income is earned. This tax benefit is recognised in the year it occurs.

Methodology

5. For this sensitivity test, where the annual net income in a year is positive, the normal marginal tax calculation will apply to calculate tax.

6. Where annual net income is less than zero, that amount is treated as income in that year and a tax benefit calculated. In general, income carried forward reduces tax at the top tax rate first. Therefore, in this sensitivity test, where the individual has made an annual net loss, the top marginal tax rate for the period (33%) is applied to this annual net loss to calculate the tax benefit. Negative income will result in negative tax, and therefore a positive ETR for that year.

7. The period ETR for this scenario is calculated as:

$$\frac{\text{Tax on annual net income (positive year)} - \text{tax credits at top tax rate (negative year)}}{\text{Annual net income for period}}$$

Results

8. When comparing the annual, Project period and Project period population ETRs for both Individual A and the family unit with the taxable income or base income ETR, there is around 1 percentage point difference in any year for the annual medians and quartiles, and less than 1 percentage point difference for the Project period measures. The ETRs under this sensitivity test are marginally higher than those created using tax on taxable income.

Appendix E

Data sources and quality

1. Figure E1 provides a schematic of the sources of data for the calculation of income. Base income (sourced from tax administration data) is shown on the left and sources used to calculate income from other sources shown moving towards the right.

2. Table E1 provides detailed information on data sources and quality.

Figure E1 Schematic of data sources for the calculation of economic income

Tax admin data	Collected data	Public data		Income
• salary and wages • dividends • interest • schedular payments • Māori authority distributions • government transfers • beneficiary income • partnership and look-through company income • shareholder employee salary • rental income • self-employment income • overseas income Less: • expenses or losses from these income types	Properties in trust Non-portfolio unlisted entity holdings Primary residence Non-portfolio listed company holdings Significant unlisted entity holdings Trust relationships Portfolio assets	Direct property holdings, values, growth rate Entity property holdings, values, growth rate Rental yields Share holdings, prices, tax (stock exchanges)		Direct/trust property capital gains Land-rich entity capital gains Imputed rental Listed company capital gains

	Tax admin data	Market returns (public data)	Income
	Entity revenue & debt Trust income Investment income	PE multiples Growth rates	Entity capital gains Attributed trust income Portfolio income

Table E1 Data Quality

Component	Source	Description	Data Quality
Taxable income sources and tax			
Taxable income/annual net income and tax assessed.	Tax administration data.	Income taxable at the individual level and tax on that income. Income taxable to trusts and tax on that income. Tax on entities' taxable income.	Tax administration data is considered complete and reliable for taxable income and tax on taxable income.
Trusts			
Trust relationships used for ETR calculations. Trust financial information.	Information collected from the Project population during Collections 2 and 3.	These collections sought information on the Project population's relationship to trusts, such as whether they were a beneficiary, settlor or appointer, and some financial information on trusts, such as distributions.	Quality of data depends on the quality of the responses. Certain thresholds applied for a trust to be disclosed, limiting the number of trusts captured.
Real Property			
Property ownership.	Public information from LINZ. Information collected from the Project population during Collections 2 and 3.	Properties owned by individuals and entities and ownership share. Information on trustee holdings.	Data accurate on legal ownership but does not provide beneficial ownership. Title data on legal ownership from LINZ was matched with collected information on trustee holdings to ensure beneficial ownership was correctly matched.

Component	Source	Description	Data Quality
Property valuations and growth rates for calculation of capital gains.	Public information from third party providers (Valocity, Colliers)	Automated Valuation Model values for residential properties (AVMs). Rateable values and non-residential growth rates for non-residential property. Property type and characteristics. Sales records.	AVMs and non-residential growth rates are based on comparable sales and therefore provide a reasonably accurate measure of the average change in market value for properties of the same type and in the same location. Valuations will not take account of idiosyncratic factors and may not reflect actual returns. Assumptions are made to estimate capital expenditure. Rateable values provide a reasonable valuation from which to measure capital gains for non-residential property. Some AVM values were missing and were filled by using territorial authority growth rates for properties of that type.
Imputed rental.	Information collected from Project population during Collection 3. Ministry of Housing and Urban Development.	Owner-occupied property and mortgage. Regional annual rental yields based on bond data.	Imputed rental is calculated by applying market rental yields to the net value of the owner-occupied property. This provides an approximation of imputed rental consistent with similar properties.

Component	Source	Description	Data Quality
Portfolio Income			
Market value of portfolio and market growth rates used to calculate capital gains.	Information collected from Project population during Collection 3. Public information from S&P indices. Reserve Bank Managed Funds survey.	Annual value of the portfolio. Contributions and withdrawals from the portfolio. Market growth rates. Average portfolio composition.	During data cleaning, it was determined that disclosed information on contributions and withdrawals from the portfolio was unreliable. Data quality for portfolio values depends on accuracy of responses. Thresholds applied which may mean portfolio value is understated. Capital gains are calculated by multiplying the disclosed portfolio value by a market growth rate. This provides a market average return for portfolios of this size rather than actual returns for the Project population.
Business Entities			
Business entity ownership	Information collected from Project population during Collection 2.	Ownerships of companies, partnerships, trading trusts and other entities over certain thresholds.	Disclosure was subject to thresholds which limited the number of entities disclosed. Matching to tax records suggests ownership data is broadly accurate.

Component	Source	Description	Data Quality
Financial statement data used to calculate capital gains.	Tax administration data and collected information from Collection 3B.	Financial statement information is combined with an industry multiple sourced from the S&P database to calculate an entity's capital gains.	While financial statement data is accurate, estimates of capital gains from this data are an approximation as they are based on assumptions.
Significant Holdings in Listed Companies			
Ownership and capital gains	Public information from S&P CapIQ crossed checked against information collected from the Project population in Collection 2.	Capital gains are calculated from the change in quarterly price and quantity of shares held by the Project population.	Capital gains estimates are based on market prices and are therefore highly accurate. Off-market sales are not accounted for.
Income taxes paid including imputation credits	Public information from S&P CapIQ and Bloomberg.	Domestic and foreign tax from financial statements. Imputation credits are calculated as the difference between gross and net dividends reported in financial statements.	Listed company financial statements are considered up-to-date and accurate.

Component	Source	Description	Data Quality
GST			
Amount of GST remitted	Information provided by Individual A during Collection 3.	Amount of total family expenditure in 2019 and amount spent on items not subject to GST.	Data cleaning was required as some individuals reported total expenditure to be less than the sum of expenditure components. Collected data is less granular than the HES expenditure survey. Remaining expenditure data assumed to be broadly indicative of Project population's expenditure but not highly accurate.
Inheritances			
Inheritances/gifts	Information provided by Project population during Collection 3.	Significant gifts and inheritance over a 50-year period.	Quality of data depends on accuracy of the response. Thresholds applied which likely results in underestimation. Data from earlier periods may be less accurate.

Appendix F

Methodological differences between the ETR research of Inland Revenue and The Treasury

1. While this Project and the ETR work of the Treasury are complementary, there are methodological differences that should be considered when comparing the respective ETRs. Overall, the longer-term Treasury ETR estimates, without inflation adjustment, are the most comparable series to the Inland Revenue Project period ETR estimates.

2. Given Inland Revenue uses an income-weighted-mean ETR, and the Treasury uses a simple mean, we consider the estimates of median values the most comparable.

3. The most significant difference between the projects is that the Treasury estimates do not include company taxes (outside of amounts met with imputation credits) or trustee income and tax. This creates a downward bias in the Treasury ETR estimates for higher net worth deciles, compared to the Inland Revenue estimates. Therefore, the Treasury estimates for net worth deciles 9 and 10 should not be compared to the Inland Revenue estimates. This bias is less significant for middle and lower net worth deciles, due to the lower concentration of company and trustee wealth in those parts of the distribution. Further, attention should be paid to the treatment of transfer income in the ETRs to ensure comparability.

4. While both projects are based on similar measurement principles and a similar concept of income, they have the following methodological differences:

Time period

5. The Treasury's analysis is limited to the single tax year ended 31 March 2018, while Inland Revenue's Project covers the six-year period from 1 April 2015 to 31 March 2021. However, the Treasury models capital gains based on a 10-year capital gains rate. We consider this is most comparable to the Project period measures.

Population

6. Inland Revenue calculates ETRs for a group of high-wealth families, while the Treasury estimates ETRs across New Zealand's entire wealth and income distribution based on the Household Economic Survey (HES). As noted, HES data tends to understate the net worth of high-wealth families.

7. Both projects assess ETRs for family units using a definition comparable to Stats NZ's definition of 'economic family unit'. The Treasury, however, uses equivalised family units whereas Inland Revenue simply uses the family. Given the small number of children in the high-wealth Project population (27), equivalisation would not be expected to have a material impact on the estimates for the high-wealth population.

Data sources

8. Inland Revenue's analysis is based on tax administration data, public data and its survey of high-wealth individuals. The Treasury's analysis is based on data from the HES and the Integrated Data Infrastructure (IDI), which includes Inland Revenue personal taxable income data. The Treasury lacks information about unlisted shares, trusts, and the financial situation of the very wealthy, due to data gaps in HES.

Included income

9.   The concepts of income are similar in both projects as both projects seek to measure economic income. Taxable sources of income and capital gains income are included in both projects' income definition.

10.   The most comprehensive ETR estimates by the Treasury include an adjustment for inflation. This will lower the inflation-adjusted Treasury ETR measures relative to the Inland Revenue measures, and only the Treasury's nominal ETR estimates should be compared to the Inland Revenue measures.

Included taxes

11.   The Treasury's ETRs include ACC levies, PIE taxes and local government rates while Inland Revenue's do not. The impact of these taxes is likely immaterial for the high-wealth population (see chapter 5 for a discussion of PIE taxes).

12.   Inland Revenue's analysis includes taxes paid by companies and trusts, whereas the Treasury's analysis does not due to data limitations (see paragraph 3). This will make the Treasury's ETR measures lower than the Inland Revenue estimates for the same income (that is, the Treasury ETRs would be higher if company and trustee tax were included). This bias is not likely to be significant for low and middle decile estimates where there are low holdings of these assets, but it could make a significant difference towards the top of the wealth distribution where company and trust equity are likely to be significant.

13.   The Treasury treats transfer payments as negative tax and positive general income. Inland Revenue treats transfers as general income in the main analysis but also provides sensitivity testing for treating transfers as negative income. Transfer payments are not a material source of income for the high-wealth Project population and this choice has little impact on the average ETRs for the high-wealth population.

Measurement of capital gains

14.   Capital gains are calculated by the Treasury using an estimated rate of return for different asset types based on HES asset valuations and market capital gain indices. This approach means the Treasury's modelling cannot account for variability in capital gains rates across the distribution, insofar as that variability is not already controlled by asset type. Inland Revenue measures capital gains based on a mixture of disclosed valuations of assets, market prices, market growth rates, comparable sales data and estimated values depending on the asset type.

15.   The projects use the same types of assets to estimate capital gains, although the HES data for 2018 is known to be missing the distribution of shares in unlisted equities where the respondent was not involved in running the company.

Appendix G

Comparison of net worth estimates

Combined data approach

1. This appendix estimates net worth shares by combining the Project data set with HES data provided to the Project by Stats NZ. This approach is called the combined data approach.

2. The combined data approach has been developed with input from Stats NZ. It treats the Project data set as a full coverage list of the wealthiest individuals (or households) and combines it with HES survey data. This approach replaces some of the HES survey population represented by the wealthiest HES respondent(s) with people (or households) taken from the Project's responder population who have greater wealth than the wealthiest HES respondent(s).

3. The approach in this report reflects that very wealthy individuals and households may not be adequately represented in survey estimates due to sampling variability, non-response or underreporting. When the wealthiest households do not appear in the sample data for whatever reason, their absence contributes to an underestimation of the wealth distribution (that is, it creates a downward bias of the estimates).

4. Any wealth held by high-wealth individuals not in the Project data set is also not included. This would, however, be greater cause for concern if there was a gap between the wealthiest HES respondent and the lowest wealth in the Project dataset, which is not the case. Additionally, some of the responder population included in this analysis may have been included in the HES sample.[123]

5. Based on the combined data, our findings show that for all years (at both the household- and individual-levels) the estimated shares of net worth held by the top 50, 10, 5, and 1 percent are higher than those estimated from the HES sample data alone (see tables G1 to G3), although they are still within the confidence limits of the original HES estimates. However, the increase in the estimates provided by the present approach reflects the reduction in the downward bias of the estimates resulting from the under-coverage of the top end of the net worth distribution.

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[123] There is a small possibility of double counting of some wealth. While it is unlikely to have much of an effect, if it has occurred at all, the extent of this cannot be determined due to the privacy and confidentiality conditions of the Project.

Table G1 Combined data approach year ended June 2015

Measure	Percentage wealth share	
	Household Economic Survey (HES)	Combined HES and Project data
Households		
Top 50 percent	93.1 (92.4, 93.8)	93.5 (92.7, 94.2)
Top 10 percent	52.8 (48.6, 57.0)	55.2 (50.8, 59.6)
Top 5 percent	39.6 (34.2, 45.0)	42.7 (36.9, 48.5)
Top 1 percent	18.3 (12.6, 24.0)	22.5 (15.5, 29.5)
Individuals		
Top 50 percent	98.0 (97.7, 98.3)	98.1 (97.8, 98.4)
Top 10 percent	59.4 (55.8, 63.0)	61.4 (57.7, 65.1)
Top 5 percent	45.1 (40.3, 49.9)	47.8 (42.7, 52.8)
Top 1 percent	21.8 (15.5, 28.1)	25.6 (18.2, 33.0)
Note: Figures inside brackets represent 95 percent confidence intervals. **Source:** Stats NZ and Inland Revenue		

Table G2 Combined data approach year ended June 2018

Measure	Percentage wealth share	
	Household Economic Survey (HES)	Combined HES and Project data
Households		
Top 50 percent	93.9 (93.2, 94.6)	94.2 (93.5, 94.9)
Top 10 percent	53.0 (48.5, 57.5)	55.1 (50.4, 59.8)
Top 5 percent	39.2 (33.9, 44.5)	41.9 (36.3, 47.6)
Top 1 percent	16.8 (11.1, 22.5)	20.6 (13.6, 27.5)
Individuals		
Top 50 percent	98.3 (98.0, 98.6)	98.4 (98.1, 98.7)
Top 10 percent	59.3 (55.5, 63.1)	61.2 (57.2, 65.1)
Top 5 percent	44.4 (39.8, 49.0)	46.9 (42.1, 51.8)
Top 1 percent	20.1 (14.2, 26.0)	23.7 (16.8, 30.7)
Note: Figures inside brackets represent 95 percent confidence intervals. **Source:** Stats NZ and Inland Revenue		

Table G3 Combined data approach year ended June 2021

Measure	Percentage wealth share	
	Household Economic Survey (HES)	Combined HES and Project data
Households		
Top 50 percent	93.3 (92.7, 93.9)	93.6 (93.0, 94.2)
Top 10 percent	51.5 (48.2, 54.8)	53.6 (50.2, 57.1)
Top 5 percent	37.0 (32.9, 41.1)	39.8 (35.4, 44.2)
Top 1 percent	15.8 (10.8, 20.8)	19.5 (13.3, 25.7)
Individuals		
Top 50 percent	97.9 (97.6, 98.2)	98.0 (97.7, 98.3)
Top 10 percent	58.3 (55.5, 61.1)	60.1 (57.2, 63.0)
Top 5 percent	43.1 (39.5, 46.7)	45.5 (41.7, 49.3)
Top 1 percent	20.0 (15.5, 24.5)	23.4 (18.2, 28.7)
Note: Figures inside brackets represent 95 percent confidence intervals. **Source:** Stats NZ and Inland Revenue		

6. The below table sets out the assumptions used for the percentage of debt funding on non-owner-occupied property for the wealth aggregates set out in table 15.1.

Table G4 Debt (NZD) for each dollar of non-owner-occupied property held both in trust and not in trust

Year	Held in trust	Not held in trust
2015	0.10	0.10
2018	0.10	0.15
2021	0.12	0.19
Note: Data from the HES are for the top 5 percent of households. **Source:** Stats NZ		

GLOSSARY

Annual net income/ base income	Annual net income is the sum of the income types taxable at the personal level minus allowable expenses. The main difference to taxable income is that annual net income does not recognise any carried forward losses and may be negative. It is also referred to as base income in this report as it forms the basis for economic income ETRs.
All-income ETR	The ETR calculated incorporating economic income from all sources, including income (and associated tax) earned directly and through entities or trusts.
Asset class ETR	An ETR where income includes base income and the income (and associated tax) from a single defined asset class (real property, portfolio assets or business entity investments).
Base income Base income ETR	See annual net income for a definition of base income. The base income ETR is calculated based on personal tax assessed relative to annual net income. The base income ETR is used as a comparator for economic income ETRs.
BCS (period)	The Business Cycle Scenario (and the period used for the BCS) used in chapter 13.
Business entity	A company or trading trust meeting the thresholds in paragraph 11.5 and included in the business entity ETR.
CFC Controlled foreign company	Controlled foreign company. A company based overseas but controlled by New Zealand residents. It must not be tax resident in New Zealand or must be treated as resident of another country under a double tax agreement.
Dependent child(ren)	A child of Individual A and/or their domestic partner from a biological, adoptive or fostering relationship who, as at 1 November 2021, was: ▪ aged 17 or under ▪ not in full-time paid employment (regularly working 30 hours or more per week) ▪ not married, in a civil union or in a de facto relationship, and ▪ Individual A regarded them as being part of their household.
Disposable income	Market income plus cash benefits, housing subsidies and pensions, less income tax payments.
Economic income	A wider measure of income than taxable income or annual net income. It is based on the Haig-Simons concept of income and seeks to measure the increase in resources of an individual available for consumption over a given period.
Exclusion criteria	The criteria on which individuals in the initial population may be excluded due to not being a high-wealth New Zealand tax resident. See chapter 3.

ETR	The average effective tax rate. This is a measure of tax divided by a measure of income and shows the average amount of tax paid on each dollar of income. See Box 2.
Family or family unit	Each Individual A plus their domestic partner and dependent children, if any. Narrower than a "household" used in HES.
Final income	A concept of income comprised of disposable income plus the cost of in-kind social services received, but less indirect tax paid.
General population	The New Zealand population.
HES	The Household Economic Survey conducted by Stats NZ.
Individual A	The person first identified in each family unit in the Project population.
Initial population	The set of individuals first contacted by the Project. Only Individual A is in the initial population. See Box 1.
Land-rich entity	A non-portfolio company, trading trust or limited partnership included in the land-rich entity ETR. For companies and trading trusts, this is an entity that has been identified as having a higher value based on its property holdings than based on the valuation methodology for business entities in chapter 11.
Personal tax assessed	The amount of tax assessed as liable to be paid on personal taxable income.
Personal taxable income (or taxable income)	The amount of personal income on which the person, family or population (when aggregated) would pay tax under the rules in the Income Tax Act 2007. Taxable income may also be used in the context of the taxable income of an entity or trust.
Project period	The income years ending 31 March 2016 to 31 March 2021 (that is, 1 April 2015 to 31 March 2021).
Project population	The group of individuals selected for this Project, their domestic partners and dependent children. Project population may refer to the responder population or whole population. See Box 1 in Chapter 3.
Portfolio financial assets	Portfolio investments in financial assets such as: - equity investments when the family, together with trusts, owns less than 10 percent of the entity or when the entity had neither gross assets over $1,000,000 nor taxable income over $1,000,000 - debt instruments - investment vehicles, such as unit trusts or managed and superannuation funds, and - other investments, such as in options or hybrid securities.
Responder population	Those from the initial population of individuals, together with their family members, who were not excluded from the

	survey and who responded to both the Entity and Financial Collections. See Box 1.
SHLC (and SHLC population and period).	Significant holdings in a listed company (and the relevant population and period) used for the purpose of the listed company ETRs in chapter 13.
Survey or information collection	The questionnaires sent to the Project population to collect information from them. This comprised three main surveys described in Appendix C: the Family Details Collection, the Entity Collection and the Financial Collection.
Trading trust	A trust that operates an active business, was registered for GST at some point during the Project period and had more than $100,000 of business income.
Trust attribution factor (TAF)	The degree to which the trustee income, capital gains and tax of a trust is attributed to the members of the Project population using the methodology described in chapter 7.
Whole population	The initial population less those who met one of the exclusion criteria to be excluded from the Project.

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