

Tax, foreign investment and productivity

Long-term insights briefing

August 2022

Prepared by Policy and Regulatory Stewardship, Inland Revenue

Published in August 2022 by Policy and Regulatory Stewardship, Inland Revenue,
PO Box 2198, Wellington 6140.

Tax, foreign investment and productivity – Long-term insights briefing

ISBN 978-1-98-857344-1 (Online)

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EXECUTIVE SUMMARY

1. This long-term insights briefing (LTIB) examines how New Zealand's tax settings are likely to affect incentives for firms to invest into New Zealand and benchmarks New Zealand's tax settings against those in other countries. Inland Revenue consulted on the proposal to base our LTIB on this topic in August 2021. Submissions were mainly supportive of the proposal. A draft LTIB and a draft set of technical appendices were issued in February 2022. These have been consulted on and seven stakeholders provided written submissions. In addition, the documents went to two international experts, Professor Jack Mintz and Professor Michael Keen, who provided written reviews of the documents. This LTIB and its accompanying technical appendices take account of comments received.
2. Compared to other OECD countries, New Zealand appears to have relatively high taxes on inbound investment. These taxes are likely to mean higher costs of capital (or hurdle rates of return) for investment into New Zealand than for investment into most other OECD countries. High taxes on inbound investment have the potential to reduce economic efficiency and be costly to New Zealanders by reducing New Zealand's capital stock and labour productivity. OECD analysis suggests that New Zealand is an outlier with some of the highest costs of capital in the OECD. The OECD analysis focuses on company tax provisions only but a broader set of taxes that are imposed in some countries, but not in New Zealand, can also increase costs of capital. If a broader set of taxes is considered, this can moderate conclusions about how much of an outlier New Zealand is likely to be. However, even if these other taxes are taken into account, New Zealand is still likely to have high tax rates on inbound investment compared to most other OECD countries.
3. Variability in costs of capital across different types of assets or for investment into New Zealand that is financed in different ways or for different types of companies also has the potential to reduce productivity.
4. This LTIB aims to help build up an understanding of how taxes on inbound investment can combine to affect incentives to invest in New Zealand. The analysis is underpinned by modelling the costs of capital and effective marginal tax rates when taking into account the combined effects of company tax rates, depreciation provisions, special tax incentives, such as the research and development tax credit, and withholding taxes. It does so for investment that can be financed using different proportions of debt and equity.
5. The LTIB suggests that, despite New Zealand's broad-based income tax settings, there is likely to be considerable variability in costs of capital. This variability is increased significantly by quite small levels of inflation, especially when real interest rates are low.
6. There are likely to be ongoing questions about whether New Zealand should change its business tax settings in ways that lower costs of capital and make them more neutral. Whether to lower costs of capital is a difficult issue because measures that do so will normally have a fiscal cost and may often reduce the progressivity of personal income taxes. They can also, at times, provide windfalls to those who have invested in the past or to those who would invest in New Zealand regardless of whether taxes were cut.
7. Changing the way in which businesses are taxed will always be a vexed issue. As well as the direct impact of any changes on business investment and productivity and growth, complex issues arise about how the tax system as a whole fits together and, ultimately, whether it is fair. There are important

questions of how to improve economic efficiency by funding government spending in ways that impose as few economic costs as possible (that is, in ways that lower the overall well-being of New Zealanders as little as possible). At the same time, there will also be important questions about whether the business tax system is fair and whether it provides a robust source of revenue to finance government spending.

8. When considering whether to change the business tax system and how best to change it if change is deemed desirable, there will always be difficult trade-offs to consider. These are likely to be ongoing issues for future governments.
9. The aim of this LTIB is to initiate a process of discussion on these sorts of issues. It considers several possible tax changes, namely:
 - a cut in the company tax rate
 - accelerated depreciation provisions
 - inflation indexation of the tax base
 - a higher thin capitalisation rule safe harbour
 - an allowance for corporate equity
 - special industry-specific or firm-specific incentives, and
 - a dual income tax system.
10. These measures are possible ways of lowering costs of capital and some of these can also promote tax neutrality. There is unlikely to be a single 'best option'. Choices between the options will ultimately depend on the weightings that are given to different possible objectives of reforms. Feasible options are likely to depend on some quite difficult questions about the sorts of tax instruments that are desirable for New Zealand.
11. The analysis in this LTIB is supported by *Tax, foreign investment and productivity: Technical appendices to support Inland Revenue's long-term insights briefing (LTIB), (Technical appendices)*.¹
12. The aim of this LTIB is to start a conversation on what people see as the most important objectives for reform and whether particular reforms are worth considering further.

¹ <https://taxpolicy.ird.govt.nz/publications/2022/2022-other-final-ltib>

CHAPTER 1

Introduction

- Inland Revenue is required to produce a long-term insights briefing (LTIB) at least once every three years.
- This is Inland Revenue's first LTIB.
- It examines how New Zealand's tax settings are likely to affect incentives to invest and benchmarks our tax settings against those in other countries.
- Concerns have been raised for many years about New Zealand's relatively weak economic performance and the LTIB questions whether New Zealand's tax settings might be a contributing factor.
- It examines the pros and cons of some possible reform options.

- 1.1 New Zealand's poor productivity performance has been a longstanding concern. International tax reviews and the work of other agencies have often highlighted tax and its impact on investment as an important factor affecting productivity and economic performance. Despite other public sector work on productivity, no broad analysis has been undertaken of how New Zealand's tax settings compare with those of other countries, whether the settings are likely to be having a relatively large effect on investment and/or whether this might be contributing to New Zealand's weak productivity performance.
- 1.2 Questions of how best to address weak productivity and poor economic performance are complex, and there is unlikely to be a single 'silver bullet'. Many other important productivity issues could be considered, including:
- competition policy and the degree of monopoly power
 - migration settings and incentives for firms to invest in productivity-improving technology or to bring in cheaper labour, and
 - broader policy settings, which may affect the housing market and incentives to invest there.
- 1.3 While there are likely to be many channels through which taxes affect productivity, one that may have an important influence is tax on inbound investment.
- 1.4 In its August 2021 scoping paper, Inland Revenue proposed that its 2022 LTIB should focus on tax, investment and productivity.² Submissions received were mainly supportive of this suggestion and we proceeded with the topic. In February 2022 Inland Revenue published a draft LTIB, as well as a set of draft technical appendices. These were consulted on, and seven stakeholders provided written submissions. In addition, two reviews were commissioned from international experts. The final LTIB takes account of the feedback received.

² Inland Revenue. (2021). *Tax, investment and productivity: consultation on the scope of Inland Revenue's long-term insights briefing*. <https://taxpolicy.ird.govt.nz/publications/2021/2021-other-scope-ird-ltib-tax-liability-productivity>

- 1.5 Other agencies are also looking at productivity issues in their LTIBs, for example, the Ministry of Business, Innovation and Employment's LTIB entitled *The future of business for Aotearoa New Zealand*.³ Our LTIB is narrower in scope, but it aims to be complementary to, and supportive of, other work in this area.
- 1.6 Work on this topic has been facilitated by work at the OECD that allows us to benchmark how tax provisions are likely to be affecting costs of capital in New Zealand and in other OECD countries. Costs of capital are hurdle rates of return. New Zealand's investment demand exceeds the pool of domestic savings of domestic residents, so we rely to a considerable extent on imported capital to fund domestic investments. For investing into New Zealand to be attractive, New Zealand investments will need to generate risk-adjusted returns net of New Zealand taxes comparable to what non-residents are able to obtain from investing in other countries. Costs of capital are the hurdle pre-tax rates of return that will make investment in New Zealand marginal, that is, just worth undertaking. These will affect inbound investment into New Zealand and the level and composition of New Zealand's capital stock.
- 1.7 Analysing costs of capital is helpful when considering how different possible tax changes might affect incentives to invest in different assets financed in different ways. It is also helpful when examining the likely effects, and pros and cons, of possible future business tax changes.
- 1.8 The modelling in this paper is consistent with, and builds upon, many other international studies. These include the cost of capital and effective marginal tax rate (EMTR) analysis of the OECD. The EMTR is the proportion of the real pre-tax rate of return on a marginal investment that is lost in tax. For example, if a marginal investment earns a 4% real pre-tax rate of return but only earns 3% net of New Zealand taxes, its EMTR is 25% or $(4\% - 3\%)/4\%$. We work with the OECD model and extend it in several ways to consider New Zealand's tax settings.
- 1.9 It should be noted at the outset that any economic modelling work will be a simplification of the real world and, at most, will provide partial insights into how taxes are likely to impact on investment. The assumptions underlying the modelling are discussed further in chapter 3.
- 1.10 Despite its simplifications, the modelling can be helpful when considering:
- whether New Zealand appears to be an outlier in how heavily it taxes inbound investment,
 - whether a potential case for policy change exists, and
 - the pros and cons of different possible policy changes.
- 1.11 In practice, there will be important trade-offs to consider when thinking about the pros and cons of any policy changes. If New Zealand is an outlier in its tax treatment of inbound investment, this does not necessarily mean there are compelling grounds for New Zealand to alter its tax settings. At times, New Zealand may be different from other countries in important ways, for example, in its geographical remoteness from other countries or in the set of taxes that

³ Ministry of Business, Innovation and Employment. (2021). *The future of business for Aotearoa New Zealand: an exploration of two trends influencing productivity and wellbeing – purpose-led business and the use of blockchain technology*, <https://www.mbie.govt.nz/dmsdocument/20250-the-future-of-business-for-aotearoa-new-zealand>

it is willing to impose. Decisions about whether to alter tax settings will need to weigh up conflicting considerations, including not only productivity and economic efficiency but also questions about revenue adequacy and about fairness and income distribution. Decisions on whether to change current settings (and, if so, how) will depend on the weightings given to competing objectives.

- 1.12 These wider assessments can be informed by a variety of frameworks. One framework (used in the international economic literature and in past large-scale tax reviews in both New Zealand and in other countries) is informed by assessing options against efficiency and fairness objectives. Efficiency involves raising revenue while minimising costs to a broadly defined measure of well-being. Another framework is the Treasury's *Living Standards Framework* and, related to that, *He Ara Waiora*. He Ara Waiora is a framework centred on a te ao Māori view of well-being.
- 1.13 One presentation of He Ara Waiora focusses on whether the key concepts are means (actions or processes) or ends (ultimate objectives), although these distinctions are never absolute. The key concepts that most directly affect, or are affected by, the LTIB are mana whanake, kotahitanga, and manaakitanga.
- 1.14 Mana whanake is mana in the power to grow sustainable, intergenerational prosperity. Ultimately, we care about investment in New Zealand because we care about the long-term living standards of New Zealanders. We would hope that the LTIB furthers the goal of growing sustainable, intergenerational prosperity by investigating whether New Zealand's tax settings for international investment are in our best interests. If we make positive changes to our settings over time, this will lead to economic security and the ability to create wealth for whānau Māori as well as all New Zealanders.
- 1.15 Kotahitanga and manaakitanga are both important concepts in any consultative process. Kotahitanga is about working in an aligned, coordinated way, and manaakitanga is about enhancing the mana of others through a process of showing proper care and respect. There have been two separate rounds of public consultation on the LTIB, but both have largely been about understanding the evidence and modelling the effects of the tax system on foreign investment. However, any future policy projects arising out of the LTIB would benefit from more engagement on how any particular policies would affect Māori and New Zealanders more widely, thereby giving effect to the principles of kotahitanga and manaakitanga.

Background

- 1.16 Alongside the Treasury, Inland Revenue provides advice to the Ministers of Finance and of Revenue on the tax and social policies administered through the tax system. As part of providing this advice, Inland Revenue has an important stewardship role to ensure that we are well placed to advise present and future governments on tax policy issues that are likely to be of vital interest to New Zealand in the future.
- 1.17 Under the Public Service Act 2020, there is a new legislative requirement for public service chief executives to undertake public consultation on the topics to be included in an LTIB and on a draft of the LTIB itself.⁴ This is required to happen at least once every three years.

⁴ See schedule 6, clauses 8 and 9 of the Public Service Act 2020.

1.18 LTIBs are not intended to involve advocacy for any particular policy change. Pros and cons of different policy options are to be considered, but LTIBs are not intended to push for particular policy conclusions. They are expected to look out at least ten years into the future.

1.19 The purpose of an LTIB is to make available to the public:

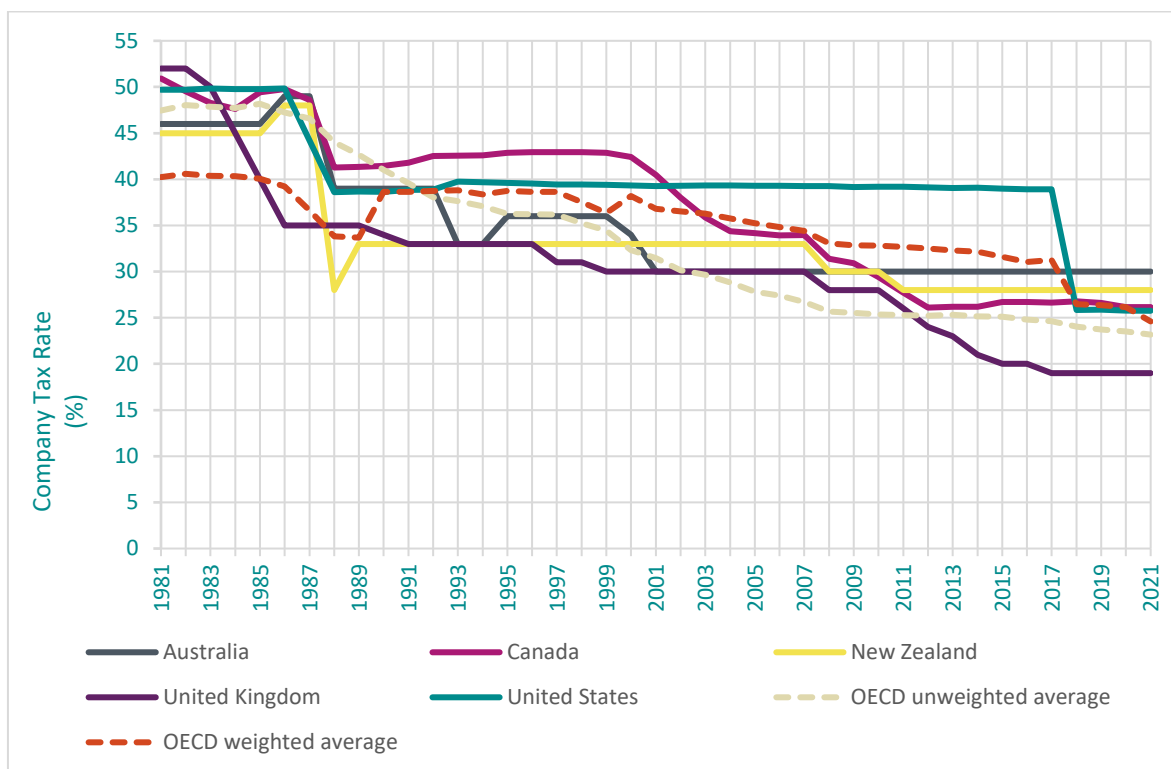
- information about medium- and long-term trends, risks, and opportunities that affect, or may affect, New Zealand society, and
- information and impartial analysis of the trends, risks and opportunities that have been identified, including policy options for responding to them.

1.20 This is Inland Revenue’s first LTIB.

Key trends and issues

1.21 The scoping paper noted that, while New Zealand had a low company tax rate compared to most other OECD countries in the late 1980s, this is no longer true. Since the late 1980s, there have been two reductions in New Zealand’s company tax rate, but most other OECD countries have reduced their company rates more than New Zealand over this period. This is shown in figure 1.1.⁵

Figure 1.1: Company tax rates in NZ and some other OECD countries



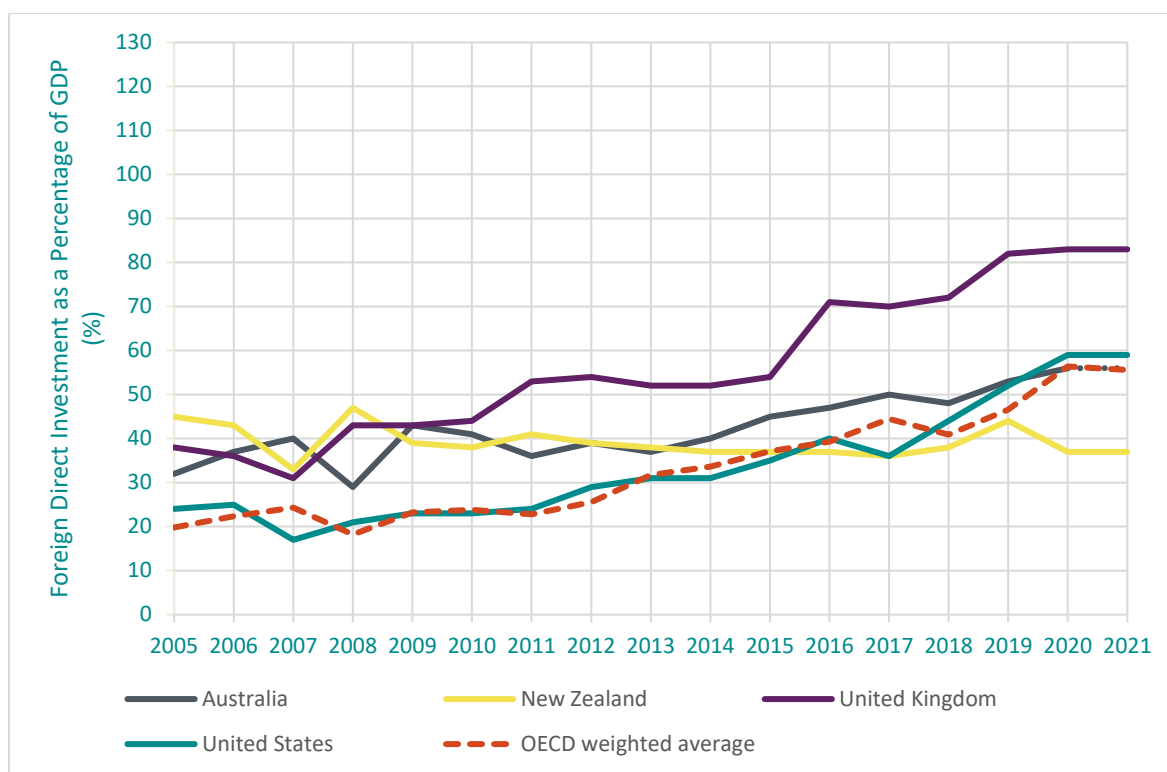
1.22 A potential concern is whether high taxes on inbound investment, and a high company tax rate in particular, are reducing inbound investment, productivity

⁵ Data for figures 1.1 to 1.5 is available on the OECD website at <https://stats.oecd.org/> Data for figure 1.1 was supplemented by some additional information for early years provided to us by the OECD but not available on their website. Data for figure 1.1. is from Public sector, taxation and market regulation>Corporate tax statistics>Statutory corporate income tax rates>Combined corporate income tax rate.

and economic performance. The scoping paper noted that New Zealand’s lagging productivity performance has been an issue for decades, and this included periods when New Zealand’s company tax rate was relatively low as well as when it was relatively high.

- 1.23 The scoping paper noted that New Zealand had relatively high EMTRs on inbound investment. This evidence is discussed further in chapter 3. High EMTRs may make it harder for New Zealand firms to respond to new risks and opportunities that require investment in new activities (for example, climate change or providing important new infrastructure).
- 1.24 The New Zealand Productivity Commission has suggested that attracting high-quality foreign direct investment (FDI) has been used as a strategy by small, advanced economies (SAEs) to help firms export specialised, distinctive products at scale. It has also suggested that firms in successful SAEs are more internationally connected, with greater direct investment overseas (ODI).⁶ The scoping paper pointed out that New Zealand’s FDI was not growing as quickly as that of most other OECD countries and New Zealand’s ODI performance looked particularly weak. This is shown in figures 1.2 and 1.3.

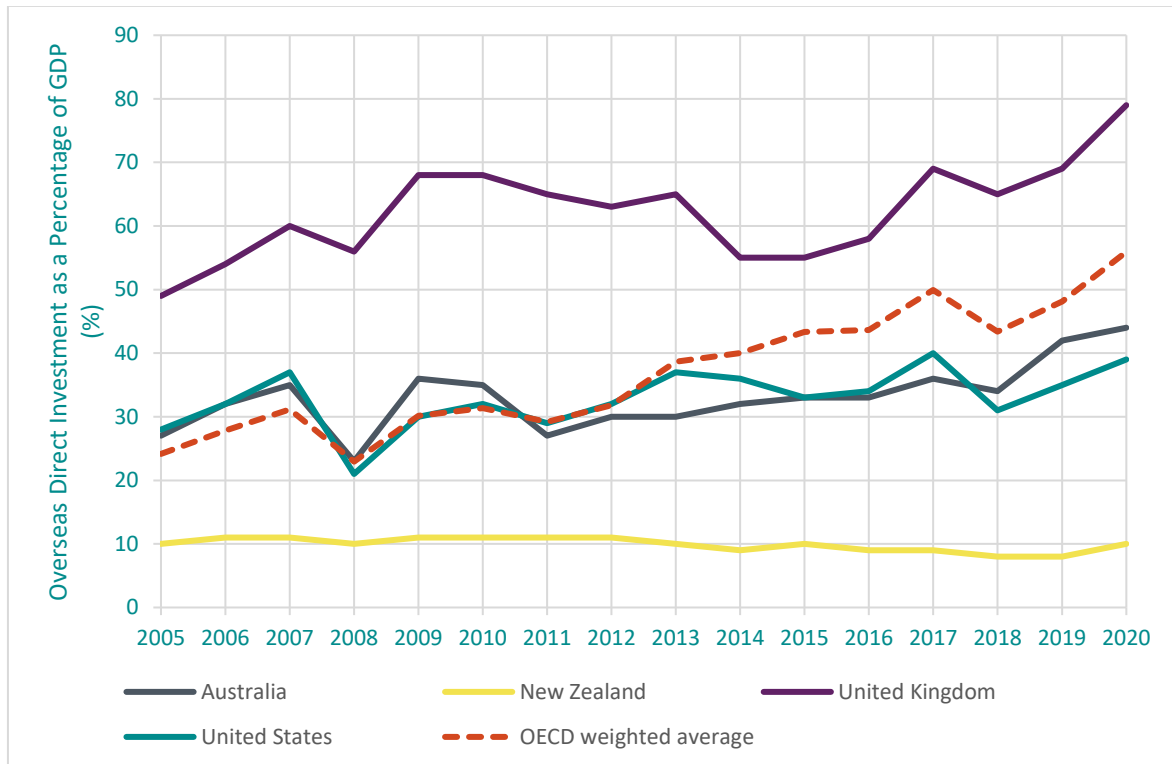
Figure 1.2: FDI as a percentage of GDP⁷



⁶ New Zealand Productivity Commission, 2021, 'Cut to the chase: New Zealand firms: reaching for the frontier', April.

⁷ Data for figures 1.2 and 1.3 is accessed through links to Globalisation>FDI statistics according to benchmark definition 4th edition (BMD4)>FDI positions – as a share of GDP on <https://stats.oecd.org/>

Figure 1.3: ODI as a percentage of GDP

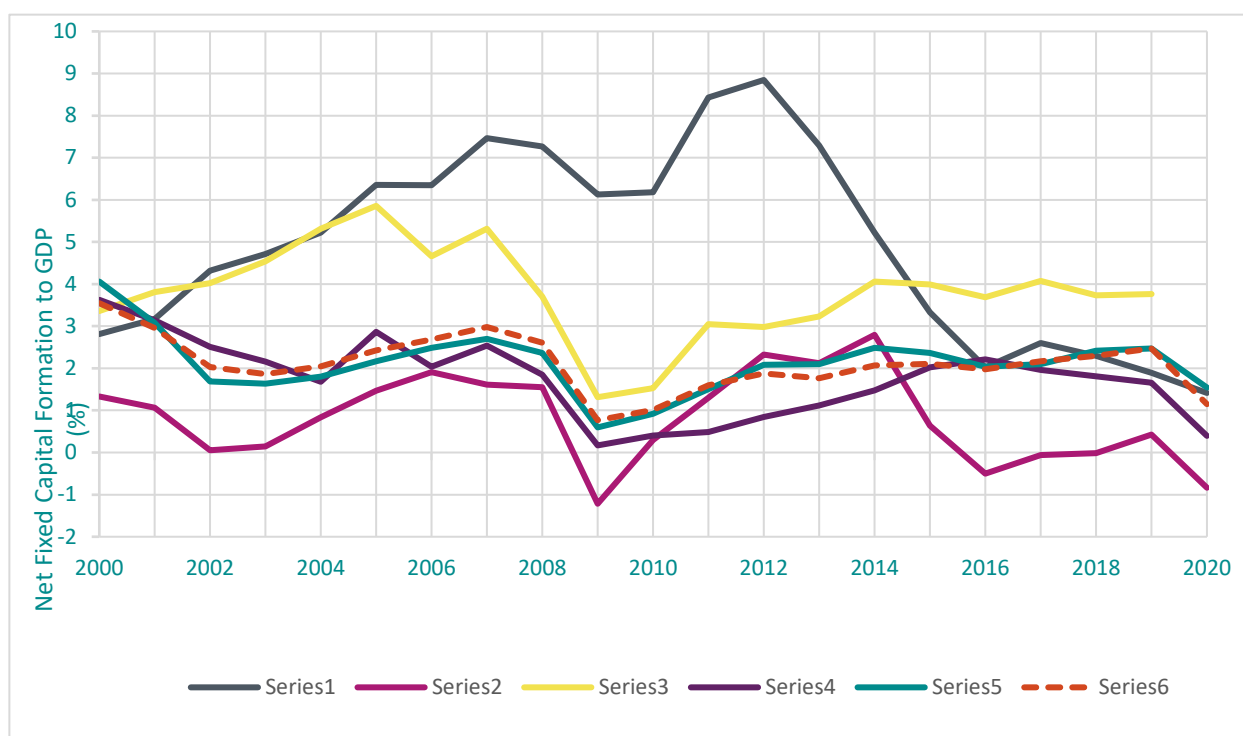


- 1.25 This LTIB focuses on taxes on inbound investment that may affect FDI performance, as in figure 1.2. It has not been possible to consider the potential impact of tax settings on ODI in the time available. New Zealand’s very low levels of ODI have continued despite a major tax policy change for income years starting on or after 1 July 2009. At that time, New Zealand changed its tax rules on outbound investment to exempt the active income of controlled foreign corporations, making the rules much more like those of many other countries. While this might have been expected to encourage ODI, there is no evidence of a strong positive response in the data.
- 1.26 A submission on the draft LTIB by Strategic Tax Management expressed concerns that ODI was not being considered in the LTIB work. It suggested tax settings for ODI might be reducing the attractiveness of NZ as a place to base MNEs. In the longer run, it would be good to examine how tax settings are likely to be affecting outbound as well as inbound investment, but we have not been able to do that as part of the current LTIB exercise.
- 1.27 The Productivity Commission has suggested that high-quality FDI can provide spillover benefits for New Zealand. At the same time, it points out that the same benefits may be produced by having large domestic exporting firms and that not all FDI is what they would deem to be “high quality”.⁸
- 1.28 This raises the question of whether we should focus on FDI or broader measures of investment that can add to New Zealand’s capital stock, including foreign portfolio investment (FPI) as well as FDI. This is explored in chapter 2. Broader measures of investment may make New Zealand’s investment performance look less mediocre. One of the external reviewers pointed to a series that the OECD has put together on corporate investment as a share of GDP.

⁸ See the discussion in New Zealand Productivity Commission, 2021, ‘New Zealand firms: reaching for the frontier’, April, page 84.

1.29 Results for Australia, New Zealand, the United Kingdom and OECD countries are provided in Figure 1.4 below. These results suggest that, since 2001, corporate net investment (corporate gross fixed capital formation minus consumption of fixed capital) as a percentage of GDP has been higher in New Zealand than in the United States, the UK or the OECD as a whole. Since 2015 corporate net investment as a percentage of GDP has also been higher in New Zealand than Australia. Thus, despite New Zealand's low stock of FDI and despite the fact that this is not increasing rapidly, New Zealand appears to have high levels of corporate net investment. Aggregate corporate investment can increase if companies raise funds domestically or use FPI to finance investment. Conversely, FDI will increase if a foreign company increases its ownership of domestic businesses without this necessarily enlarging New Zealand's aggregate capital stock. Thus, low FDI as a percentage of GDP does not mean that New Zealand is necessarily doing poorly on aggregate corporate investment.

Figure 1.4 Company net investment as a share of GDP⁹



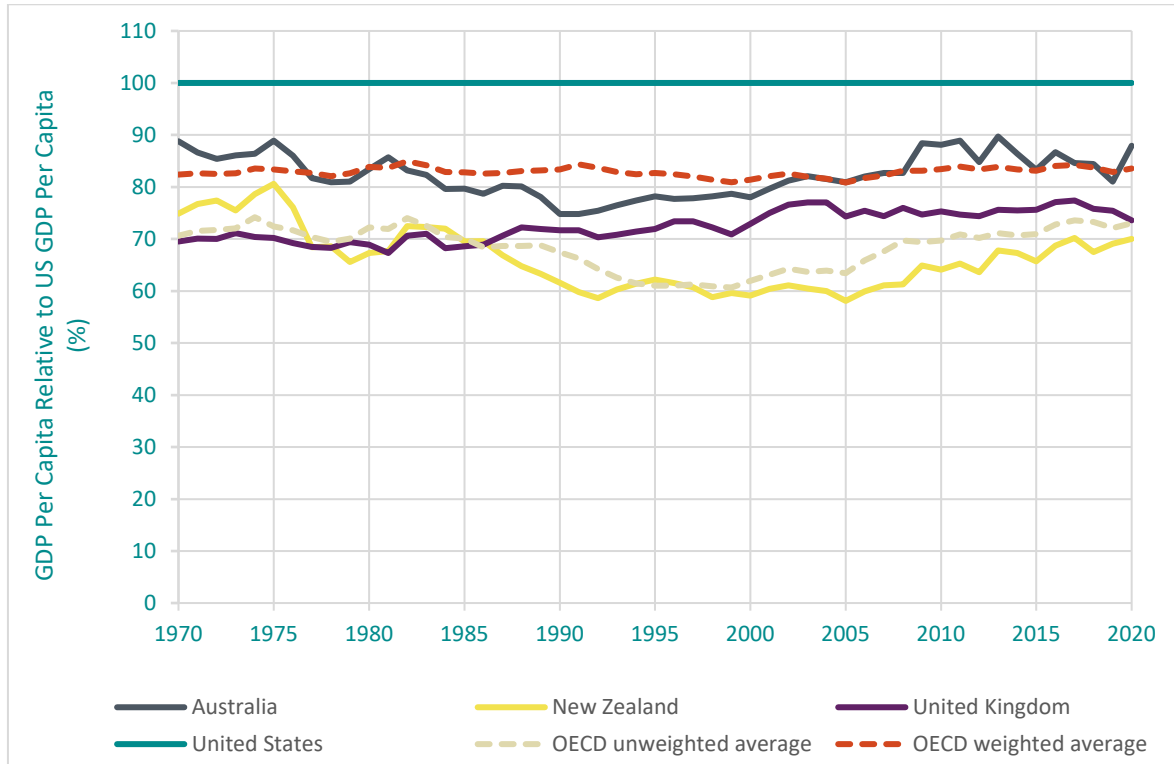
1.30 Nevertheless, over an extended period, New Zealand's performance on real GDP per capita and productivity has been weak. The scoping paper discussed New Zealand's economic performance relative to the USA in real GDP per capita and labour productivity. Real GDP per capita fell in New Zealand relative to the United States until about 1992, when it seemed to stabilise for a period. There has been some small sign of recovery since then.¹⁰ However, as the scoping paper discusses, New Zealand's labour productivity performance looks worse

⁹ Data for figure 1.4 is from <https://stats.oecd.org/>, National accounts>Annual national accounts>Detailed tables and simplified accounts.

¹⁰ In *Productivity by the numbers*, May 2021, page 21, <http://www.productivity.govt.nz/research/productivity-by-the-numbers/>, the New Zealand Productivity Commission provides a longer time series using Conference Board Total Economy Data. This suggests New Zealand's GDP per capital declined from 101% to 67% of that in the United States over the period from 1950 to 2019.

than its real GDP per capita performance. New Zealand's level of labour productivity is now about 61% of that of the United States. This is lower than it was in throughout the 1990s despite the growth in real GDP per capita since that time.¹¹

Figure 1.5: Real GDP per capita relative to the US



1.31 Many other issues may be more crucial for economic performance than tax policy settings, but an important question is whether New Zealand's current settings are likely to be having a material adverse impact and whether there are ways of improving our tax settings.

Feedback received on the scoping paper

1.32 Our scoping paper suggested that our LTIB focus on tax, investment and productivity. We received feedback from eight individuals and groups. Most supported tax investment and productivity as a topic for our LTIB. At the same time, several concerns and qualifications were raised.

1.33 Four of the submissions discussed capital gains tax or productivity concerns arising from the light taxation of property. Two of these suggested that under-taxation of sectors that benefit from tax exempt capital gains may be a bigger issue than the impact of high tax rates on inbound investment reducing productivity. A third submission was concerned that the absence of a capital gains tax was reducing the coherence of the tax system. The Department of the Prime Minister and Cabinet (DPMC) has advised that LTIBs should not focus on issues that have already been subject to considerable analysis. Capital gains tax was considered by the recent Tax Working Group and the Government

¹¹ These figures and data for figure 1.5 is from <https://stats.oecd.org/>, Productivity > Productivity and ULC – Annual total economy > Level of GDP per capita and productivity.

decided against a general tax on capital gains. Therefore, we are not making a capital gains tax on property or a more general tax on capital gains a central focus because it has been the subject of recent debate and policy consideration.

- 1.34 A fourth submission commented that the OECD cost of capital and EMTR benchmarking analysis ignores taxes on capital gains. The submission was concerned that this may make New Zealand look relatively worse than is true. New Zealand's lack of a tax on capital gains could be an advantage of investing in New Zealand, relative to most other countries, when gains are realised through sales of assets such as buildings or goodwill.
- 1.35 Most submissions raised other important factors that could affect investment that were not included in the OECD benchmarking analysis. As well as the desirability of coherence in tax settings, concerns were expressed about overly complex legislation, high compliance costs, and a lack of certainty and predictability adding to the costs and risk of investing in New Zealand. Concerns were also expressed that, for a small country like New Zealand, there may often be relatively small benefits to non-resident firms from investing in the country. Small levels of other costs and uncertainties may make it unattractive for firms to investigate whether investing in New Zealand is likely to be beneficial.
- 1.36 Several of the submissions pointed out that other factors may be as, or even more, important than taxes on inbound investment in affecting decisions about investment in New Zealand. Issues pointed to included comparative advantage, the underlying profitability of investments, and other regulatory issues, such as Overseas Investment Office criteria.
- 1.37 Two submissions discussed our company tax full imputation scheme and questioned whether it was desirable to continue with an imputation system. One of these submissions pointed to the prevalence of 'classical' company tax systems overseas – where profits are taxed at the company level and then taxed a second time when dividends are paid to shareholders. A third submission appeared to be pushing in the opposite direction. It raised concerns about differences in tax settings between different entities. These are substantial economic issues, and it has not been possible to consider them in this LTIB.
- 1.38 Two submissions argued that personal taxes should be taken into account when considering incentives to invest for small and medium enterprises. Even if small and medium enterprises operate as companies, profits will be subject to personal tax when distributed as dividends. We discuss how the OECD modelling might be extended to these sorts of enterprise in chapter 4.
- 1.39 Two submissions discussed environmental taxes. An increase in measured economic performance, such as growth in GDP or labour productivity, may be unattractive if it is accompanied by environmental degradation. This is important and underlines the partial nature of cost of capital and EMTR studies. We do not see any real conflict between this observation and the analysis in this LTIB. Normally, neutrality of tax settings is seen as a plus. However, as the submissions have pointed out, tax neutrality may not be desirable in specific instances where there are negative or positive externalities (spillover costs or benefits to other firms or individuals). In those circumstances, there might be a case for either higher or lower levels of tax on specific investments. Externalities need to be taken into account when assessing economic efficiency. One of the submissions argued that, for use of non-neutral taxes to be justified, there needs to be clear evidence of market failure and for tax instruments to be the best way of addressing externalities. The submissions also pointed out that environmental taxes could be a way of raising revenue, as well as correcting for market failures.

- 1.40 Two of the submissions argued that New Zealand had been served well by its broad-based low-rate tax settings, and that this suggests a high burden of proof is necessary before moving away from these settings. However, two of the submissions commented favourably on specific tax concessions that had been made available in other countries.

Feedback received on the draft LTIB

- 1.41 Our draft LTIB and a set of technical appendices were published in February 2022. We commissioned two external reviews on these papers by Professor Jack Mintz and Professor Michael Keen.¹² We also consulted with stakeholders on the two papers and received written submissions from seven individuals and groups.¹³ This final LTIB takes account of feedback received.
- 1.42 Both external reviewers were positive about the analysis and the discussion of the various options in the draft LTIB but questioned the heavy focus on the OECD's benchmarking exercise. Both suggested that a broader set of comparisons can be helpful when benchmarking costs of capital and EMTRs. This is also useful in spotlighting some of the uncertainties in these benchmarking exercises.
- 1.43 The OECD estimates suggest that New Zealand is an outlier with very high costs of capital and EMTRs compared with most other OECD countries. The reviewers pointed to other analysis that suggests New Zealand is less of an outlier. The OECD analysis only considers company tax provisions. Other taxes may also impact on costs of capital and EMTRs and including these other taxes may make New Zealand less of an outlier than the OECD analysis is suggesting. However, it is still likely to be true that New Zealand has high costs of capital and EMTRs relative to most OECD countries. Both reviewers also suggested that there should be some additional focus on the OECD's Pillar 2 tax changes. This was also suggested in written submissions.
- 1.44 One reviewer questioned whether there should be more focus on aggregate investment than on FDI. He also raised questions about whether international financial arbitrage may lead to more complex outcomes than was picked up in our analysis and pointed out that a statement in the chapter on indexation was misleading. The draft LTIB raised questions about the viability of inflation indexing interest income and expense and stated that no OECD countries had comprehensive indexation provisions. This may have led stakeholders to be unduly dismissive of comprehensive indexation as an option. The reviewer pointed out that both Mexico and Chile have broad indexation measures that extend to indexing interest income and expense.
- 1.45 The other reviewer questioned why there had not been more focus on average effective tax rates (AETRs) in addition to EMTRs. He also suggested that some of the options should be considered as policy alternatives rather than measures that might be introduced alongside each other.
- 1.46 The written submissions echoed concerns that had been raised in submissions on the August 2021 scoping paper. Some submissions commented on the

¹² Professor Jack Mintz is President's Fellow, School of Public Policy, University of Calgary and Professor Michael Keen is currently at Tokyo College, University of Tokyo and prior to that was Deputy Director of the Fiscal Affairs Department at the IMF. Both are leading international experts on the economics of tax policy.

¹³ <https://www.taxpolicy.ird.govt.nz/publications/2022/2022-ir-draft-ltib-submissions-external-reviews>

potential for uncertainty and any unique or distinct application of international rules in New Zealand to discourage inbound investment. They also commented that differences in settings could lead to uncertainty or the potential for double taxation (taxation of the same income in both New Zealand and another country).

- 1.47 Some submissions expressed concerns that the draft LTIB did not come out with definitive conclusions on the impacts of the various options on inbound investment. There is some discussion of estimates from the economic literature on how changes in costs of capital and EMTRs can impact on investment in chapter 2. A critical first step is obtaining better estimates of how taxes are likely to impact costs of capital and EMTRs. But uncertainties remain about how big effects are likely to be. Some expressed concerns that the draft LTIB did not suggest a programme of future tax policy changes. However, the aim of an LTIB is not to advocate for any particular direction of policy change, let alone to tie future governments' hands to such a programme. Instead, the aim is to explore pros and cons of different options as neutrally as possible. Some concerns were expressed about the analysis being too narrow because of the focus on economic efficiency and fairness rather than a broader living standards framework. This is discussed further in chapter 2. When analysing the economic efficiency of taxes, economists are attempting to take into account any costs that may affect living standards.
- 1.48 The written submissions did not reach any consensus on preferred directions for future policy. For example, the Chartered Accountants of Australia and New Zealand (CA ANZ) questioned whether any of the options were likely to be feasible. It expressed concerns about measures that might move away from a broad-based, low-rate (BBLR) approach to tax policy. Of all the options, it considered a dual income tax the most feasible but thought this was unlikely to be possible in the short to medium term because it is likely to require a tax on capital gains. Business New Zealand (Business NZ) also expressed support for a BBLR framework but considered a cut in the company tax rate as their top priority, with accelerated depreciation provisions or looser thin capitalisation provisions worth considering. They expressed strong opposition to specific tax incentives. The Corporate Taxpayers Group argued that it was an urgent priority to reduce costs of capital and expressed broad support for measures that did this, including specific tax incentives.
- 1.49 If future governments do wish to make tax changes to reduce costs of capital and make these more neutral, there are likely to be ongoing debates about the best possible direction of reforms.
- 1.50 Some further specific issues were raised in specific submissions. One submission suggested that it might be useful to provide additional cash-flow examples of how tax provisions can affect costs of capital and EMTRs. This is picked up on in the Technical appendices. Another submitter thought that the LTIB did not go far enough in considering alternatives to a BBLR approach.

Outline of the LTIB

- 1.51 The content of the LTIB is as follows. Chapter 2 discusses a framework for examining taxes on inbound investment and whether changes in tax settings are likely to be in New Zealand's best interests. Chapter 3 provides estimates from the OECD benchmarking analysis of costs of capital or hurdle rates and EMTRs in New Zealand against those for other countries. These suggest that New Zealand is an outlier with very high costs of capital and EMTRs compared with most other OECD countries. We also discuss other analysis that suggests that, while New Zealand has higher EMTRs than most OECD countries, it may

be less of an outlier. Chapter 4 extends the OECD analysis in several ways to examine costs of capital and EMTRs in New Zealand for a broader set of assets and a broader set of taxes. This analysis is supplemented by a set of technical appendices that are available on the tax policy website.¹⁴

- 1.52 The subsequent chapters examine the pros and cons of different ways of reducing costs of capital. Some of these ways can also help in making tax settings more neutral. Chapter 5 provides an overview of the different policy options that are considered. While these are meant to cover the most likely options to be put forward, the list is far from exhaustive. Chapter 6 examines a cut in the company tax rate. Chapter 7 examines two accelerated depreciation measures: a depreciation loading for assets, and a system of partial expensing. Chapter 8 considers the possibility of indexing the income tax base for inflation so that taxpayers would no longer be taxed on inflationary gains and could no longer deduct inflationary losses. Chapter 9 discusses the possibility of loosening the current thin capitalisation rules by allowing a higher safe harbour threshold. Chapter 10 explores the possibility of an allowance for corporate equity. Chapter 11 discusses the possibility of specific incentives for different types of business. Finally, chapter 12 considers the possibility of a more fundamental shift towards a dual income tax system.

¹⁴ Inland Revenue. (2022). *Tax, foreign investment and productivity – Technical appendices to support Inland Revenue’s long-term insights briefing (LTIB)*.
<https://taxpolicy.ird.govt.nz/publications/2022/2022-other-final-ltib-tech-appendices>

CHAPTER 2

Taxing inbound investment income – modelling economic effects and trade-offs

- Measures designed to reduce source-based taxes on investment in a small open economy can promote investment and boost productivity.
- At the same time, these measures will often reduce tax collections on sunk investments that have already taken place and on investments that produce economic rents that will take place regardless of whether source-based taxes are cut.
- Some measures, such as cuts in the company tax rate, may also undermine a government's goals for the progressivity and integrity of personal income taxation.
- Greater neutrality of tax settings, so that investment financed in different ways and investment in different assets is taxed as consistently as possible, is also likely to promote productivity and economic efficiency.
- Measures reducing source-based taxes are more likely to be in New Zealand's best interests if there is a substantial investment response.
- While there is considerable international research on the responsiveness of FDI and capital stock to tax changes, there is currently limited evidence on these issues for New Zealand.

Introduction

- 2.1 New Zealand's tax policy settings will affect incentives for non-residents to invest in New Zealand. They will impact on costs of capital (that is, the real pre-tax rates of return that investments in New Zealand need to generate to be attractive on an after-tax basis).
- 2.2 New Zealand depends on capital inflows for its economic development and performance. Inbound investment can generate growth in New Zealand's capital stock, and with a greater capital stock, labour will tend to become more productive.
- 2.3 Some submitters asked how efficiency and productivity relate to living standards. If taxes have adverse effects on productivity, this can mean that less income is produced in New Zealand with the same inputs. For example, this can mean that New Zealanders earn their incomes either by working longer and having less time to spend with friends and family or on other pursuits. Efficiency costs represent the multi-faceted ways that taxes may reduce well-being that are over and above the amount of tax collected to finance government spending.
- 2.4 A greater capital stock can support higher wage rates in New Zealand, which means higher incomes for New Zealanders. This will make it more attractive for people to choose to live in New Zealand. Incomes are one of the key determinants of living standards.

- 2.5 Inbound investment could also support productivity and growth through transferring technology, building management expertise and broader business knowhow, and raising the skills and knowledge of the New Zealand workforce. In addition, inbound investment might provide access to international production chains and markets.
- 2.6 Company tax is the main tax on inbound investment income. Company tax settings may have important impacts on inbound investment and the efficiency and effectiveness of New Zealand's tax settings more broadly.
- 2.7 Later chapters examine, and extend, work by the OECD on how taxes on inbound investment income can impact on costs of capital and effective marginal tax rates (EMTRs). They look at the pros and cons of some different possible tax policy changes. This chapter discusses an economic framework and some empirical evidence that can be helpful in thinking through the likely welfare consequences of taxes on inbound investment.
- 2.8 We start by presenting a simple economic model, with a single type of capital inflow and a single type of investment, that economists have used to start to examine these sorts of issues. We explain why this model suggests that high taxes on inbound investment into New Zealand can be undesirable. We then discuss a broader range of capital inflows and forms of investment and consider how non-neutral settings can reduce productivity and economic performance. Gains in productivity and economic performance from reducing high EMTRs and making these more neutral will ultimately depend on the responsiveness of investment to tax settings. We complete this chapter by discussing international evidence on how large the effects on investment are likely to be of any reductions in costs of capital and EMTRs.
- 2.9 Much of the analysis in this chapter has been discussed in other tax reviews, including the *Tax Review 2001* (chaired by Sir Robert McLeod and commonly referred to as the *McLeod Review*)¹⁵ and *New Zealand's taxation framework for inbound investment*, Inland Revenue and Treasury (2016).¹⁶ The chapter draws on this analysis.

The effects of source-based taxes on inbound investment income in a small open economy – a simple model

- 2.10 New Zealand imposes company tax and other taxes on non-residents on income sourced from New Zealand, and this is often referred to as a *source-based income tax*. Tax is also imposed on New Zealand residents when they earn income from New Zealand or foreign countries. This is often referred to as a *residence-based income tax*. New Zealand's tax settings comprise elements of both source-basis and residence-basis taxation.
- 2.11 A key question is whether it is in the best interests of a small open economy (SOE) to impose source-based income taxes on the income that non-residents earn from investment in the SOE.
- 2.12 A standard simple economic model considers an SOE importing a single type of capital. Under the standard SOE assumption, an SOE like New Zealand faces a perfectly elastic supply of capital. This means New Zealand can import as much

¹⁵ McLeod Review. (2001). *Tax Review 2001, Final Report*. <https://www.treasury.govt.nz/sites/default/files/2007-11/taxreview2001-report.pdf>

¹⁶ Inland Revenue and Treasury (2016). *New Zealand's taxation framework for inbound investment*. <https://taxpolicy.ird.govt.nz/publications/2016/2016-other-nz-framework-inbound-investment>

capital as it wants without affecting the returns that foreigners demand (net of any New Zealand taxes) for supplying their capital to New Zealand. In the model, investment is assumed to take place until additional investment is earning only marginal (or break-even) returns.

- 2.13 To provide non-residents with the returns they demand, investments need to generate a rate of return that is at least as good as what could be achieved if the non-residents supplied their capital to other countries. Economic rents are returns in excess of the return that non-residents demand on their funds. If there are no economic rents, the implication of this model is that there should be no taxes imposed on inbound investment, except to the extent that taxes imposed in the SOE are creditable abroad (that is, taxes overseas are reduced dollar for dollar as a result of tax being paid in New Zealand). This is because it is likely to be a particularly inefficient backdoor way of taxing domestic residents. Any tax imposed will be passed on to other domestic factors of production, such as land and labour, but in a manner that is less efficient than taxing those factors directly.
- 2.14 The logic behind this model can be most easily seen if we think of debt as being the single form of capital and lending to New Zealand being no more or less risky than lending to other countries. If New Zealand is a net capital importer importing debt from the rest of the world, it must offer an interest rate that non-resident lenders are willing to accept. Suppose we tax interest payments to non-residents. Unless non-residents can claim credits for these taxes (which reduces the amount of tax they pay overseas on this income), the pre-tax interest rate will need to rise until the net-of-NZ-tax interest rate is the same as what the non-resident can obtain from lending to other countries. Thus, the economic incidence of this tax will be borne by domestic borrowers rather than foreign lenders.
- 2.15 Much the same story will apply if the single form of capital were equity. A source-based company tax is likely to push up hurdle rates of return until foreign equity investors are earning comparable risk-adjusted returns to what they can obtain elsewhere. If there are no economic rents, the tax will not be borne by non-residents because they will never be willing to accept less than the marginal rate of return that they can obtain from investing in other countries. Instead, hurdle rates of return will need to rise, which will mean less capital stock, a less productive labour force and lower wages. The tax will fall on New Zealanders rather than non-residents.
- 2.16 With equity-financed investment there are some additional issues to consider. Risk and uncertainty will complicate the story because different non-resident suppliers of capital will generally have different views about what the returns on an investment are likely to be. This may make the supply of capital less than perfectly elastic. However, it might still be expected that taxes in New Zealand will largely drive up the pre-tax rates of return that investments are required to generate to provide the returns (net of any New Zealand tax) that non-residents demand on their funds.
- 2.17 If there are no economic rents and the supply of capital is perfectly elastic, the implication of this model is that, except to the extent that taxes imposed in the SOE are creditable abroad, there should be no source-based taxes imposed on inbound investment income. If there are location-specific economic rents (that is, profits above a global hurdle rate of return that can be earned by businesses that need to be operating in the SOE to obtain the rents), there is a case for taxing these at high rates while still attempting to tax marginal investments at a rate that is as low as possible.

- 2.18 This model is discussed in Gordon and Hines (2002), who conclude the burden of a source-based tax on marginal investments will be borne entirely by labour or other fixed factors. A labour income tax would reduce the net wage rate, and this would create some labour market distortions. The key point, however, is that these distortions would also be created by a tax on inbound investments that reduces capital stock and makes labour less productive. However, while a source-based tax also distorts investment decisions, a labour income tax does not. Gordon and Hines argue that a strong conclusion about tax policy in an open economy setting is that a source-based tax on capital income should not be used since it is dominated by a labour income tax (Gordon and Hines, 2002, pp. 1939-1940).
- 2.19 Thus, in this model, source-based taxes that drive up the cost of capital are always undesirable because they burden New Zealanders more than necessary for the tax amount being collected.
- 2.20 This analysis provides some arguments against source-based taxes on marginal investment into an SOE like New Zealand. However, there are several balancing considerations that push against abandoning source-based taxes altogether.
- 2.21 SOEs have not completely removed source-based taxes (although, as will be discussed in chapter 3, many other countries have lower source-based taxes than New Zealand). In particular:
- Economic rents (profits above a global minimum hurdle rate) may sometimes be substantial, and the burden of taxes on these rents may often be borne by foreign investors.
 - While the supply of capital is likely to be very elastic, it may be less than perfectly elastic, and this may allow some of the burden of taxes to be borne by foreign investors.
 - Reducing tax on both sunk investments and land would provide windfall gains to existing owners of firms with these assets where the firms had undertaken the investment in the expectation that future returns would be taxed. Replacing this revenue source is likely to impose burdens on New Zealanders.
 - Foreign tax credits for taxes paid in New Zealand may be available overseas, especially non-resident withholding taxes (NRWT).
 - When taxes are borne by foreign investors, it allows New Zealanders to pay lower taxes. To give tax cuts where a substantial benefit flows to non-residents may be costly to New Zealanders.
 - In later chapters we look at some other ways of taxing economic rents. The analysis suggests that if we could find sensible and efficient ways of taxing economic rents and if we could restrict the benefits of source-based tax cuts to new investment only, high source-based taxes on inbound investment would be reducing economic efficiency and there would be a case for reducing these taxes.
- 2.22 There are, however, also some important fairness issues to consider. Company tax has a dual role in New Zealand. Not only is it the most important source-based tax on the income of non-residents, but it is also an important source of revenue and an important way of supporting the progressivity and integrity of

personal income taxation.¹⁷ Without a company tax, it would be much easier for those with high income and wealth to earn their income through companies and minimise the tax they paid. Thus, company tax is important in maintaining the integrity and coherence of the personal tax system.

- 2.23 For example, Inland Revenue data on a set of high-wealth individuals (HWIs) in 2018 suggests that, of their total tax paid both directly and through entities, only 8% is taxed at personal rates, with 21% taxed at the trustee tax rate and 71% taxed at the company rate.¹⁸ A zero company tax rate would create considerable scope for some HWIs to pay little or no tax until profits accumulating in companies are eventually paid to shareholders as dividends.
- 2.24 A balancing consideration is that lowering the company tax rate would reduce incentives for multinational companies to shift profits away from New Zealand through transfer pricing or thinly capitalising their New Zealand subsidiaries.
- 2.25 McKeehan and Zodrow (2017) provide a formal model that attempts to trade off the different pros and cons of cutting source-based taxes in an SOE.

Different types of capital inflows and different costs of capital

- 2.26 The simple model outlined above assumed a single type of capital inflow and a single type of investment. In practice, source-based taxes may affect:
- both foreign direct investment (FDI) and foreign portfolio investment (FPI) (passive portfolio holdings of New Zealand debt and equity securities by overseas investors)
 - how firms are financed, for example, with debt or equity, and
 - the sorts of assets that are acquired (for example, buildings, machinery and equipment, inventories or intangible assets).

FDI or FPI

- 2.27 The simple model outlined above makes no distinction between FDI and FPI. However, as the McLeod Review discusses, there may be some important differences. For example, there could be important productivity spillovers from FDI that may make FDI a more powerful way of promoting productivity and growth than FPI. By itself, this might be a reason for considering lower source-based taxes on FDI than on FPI. At the same time, economic rents are likely to be more of an issue for FDI than for FPI, which might be a reason for having a higher tax rate on FDI than on FPI.

Debt and equity

- 2.28 Costs of capital and EMTRs are likely to be much higher for equity-financed investment into New Zealand than for debt-financed investment because

¹⁷ For the year to June 2021, net corporate tax revenue (inclusive of NRWT) was \$18,405 million. This amounted to 16.6 percent of total tax of \$110,753 million. See Tax Outturn Data - June 2021, <https://www.treasury.govt.nz/publications/tax-outturn-data/tax-outturn-data-june-2021>. Inland Revenue data reveals that roughly one-third of net corporate tax revenue is from foreign controlled companies.

¹⁸ These estimates have been updated and corrected from those provided in the draft LTIB. They are calculated assuming that imputation credits claimed by HWI individuals and trusts are in respect of dividends from companies owned and controlled by the HWIs. Company tax payments which lead to these imputation credits are treated as part of personal or trustee taxation.

interest is a deductible expense, whereas dividends are not. We see in later chapters that, while New Zealand has relatively high costs of capital and EMTRs compared to most OECD countries, there will be instances where investments are being subsidised by the tax system and EMTRs are negative. The same model that suggests source-based taxes on inbound investment are particularly inefficient would suggest that source-based subsidies to inbound investment are also particularly inefficient – unless the subsidies are justified by important productivity spillovers or perhaps assist in supporting broader measures of well-being. The subsidies would benefit domestic factors, such as labour, but in a less efficient way than if these factors were subsidised directly.

- 2.29 Some measures that may reduce source-based taxes, such as a reduction in the company tax rate, would also reduce differences between equity-financed and debt-financed investment. Other measures, such as accelerated depreciation, would reduce costs of capital and EMTRs without reducing the distortions between these different ways of financing investment.

Types of asset

- 2.30 The OECD benchmarking exercise, as well as other analysis, has suggested that New Zealand has relatively high costs of capital and EMTRs on average. At the same time, we find that costs of capital and EMTRs differ between investment in different assets and differences can be substantial. For some assets, such as investment in intangible assets, there can often be an element of subsidy if investments are partially debt financed.

Tax neutrality

- 2.31 The neutrality of tax settings is an important consideration. Suppose that investment funds can be attracted at a real cost of 3% to New Zealand (net of any New Zealand taxes). Also suppose that a non-neutral tax system means that investment in one type of asset (type 1 assets) initially has a cost of capital or hurdle rate of return of 5% because it faces a relatively heavy tax impost. Investment in a second type of asset (type 2 assets) has a cost of capital of 2% because it faces a much more favourable tax impost. Suppose we change the tax rules so that the cost of capital for both types of assets becomes 3.5%. This will increase investment in type 1 assets and reduce investment in type 2 assets. New Zealand will gain type 1 assets earning pre-tax rates of return of between 5% and 3.5% while losing type 2 assets earning between 2% and 3.5%. This will mean gaining higher-returning investments while losing lower-returning investments. Economic efficiency and the productivity of New Zealand's capital stock will tend to increase.
- 2.32 Likewise, greater neutrality in the tax treatment of debt and equity inflows is also likely to promote economic efficiency and productivity by causing more productive investments to displace those with lower productivity.

How important are source-based taxes likely to be in determining FDI and broader levels of capital stock in New Zealand?

- 2.33 A key benefit of reducing source-based taxes is that this is likely to increase FDI and inbound investment and New Zealand's capital stock more broadly.
- 2.34 Important questions are whether additional FDI is likely to generate important productivity spillovers (for example, through the transfer of technology, management skills and broader business knowhow) and how big the effects of any tax changes on FDI and New Zealand's capital stock are likely to be. In this section, we examine some international evidence on these issues.

- 2.35 It should be noted that an increase in FDI does not necessarily mean an increase in New Zealand's capital stock. For example, if a foreign company takes control of an existing New Zealand business, this will be measured as an increase in FDI. There may, however, be no increase in New Zealand's capital stock.

FDI: productivity spillovers and sensitivity to tax

- 2.36 Many countries have attempted to impose low taxes on inbound FDI in the hope that this will generate positive productivity spillovers for other firms in the same industry or firms in connected industries. If there were substantial productivity spillovers, this could be a reason for going further than the simple model discussed earlier in this chapter suggests and subsidising inbound investment.
- 2.37 However, there are reasons to require a high burden of proof before cutting taxes or subsidising investment because of potential productivity spillovers or other externalities. Unless there is strong and quantifiable evidence of spillover benefits, a danger exists that providing tax subsidies would encourage lobbying and make it much more difficult to maintain a robust tax revenue base and a neutral and efficient tax system.
- 2.38 Our reading of the evidence is that, while examples of productivity spillovers will inevitably exist, there is very little clear and consistent evidence of substantial productivity spillovers from FDI into New Zealand. These issues are discussed by Doan, Maré, and Iyer (2015). They find that, while foreign-owned firms make a significant contribution to the New Zealand economy, there is little evidence of substantial positive spillover effects from inbound FDI to local firms' productivity. There are also questions about whether firms in New Zealand that are acquired by foreign entities have an improved productivity performance. Fabling and Sanderson (2014) discuss this issue. While foreign-acquired firms appear to increase both average wages and gross output relative to firms that remain in domestic ownership, the authors find no evidence that these acquired firms boost their productivity performance.
- 2.39 Productivity spillovers can arise with domestic firms as well as from inbound FDI. In a recent inquiry, the New Zealand Productivity Commission argues that its most productive "frontier firms" can have an important role in lifting what they see as New Zealand's "lacklustre productivity performance". These firms tend to be innovative and export specialised, distinctive products. The Commission argues that high-quality FDI that invests in innovation, grows new export markets, creates a demand for skills, encourages more training, attracts international talent and builds career paths that keep skilled people in New Zealand can provide spillover benefits for New Zealand. At the same time, it points out that the same benefits may be produced by having large domestic exporting firms and that not all FDI is what they would deem to be "high quality". It also notes that of the few foreign-owned businesses exporting specialised products, all started as New Zealand businesses.¹⁹ All of this raises questions about whether it would be attractive to impose lower taxes on FDI relative to other forms of inbound investment. If non-residents are marginal investors into domestic companies, taxes on FPI as well as on FDI will be important factors affecting the level of New Zealand's capital stock.
- 2.40 Many authors have argued that tax will have little effect on FDI and that a host of other factors, such as the nature of competition in product markets, the cost and availability of intermediate supplies, and proximity to final markets, will be

¹⁹ See the discussion in New Zealand Productivity Commission, 2021, 'New Zealand firms: reaching for the frontier', April, page 53.

more important. For example, Markusen (1995) argues that any effects of taxes on FDI will be unnoticeable in practice.

- 2.41 However, there is evidence that taxes may have important effects on levels of FDI and that the sensitivity of FDI to tax may have been growing over time. This literature is discussed in Hines (1999). De Mooij and Ederveen (2003) (in a widely cited review of the literature) found a median semi-elasticity of -3.3 (meaning that a 1% point cut in the company tax rate of the host country – where the income is sourced from – leads to a 3.3% increase in FDI). Moreover, the authors find evidence that this elasticity has been increasing over time, and that bigger effects are found if tax effects are measured in terms of effective tax rates (such as the EMTR analysis reported in this LTIB or AETRs) rather than statutory tax rates. This suggests that developing robust measures of EMTRs (and, in the longer run, AETRs) is likely to be important in understanding the effects of possible tax changes on FDI.
- 2.42 There is an open question whether these international studies are likely to be relevant to an economy like New Zealand, which is very distant from other markets. It is reasonable to suspect that elasticities may be much higher for, say, small landlocked countries in Europe, where companies can respond to taxes and locate a production centre to supply much the same market in one of several countries other than the country where final sales of goods or services will take place.
- 2.43 New Zealand observed limited growth in FDI when the company tax rate was cut in 2008 and 2011 (see pp. 8-9 of Inland Revenue and Treasury (2016) *New Zealand taxation framework for inbound investment*). However, evidence presented in appendix 6 of the *Technical appendices* suggests that EMTRs increased, rather than decreased, in 2011 as a result of other tax changes, including changes to depreciation rates. Also, the eyeballing of the data in the Inland Revenue and Treasury paper may be misleading if tax changes take a long time to have an effect. Freebairn (2015) reports studies suggesting that it may take seven to ten years for half of the long-run response to take place. Other confounding things may be happening at the same time (including a Global Financial Crisis and other tax measures, such as reductions in depreciation deductions and a tightening of thin capitalisation rules). As far as we are aware, no study of the sensitivity of FDI in New Zealand to tax rates has been conducted.

Capital stock: sensitivity to tax

- 2.44 An alternative is to look at the responsiveness of total capital stock to tax parameters. Hassett and Hubbard (2002) suggest that studies have tended to find increasing elasticities through time, although this appears to be the result of more robust ways of estimating elasticities rather than because the elasticities themselves are changing through time. The authors suggest elasticities of capital stock with respect to user costs are in the range of -0.5 to -1.0.²⁰ Nolan and Nolan (2021) discuss two models for New Zealand. One provides an estimate of around -0.7, which is consistent with previous work for New Zealand by Szeto and Ryan (2009). This is within the range suggested by Hassett and Hubbard. A second model has a higher elasticity of -1.42. There has been insufficient modelling in New Zealand for us to have a very robust set of estimates. Developing a better understanding of how taxes impact on costs of capital are again necessary in building an understanding of how they are likely to impact on New Zealand's aggregate capital stock.

²⁰ It should be noted that this elasticity is for total capital stock and not just FDI.

CHAPTER 3

Benchmarking New Zealand's costs of capital and EMTRs against those of other OECD countries

- OECD analysis suggests that New Zealand is an outlier with costs of capital and EMTRs for buildings, tangibles and inventories that are very high relative to most other OECD countries.
- This suggests that New Zealand may require higher hurdle rates of return than most other countries before firms will find it profitable to invest.
- Other things equal, this would reduce investment into New Zealand and New Zealand's capital stock.
- It may also reduce the speed with which New Zealand adjusts to new opportunities and challenges, including the need to take up new technologies to address climate change concerns.
- International benchmarking studies will never be completely definitive and international comparisons will depend on the assets that are included and the taxes that are considered.
- Allowing for taxes other than company tax provisions is likely to make New Zealand less of an outlier than the OECD analysis suggests. However, this is unlikely to undermine the conclusion that New Zealand is likely to require relatively high costs of capital and EMTRs compared to other OECD countries.
- Decisions on whether to establish operations in a country may depend in part on the company tax rate itself, and New Zealand's company tax rate is now high relative to most other OECD countries and especially other small, advanced economies in the OECD.

Introduction

- 3.1 The aim of this chapter is to examine how New Zealand's company tax rate and tax depreciation rules are likely to compare to those in other OECD countries. To do this we mainly focus on a model that has been developed by the OECD.

- 3.2 The OECD examines how tax provisions can affect incentives to invest by considering their impact on costs of capital, effective marginal tax rates (EMTRs) and effective average tax rates (EATRs) for a set of assets. This can be useful in benchmarking New Zealand's tax rules against those in other countries and for examining whether New Zealand is an outlier in the way that it taxes investment. In this LTIB, our focus is on the cost of capital and the closely related EMTR measure.²¹
- 3.3 The OECD data is provided on the OECD website.²² The model that underlies these results is discussed in Hanappi (2018).
- 3.4 This chapter explains key assumptions underlying the OECD modelling and reports on how New Zealand compares to other OECD countries in the OECD estimates.
- 3.5 The OECD's model focuses on investment by companies. It only examines the effects of the company tax rate, depreciation rates and the tax treatment of inventories on costs of capital and EMTRs. It does not consider sales taxes, withholding taxes, such as New Zealand's non-resident withholding tax on interest or its approved issuer levy, or the likely impact of thin capitalisation provisions. It makes some assumptions about debt levels and macroeconomic parameters for its benchmarking exercise.
- 3.6 The OECD modelling is helpful in providing a first-cut analysis of how taxes are likely to compare across OECD countries. However, quite a bit is omitted from this analysis and some of the assumptions being used may not be the most appropriate for New Zealand. We will consider possible extensions to the model and modify some of the parameter values when examining costs of capital and EMTRs for New Zealand in chapter 4.
- 3.7 The OECD's analysis suggests that New Zealand is an outlier with high levels of taxation on inbound investment. However, reviewers have pointed us to two other studies, which we also discuss. In one of these studies, New Zealand appears to be less of an outlier. This is in part because this study considers taxes other than company tax provisions which may also impact on costs of capital and EMTRs while the OECD study examines company tax provisions only. Allowing for a broader set of taxes is likely to make New Zealand less of an outlier but it is still likely to be the case that New Zealand has high taxes on inbound investment compared with most other OECD countries.

The OECD modelling and some key assumptions

- 3.8 The OECD examines how tax rules can affect the *cost of capital*. As was discussed in chapter 2, the cost of capital is the minimum real pre-tax rate of return needed for an investment to be profitable on an after-tax basis, or the hurdle rate of return. For investments that just meet their cost of capital, the

²¹ EATRs may affect decisions whether firms with high levels of mobile economic rents choose to set up operations in New Zealand. (Mobile economic rents are high returns that can be derived from setting up in any country.) However, analysis of EATRs is left for future work. We suspect that, because of New Zealand's extreme remoteness, decisions on whether to set up in New Zealand are more likely to be driven by whether there are non-tax reasons to set up in New Zealand rather than because New Zealand might be an attractive place to earn mobile economic rents. Also, for firms with very high mobile economic rents, the EATR can be closely approximated by the statutory company tax rate, which can be observed easily without any complex economic modelling.

²² OECD. *OECD.Stat. Public Sector, Taxation and Market Regulation / Taxation / Corporate Tax Statistics / Effective Tax Rates*. <https://stats.oecd.org/>

expected present value of future revenues will exactly match the cost of the investment. The investment is sometimes said to be *marginal* (that is, *break-even*) on an after-tax basis.

- 3.9 New Zealand and other countries import capital from abroad. For non-residents to be willing to invest, they must expect to be able to earn as good risk-adjusted returns from investment in New Zealand as they could obtain from investing in other countries. A common assumption (and one that the OECD adopts) is that non-residents are the marginal equity investors into domestic companies.²³ This is likely to be a reasonable first approximation for analysing many sectors of the New Zealand economy. This model may not, however, be relevant for sectors where foreign investment (both foreign direct investment and foreign portfolio investment) is a negligible fraction of total equity investment. This is discussed further in chapter 4 below and in appendix 1 in the *Technical Appendices*.
- 3.10 Suppose that investment is financed by non-resident shareholders who require a fixed rate of return (say, 3%) on their capital that is equal to the return they can obtain from investing in other countries. To make things as simple as possible, assume there is no inflation, so this is the real and nominal rate of return that foreign shareholders demand. Also suppose initially that investment is fully equity financed and that all economic income being generated is fully taxed.²⁴ If the company tax rate were 0%, the cost of capital would be 3%. This would be the pre- and post-tax rate of return needed to provide non-residents with the return they demand on a marginal investment. With a company tax rate of 25%, the cost of capital would increase to 4%. After this pre-tax rate of return is taxed at the company tax rate, non-resident shareholders would be left with the 3% after-tax return on their capital that they demand. If the company tax rate were increased to 40%, the cost of capital would increase to 5% to ensure non-resident shareholders end up with the after-tax rate of return they demand.
- 3.11 In this simple model, the net-of-company-tax rate of return is fixed at 3%. Changes to the company tax rate will affect the hurdle rate of return or cost of capital. In a more complex model, depreciation provisions, real interest rates, inflation and levels of debt financing will also affect the cost of capital.
- 3.12 The OECD's model takes these other factors into account under a set of possible macroeconomic assumptions. They examine the following two cases:
- real interest rates and inflation rates that are country specific, and
 - a common real interest rate and inflation assumption for all countries.
- 3.13 We work with the second of these two cases because this focuses on the impact of tax rules (rather than macroeconomic settings) in affecting incentives to invest in different countries.

²³ Support for this approach in the Australian context is provided by Murphy, C. (2018). Murphy provides an extensive review of academic literature on this issue. For a contrary approach, see Swan, P. (2019). Swan provides evidence suggesting marginal investment is supplied by residents who can make use of imputation credits and who can borrow on international capital markets to finance investment. This is likely to be more consistent with the alternative model that we analyse in Appendix 1 of the *Technical Appendices*.

²⁴ To understand the example, it is easiest to consider investment in an asset that maintains its value through time where no depreciation deductions are allowed. For assets that fall in value over time, economic income would be fully taxed if depreciation deductions mirrored economic depreciation (that is, the fall in the market value of assets).

- 3.14 The OECD assumes that the real interest rate is 3% per annum and the inflation rate is 1% per annum. Foreign shareholders demand a 3% real return on the capital they invest into New Zealand and other economies. The real interest rate is also 3%. With 1% inflation, this means a 4.03% nominal interest rate.²⁵ Withholding taxes on interest and dividends are ignored in the OECD analysis.
- 3.15 A key assumption (as in the example outlined above) is that non-residents are the marginal investors and the return on an investment net of New Zealand taxes needs to generate these investors' required rate of return. Competition is assumed to make this the hurdle rate of return on all investment. This means that taxes on inbound investment are ultimately going to determine costs of capital in New Zealand.
- 3.16 The cost of capital will also be affected by the proportion of investment that is equity financed and the proportion that is debt financed. This is because interest payments are tax deductible, whereas dividend payments are not. The OECD assumes that 35% of marginal investment is financed by debt and 65% by foreign equity. It is also assumed that all firms are in a taxpaying position. About 34% of companies had a loss that they carried forward from the 2019/20 to the 2020/21 year. The OECD modelling does not consider thin capitalisation restrictions, which may limit interest deductions in some circumstances. Of course, it could be argued that ignoring thin capitalisation restrictions is consistent with the assumption that firms are only 35% debt financed. In New Zealand, firms that are less than 60% debt financed are not subject to any thin capitalisation restrictions.
- 3.17 The estimates of costs of capital will also be influenced by the tax rules for inventory (or trading stock) and rates of depreciation that are allowed for tax purposes, as well as economic depreciation rates. Economic depreciation is the rate at which assets would fall in market value if there were no inflation. Many countries attempt to have tax depreciation rates as close to economic depreciation as feasible. However, tax depreciation rates are sometimes designed to be faster than economic depreciation rates to provide incentives for investment.
- 3.18 The OECD's modelling results are only available for the last four years (2017–2020) and for four aggregated sets of assets. These are buildings (manufacturing plants, large engineering structures, and office or commercial buildings), inventories, acquired intangibles (acquired software) and a category of asset described as 'tangible assets', which includes tangible assets that are not buildings – mainly machinery and equipment (road transport vehicles, air, rail or water transport vehicles, computer hardware, equipment, and industrial machinery). The accuracy of the OECD's benchmarking will, of course, depend on how well the specific assets chosen reflect the broader categories of asset they are assumed to represent and also the accuracy with which officials in different countries have estimated the tax depreciation rates allowed. In New Zealand, for example, there is quite a variety of different tax depreciation rates that can be allowed for different types of equipment or different types of industrial machinery. The figures will be best estimates but will not be precise.
- 3.19 The OECD model calculates the real pre-tax rate of return that is necessary to make investments break even given the company tax rates and depreciation rates applying in different OECD countries. This is done by finding the rate of return required to make the present value of the revenues from an investment

²⁵ The OECD refers to this as the 'low interest and inflation rates' option, but it is now the only standardised interest rate and inflation option they report. Previously, they considered a real interest rate of 5% and an inflation rate of 2% as well. To be able to purchase 3% more real goods and services, we need a nominal interest rate of 4.03% because $1.03 \times 1.01 = 1.0403$.

equal to the cost. A simple version of the OECD model is outlined in appendix 1 in the *Technical appendices*.²⁶

- 3.20 It should be noted that any economic model is no more than a partial insight. In particular, the OECD model treats the tax rules as certain and assumed to continue forever. Macroeconomic variables, such as interest rates and inflation rates, are also assumed to remain constant in the future. All of this seems reasonable when considering the long-run effects of tax settings but may ignore some important other considerations. Submitters have pointed out that if tax rules are uncertain and subject to chopping and changing, and especially if policy frameworks are unclear, this can negatively impact on investment in ways that are not captured in formal economic models. Complexity of legislation and compliance costs and having tax rules that are very different from rules in other countries may also have a negative impact on investment, especially if these cause foreign investors to question whether it is worth finding out if investing into New Zealand would be a good idea. If different rules apply to different types of firms, this can add to the complexity.
- 3.21 In the modelling, it is assumed that investment is undertaken by a company that holds the investment permanently. This ignores one aspect of New Zealand's tax system, namely the absence of a general tax on capital gains, which may tend to promote investment here relative to investment in other countries. In many other countries, capital gains will normally be subject to some level of tax when assets are sold, whereas this is not the case in New Zealand. Where firms invest with the intention of generating capital gains, this analysis may make New Zealand look like it is a relatively higher tax country than is true in practice.

The OECD estimates of costs of capital and EMTRs

- 3.22 OECD estimates of costs of capital or hurdle rates of return allow New Zealand's performance to be benchmarked against the other 37 OECD countries. Results are provided in table 3.1 for 2020, the latest year for which data is available.

²⁶ Our model provides identical cost of capital estimates to the OECD model for the case that underlies the OECD's estimates of costs of capital reported on their website when non-residents are marginal investors in companies. The OECD model is more flexible and can be extended to consider other marginal investors as well, but this comes with additional complexity. As is discussed further in footnote 4 of the *Technical Appendices*, there may be some differences in our EMTR measures.

Table 3.1: Estimated costs of capital in 2020

Country	Buildings		Inventories		Acquired intangibles		Tangible assets	
	Cost of capital	Rank	Cost of capital	Rank	Cost of capital	Rank	Cost of capital	Rank
Australia	3.4	14	3.9	7	4.0	9	3.7	6
Austria	3.5	12	3.5	25	3.9	12	3.4	12
Belgium	2.3	37	2.7	38	3.3	26	2.6	36
Canada	3.2	26	3.9	6	3.4	24	3.1	25
Chile	3.1	30	4.0	5	18.5	2	2.9	31
Colombia	3.7	5	4.0	4	4.1	8	3.7	5
Costa Rica	3.7	4	4.1	2	21.0	1	3.6	8
Czech Republic	3.5	8	3.5	27	4.0	11	3.2	23
Denmark	3.3	21	3.7	13	3.1	31	3.5	9
Estonia	3.0	31	3.0	33	3.0	33	3.0	29
Finland	3.2	25	3.6	19	4.7	5	3.2	22
France	3.3	19	4.2	1	3.7	17	3.4	15
Germany	3.6	6	3.7	16	3.8	13	3.9	3
Greece	3.3	18	3.7	17	4.1	7	3.7	7
Hungary	3.3	22	3.3	31	3.1	29	3.0	28
Iceland	3.2	24	3.6	18	3.8	14	3.4	13
Ireland	3.1	28	3.4	30	3.8	15	3.3	19
Israel	3.3	20	3.8	11	3.6	22	3.5	10
Italy	2.6	36	2.8	37	2.9	36	1.3	38
Japan	3.7	3	3.9	9	5.0	4	4.1	1
Korea	3.5	13	3.8	10	4.3	6	3.2	21
Latvia	3.0	32	3.0	34	3.0	34	3.0	30
Lithuania	2.9	33	3.5	28	3.3	25	3.2	24
Luxembourg	3.3	17	3.5	26	3.6	21	3.7	4
Mexico	3.1	29	3.9	8	7.2	3	3.1	27
Netherlands	4.0	2	3.5	24	3.7	16	3.3	17
New Zealand	4.1	1	4.0	3	3.7	18	3.9	2
Norway	3.5	9	3.7	12	3.1	30	3.5	11
Poland	2.8	34	2.8	36	3.2	28	2.6	35
Portugal	2.1	38	3.0	35	2.7	37	2.2	37
Slovak Republic	3.2	27	3.6	22	3.4	23	3.4	14
Slovenia	3.3	15	3.6	20	3.3	27	3.1	26
Spain	3.5	10	3.7	15	3.6	20	3.4	16
Sweden	3.3	23	3.7	14	4.0	10	3.3	18
Switzerland	3.5	11	3.6	21	3.7	19	3.3	20
Turkey	2.6	35	3.2	32	2.9	35	2.9	33
United Kingdom	3.3	16	3.4	29	3.1	32	2.9	32
United States	3.6	7	3.6	23	2.6	38	2.6	34
Average	3.3		3.6		4.5		3.2	

- 3.23 It is helpful to consider what the results are telling us. The underlying assumption is of a 3% real interest rate demanded by non-resident investors. Take buildings, for example. The OECD analysis suggests that the hurdle rate of return for investment in buildings (mainly commercial and industrial buildings) is 3.4% in Australia. This means that tax is resulting in a higher hurdle rate of return than would be the case if investment were untaxed (when the cost of capital would be 3%). This is unsurprising. One would normally expect that taxes would raise hurdle rates of return.
- 3.24 To the right of the cost of capital estimate for Australia, there is a rank measure of 14. This means that Australia has the 14th highest cost of capital for buildings under the OECD estimates.
- 3.25 Other things being equal, higher costs of capital will tend to reduce investment and capital stock because fewer investments will generate the required rate of return. The OECD data suggests that New Zealand has relatively high costs of capital. It has the highest for buildings, third highest for inventories, 18th highest for acquired intangibles, and second highest for 'tangible assets' (meaning non-building tangible assets).
- 3.26 Of the various estimates, the figures for buildings and for inventories are likely to be most accurate. The figures for tangible assets are attempting to make an estimate for a large group of different non-building tangible assets that can have different tax depreciation rates and different economic depreciation rates. It can be very difficult to aggregate these into a single average cost of capital.
- 3.27 A smaller group of assets, with less variety in economic and tax depreciation rates, is grouped under buildings. Also, costs of capital for inventories can be calculated reasonably simply.
- 3.28 The variability across countries of costs of capital for acquired intangibles is surprising and may be a reason for treating results for these assets with some caution. Very high figures for Chile and Costa Rica are pushing up the average cost of capital estimate significantly. It should be noted that purchased intangibles are likely to comprise a relatively small part of New Zealand's capital stock. The main purchased intangible may be software. As we discuss in appendix 6 of our *Technical appendices*, this is only 3.7% of the net capital stock of 'market entities' whose investment decisions are likely to be directly impacted by the tax settings we are analysing in this LTIB.
- 3.29 These estimates are for a few highly aggregated assets only.
- 3.30 Little difference exists between New Zealand's costs of capital for the three main types of business investment included in the data: buildings, inventory and tangible assets. Thus, New Zealand's tax settings appear to be reasonably neutral across these three different aggregate assets. In later chapters, we extend the analysis to consider other forms of investment, including investment in assets where capital expenditure can be immediately written off (or expensed). This will include most investment in self-created intangibles. Looking at a broader set of assets reveals some biases that can be hidden in the OECD's highly aggregated analysis.
- 3.31 The OECD data only goes back to 2017. The most major change for New Zealand during the period from 2017 to the present was the restoration of building depreciation for commercial and industrial property in 2020. Before that, in 2019, the OECD estimated that New Zealand had a significantly higher cost of capital for buildings of 4.9%. The Netherlands was in second place with a cost of capital of 4.0%. This suggested that, while taxes were pushing the hurdle rate of return for buildings up from 3.0% to a maximum of 4.0% in other OECD countries, they were pushing that rate up to 4.9% in New Zealand. This

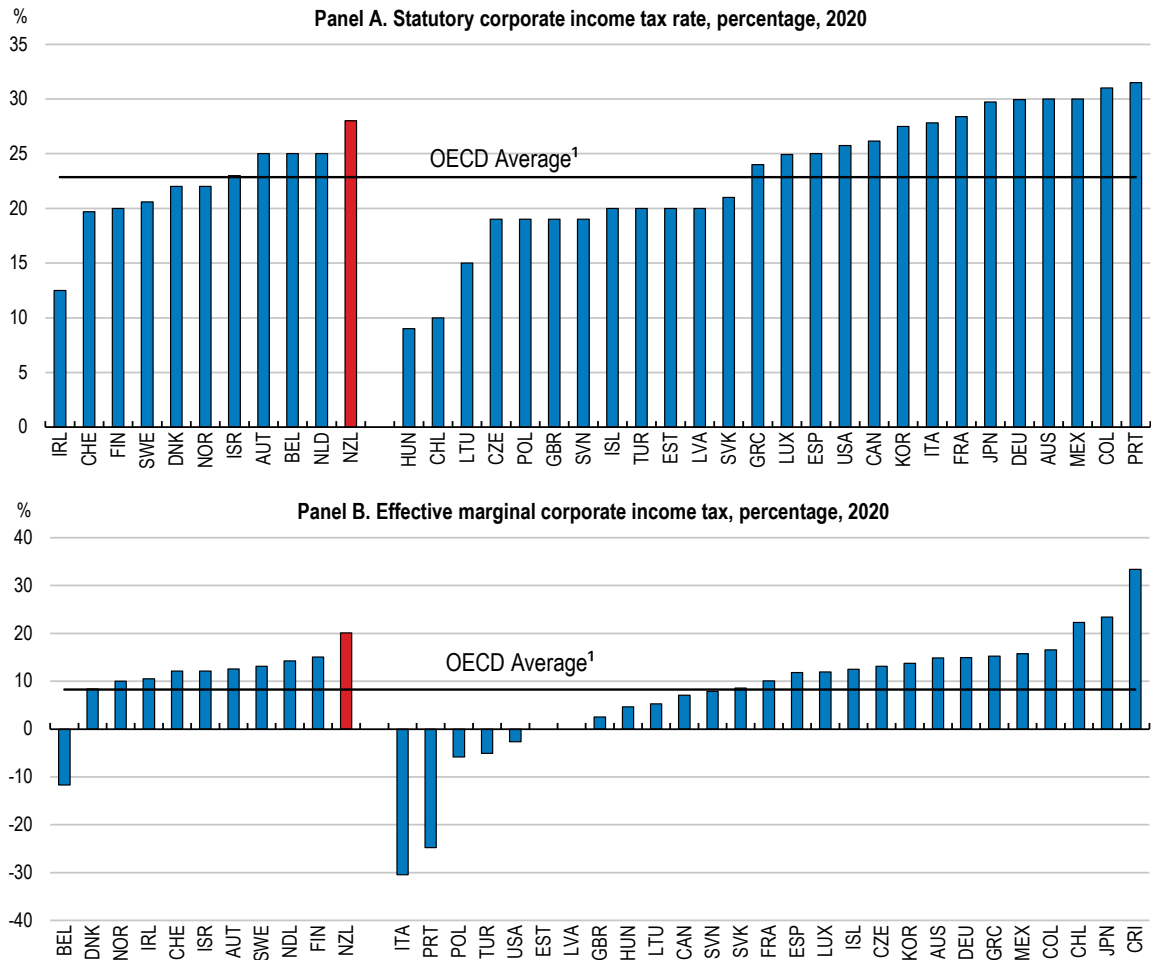
suggests that a significant number of investments that would have been profitable in other countries were not profitable in New Zealand. In addition, the cost of capital for investment in commercial and industrial buildings was very high relative to other forms of investment. This was likely to be distorting decisions about investment in different assets.

- 3.32 Thus, the 2020 change appears to have reduced the cost of capital for the least favourably taxed form of business investment (commercial and industrial buildings) and made costs of capital more neutral. However, the OECD analysis suggests that New Zealand's costs of capital are still very high relative to most other OECD countries.
- 3.33 The OECD also provides information on effective marginal tax rate or EMTRs. The $EMTR = (p - r)/p$ where p is the pre-tax rate of return on a marginal investment and r is the cost of funds to the economy. For example, as discussed earlier, the cost of capital for investment in buildings in Australia was 3.4% and the cost of funds was 3.0%. This results in an EMTR of 11.8%, that is, $(3.4\% - 3.0\%)/3.4\%$. Clearly there is a very close relationship between the cost of capital and EMTR measures. The higher the cost of capital, the higher will be the EMTR. A higher cost of capital of, say, 3.5% would imply an EMTR of 14.2%, that is, $(3.5\% - 3.0\%)/3.5\%$.
- 3.34 The OECD provides estimates of average EMTRs for the 38 OECD countries across their four categories of asset. The OECD estimates that if the real interest rate is 3% and inflation is 1%, these average EMTRs vary from 33.4% for Costa Rica to -30.4% in Italy. New Zealand has an average EMTR of 20.1%, which is 4th highest, and Australia has an average EMTR of 14.9%, which is 10th highest. However, these estimates are unweighted averages across the four types of assets. This means that equal weighting is being given to each of the four categories of asset. In principle, it would be preferable to use a weighted average EMTR, reflecting the relative sizes of the four categories of asset in the asset mix, but data limitations may make this impractical for a cross-country benchmarking study.
- 3.35 In their 2022 Economic Survey of New Zealand, the OECD has noted that New Zealand's statutory company tax rate and its average level of EMTRs were high relative to other OECD countries and to other small, advanced economies. Data is provided in figure 3.1 with data for small, advanced economies on the left-hand side of both diagrams.²⁷ For internationally mobile firms with substantial economic rents that can set up operations and earn these rents in different countries, the company tax rate can be an important factor in deciding whether to set up in a country.²⁸

²⁷ OECD. (2022). OECD Economic Surveys: New Zealand 2022. (p. 54)
<https://doi.org/10.1787/a4fd214c-en> <https://stat.link/en6415>

²⁸ Submissions have also suggested that the company tax rate can be an important "headline" in the most preliminary analyses of whether a country is likely to be an attractive place to invest in.

Figure 3.1: Company tax rate and EMTRs relative to other small, advanced economies



1. Sample average.

Note: Effective tax rates (ETRs) are forward-looking synthetic tax policy indicators calculated on the basis of a prospective, hypothetical investment project. See Hanappi (2018) for the OECD methodology. Small, advanced economies are defined as the OECD countries with populations above 1 million and below 20 million people, and with a per capita income above US\$30,000.

Source: OECD Tax Database

3.36 It might be noted that while New Zealand has relatively high EMTRs, there are some countries that are estimated to have negative EMTRs. The models discussed in chapter 2 would support reducing EMTRs to zero but not going further and driving them negative unless there are externalities or other broader benefits from inbound investment.

EMTRs in different studies

3.37 Both external reviewers of our draft LTIB questioned our exclusive focus on the OECD study for benchmarking costs of capital and EMTRs across countries. Some other studies have done a similar benchmarking exercise and there is quite some variability in estimates in the different studies. This suggests that estimates from any single study should not be regarded as definitive.

3.38 Both reviewers commented that focussing too closely on the results of a single study may make the conclusions of that study appear more definite and conclusive than is true. They pointed to some other analysis that has also

benchmarked EMTRs across countries. While the OECD study estimates that New Zealand had the fourth highest EMTR on average for the 38 OECD countries in 2020 (see figure 3.1 above), Bazel and Mintz (2021) estimate that New Zealand had the 14th highest EMTR for 2020 of the 37 OECD countries they analyse (they omit Lithuania). Bazel and Mintz estimate that New Zealand's EMTR was 19.7% and this is considerably lower than Australia's which they estimate to be 28.3%. There are also somewhat dated estimates in a study by the Oxford Centre for Business Taxation from 2017 (which was before a substantial company tax rate cut in the United States and before building depreciation for commercial and industrial buildings was restored in New Zealand).²⁹ That study suggests that New Zealand had the fifth highest EMTR for the 34 OECD countries analysed. Thus, in the OECD and Oxford University studies, New Zealand appears to be more of an outlier than in the study by Bazel and Mintz.

- 3.39 Part of the reason for the differences between these studies is likely to be that the OECD and Oxford University studies only examine company income tax provisions, while the Bazel and Mintz study considers a broader range of taxes, including capital transfer taxes (such as stamp duties in Australia) and certain sales taxes in the United States, which (unlike New Zealand's GST) can be an impost on business inputs. These other taxes can also increase costs of capital and EMTRs. However, this seems to be only a small part of the difference between the Bazel and Mintz and OECD studies' estimates for New Zealand and Australia accounting for roughly 3 percentage points of their higher EMTR estimate for Australia than New Zealand.³⁰
- 3.40 A bigger part of the reason for the difference is differences in the set of assets included in the studies and in the economic depreciation rates and tax depreciation rates assumed. The OECD study includes only four aggregated sets of assets built up from ten specific assets (as described in para 3.18 above). The small set of assets may create its own biases, but there is a significant advantage in the OECD model. This is because the OECD can draw on expertise in the various OECD countries to make sure that parameter values entered into the model are as accurate as possible for the assets included in the study. The model is also very simple, allowing parameter values to be as transparent as possible. By contrast, the Bazel and Mintz study is much more complex and the parameter values driving the results are less transparent.
- 3.41 At the same time, it is important to point out that estimates of costs of capital and EMTRs in any study are likely to be imprecise. For example, we have discussed how the overall EMTR in the OECD study is an unweighted average of EMTRs for four categories of asset. One of these categories of asset (acquired intangibles) is represented by a single asset, acquired software. This means that this single asset ends up with a 25% weighting in the OECD's estimates. Because of this, any changes to the depreciation deductions for software are likely to have a misleadingly large effect on a country's position in the OECD rankings.
- 3.42 In chapter 4, we discuss assets not included in the OECD study, such as zero-depreciation assets, appreciating assets and assets where capital expenditure can be deducted immediately (or expensed). These assets are all likely to have lower costs of capital and EMTRs than the assets included in the study. By itself,

²⁹ Online data from Oxford Centre for Business Taxation available at <https://oxfordtax.sbs.ox.ac.uk/cbt-tax-database>

³⁰ Bazel, Mintz and Thompson (2018) provides a breakdown of how these different additional taxes can affect EMTRs in many countries. They increase EMTRs in many other countries but not in New Zealand as New Zealand does not have these taxes.

bringing in these additional assets will tend to reduce costs of capital and EMTRs in New Zealand. However, similar inclusions for other countries might also lower costs of capital and EMTRs in other countries as well.

- 3.43 Ultimately, we suspect that the OECD's conclusion about New Zealand being an outlier, with very high costs of capital and EMTRs relative to most other OECD countries, is likely to be robust for the company tax provisions analysed in the OECD study. Consideration of a broader set of taxes as suggested by Bazel and Mintz that are imposed in other countries but not New Zealand can moderate this effect but costs of capital and EMTRs are still likely to be high compared to most other OECD countries.
- 3.44 The question of exactly where New Zealand sits relative to other OECD countries is likely to be uncertain. However, this is probably not a critical issue. Whether New Zealand is likely to benefit from lower and more neutral costs of capital and EMTRs, and the pros and cons of different possible measures, are largely independent of our precise ranking in the set of OECD countries.

Concluding comments

- 3.45 Chapter 4 explores the effects of changing some of the assumptions. We extend the modelling by considering:
- possible changes to macroeconomic assumptions and assumptions on gearing that are likely to be more relevant for New Zealand
 - some factors missing from the OECD analysis, such as non-resident withholding tax on interest and New Zealand's approved issuer levy, and
 - how the model might be extended to domestic small and medium enterprises (SMEs) where foreign investors may not be the marginal investors.
- 3.46 Subsequent chapters discuss various policy options for reducing costs of capital and EMTRs and making these more neutral.

CHAPTER 4

A deeper look at costs of capital and EMTRs for New Zealand

- If depreciation deductions are set to mirror how assets would depreciate in the absence of inflation, they will not be neutral in the presence of even small amounts of inflation. They will tend to favour investment in assets that have lower rates of economic depreciation relative to assets with higher rates of economic depreciation. New Zealand's tax settings are likely to contain these biases.
- We find evidence of significant biases between different tangible assets with different economic depreciation rates.
- While we saw in chapter 3 that New Zealand's costs of capital and EMTRs are often high relative to other countries, at times EMTRs will be negative and costs of capital will be less than the cost to New Zealand of importing capital. In these cases, investment is effectively being subsidised by the tax system.
- Inflation tends to increase costs of capital and EMTRs for many types of assets that are already relatively heavily taxed. This is especially the case for plant, machinery and equipment with high economic rates of depreciation and for inventories. At the same time, inflation can reduce costs of capital and increase tax subsidies for assets that would be subsidised and have negative EMTRs even if there were no inflation.
- Accounting for NRWT and AIL will add to costs of capital and EMTRs slightly. NRWT will also introduce some variability in tax imposts between companies that are foreign controlled and domestic companies with marginal foreign portfolio shareholders, although at average debt levels the biases between these two types of companies seems quite small relative to the tax biases between different types of asset.
- In the analysis in this LTIB, we mainly focus on the case that underpins the OECD model where non-residents are marginal shareholders in companies operating in New Zealand. It is when non-residents are marginal shareholders that New Zealand's relatively high costs of capital and EMTRs are likely to arise. If, instead, New Zealanders are marginal shareholders, it becomes more likely that EMTRs will be low or negative.

Introduction

- 4.1 The OECD benchmarking exercise discussed in chapter 3 rested on assumptions the OECD has made and applied to all OECD countries. In appendix 2 of our *Technical appendices*, we modify and extend the analysis in various ways. In this chapter, we provide a shorter discussion of some of the main results.
- 4.2 We consider the implications of different levels of debt, inflation and real interest rates. We also allow for investment in a broader set of assets than in the OECD study. The OECD model takes account of company tax settings, including depreciation provisions, but not of levies or taxes on interest paid overseas, such as New Zealand's approved issuer levy (AIL) and non-resident withholding tax (NRWT) on interest. AIL and NRWT were incorporated in the

effective tax rates calculated by the McLeod Review.³¹ On the other hand, the McLeod Review assumed that economic income was fully taxed at the company level so that the EMTR on a fully equity-financed investment was the statutory company tax rate. This is equivalent to assuming that there is no inflation and that depreciation provisions reflect economic depreciation (that is, how assets would fall in value in the absence of inflation). The McLeod Review approach does not capture the way that tax incentives, such as accelerated depreciation provisions, or inflation can affect EMTRs and incentives to invest, whereas the OECD study aims to analyse these issues.

- 4.3 This chapter attempts to blend insights from the OECD analysis with those from the McLeod Review. It extends the OECD analysis to take account of AIL and NRWT on interest. By taking account of the ways in which depreciation provisions may depart from economic depreciation and the impact of inflation, we are able to analyse possible biases in the tax treatment of different assets and of firms financed in different ways. We also explore possible biases between different types of firm.
- 4.4 We consider three possible types of firm:
- *Domestic companies with marginal foreign portfolio shareholders.* These are companies that are not foreign controlled with marginal non-resident shareholders. As will be discussed, for these firms AIL is likely to affect borrowing costs, while borrowing costs are unlikely to be affected by NRWT.
 - *Foreign-controlled companies.* These are companies where foreign direct investors will be marginal shareholders. For these firms, borrowing costs are likely to be affected by both AIL and NRWT.
 - *Domestic SMEs without marginal foreign shareholders.* Some firms are likely to have little or no foreign shareholding and for these companies it may be unreasonable to think of non-residents as marginal shareholders. There are significant uncertainties about how best to measure costs of capital and EMTRs for these firms, but it seems likely that these SMEs will have lower costs of capital and EMTRs than companies with marginal foreign shareholders. Both borrowing costs and the opportunity cost of the funds of owners can potentially be affected by AIL for marginal shareholders in these firms.
- 4.5 As discussed in chapter 3, the OECD study has suggested that New Zealand has high costs of capital and EMTRs for inbound investment for the types of asset included in their study. By incorporating AIL and NRWT on interest into the analysis, this chapter aims to achieve a fuller measure of costs of capital and EMTRs than the OECD study achieved. It also aims to analyse the variability of costs of capital and EMTRs across different assets, methods of finance and types of firm.
- 4.6 The structure of this chapter is as follows. First, we outline some key features of New Zealand's tax system that will be helpful in understanding how personal and company tax settings are likely to interact. Second, we discuss the set of assets we will be considering in this and subsequent chapters and some key ways in which we are extending and modifying the OECD analysis. Third, we discuss how New Zealand's tax settings can impact on costs of capital and EMTRs for domestic companies with marginal foreign portfolio shareholders (that is companies that are not foreign controlled with non-resident marginal

³¹ See McLeod Review (2001) *Tax review 2001: Final Report*.

shareholders). For these firms, costs of capital and EMTRs are likely to be influenced by AIL but not NRWT on interest. Fourth, we consider NRWT on interest and how this can impact on costs of capital and EMTRs for foreign-controlled companies. Finally, we extend the cost of capital and EMTR analysis to consider domestic SMEs without foreign marginal shareholders.

New Zealand's tax rules: some basics

4.7 Some key features of New Zealand's tax system are listed in this section.

4.8 As was discussed in chapter 2, company tax has a dual role in New Zealand. As well as being a way of taxing non-residents on the income they derive from investing in New Zealand, it has an important role in shoring up the integrity and progressivity of the personal tax system. The rules outlined below help in understanding these dual roles of company tax as well as policy challenges when changing tax settings in this area. Tax settings are as follows:

- Companies are taxed at a rate of 28% on their taxable income regardless of company size and whether this income is earned by domestic-owned or foreign-owned companies.
- Personal income is taxed at increasing marginal rates. Before 1 April 2021, the top personal marginal tax rate was 33%. This applied to all income over \$70,000 per annum. From 1 April 2021, a higher top marginal tax rate of 39% was introduced. This applies to income over \$180,000 per annum.
- Trusts are taxed at a rate of 33% on trustee income, which is income earned and retained in the trust for six months or longer. Trustee income distributed from a trust is not subject to further tax when it is distributed.
- New Zealand has a full imputation system. This means that if \$100 of taxable income is earned by a company, the company is required to pay \$28 in company tax. If the remaining \$72 is distributed to domestic shareholders as a fully imputed dividend, the shareholders are taxed on the full \$100 (the cash dividend of \$72 plus \$28 of imputation credits) but can claim an imputation credit for the tax paid at the company level of \$28. This means that on distribution to a shareholder on a tax rate of 33%, further tax of \$5 would be paid. This is because tax on the gross income of \$100 would be \$33, but this is reduced to a \$5 liability by the \$28 imputation credit. Once profits are distributed, the total tax rate on the income earned is topped up to the shareholder's marginal tax rate. If income is untaxed at the company level, the dividends will be fully taxed in shareholders hands. Thus, if the \$100 earned by the company was non-taxable to the company and the full \$100 of income were distributed to shareholders on a marginal tax rate of 33% as an unimputed dividend, there would be tax of \$33 on the dividend. Once again, profits would have been fully taxed in shareholders' hands.

- Imputation credits are available to domestic, but not foreign, shareholders. This means that company tax will normally be a final tax for foreign shareholders.³²
- New Zealand does not have a general capital gains tax. This means that capital profits earned by a company will normally not be subject to tax. Also, shareholders will not generally be taxed on gains that are realised when shares are sold.
- NRWT is withheld on interest payments to non-residents at a rate of 10% for countries with which New Zealand has a double tax agreement and 15% for other countries. Most often it will be withheld at a rate of 10%. Where debt is from a related party (for example, a foreign parent company), NRWT must be withheld. However, an alternative exists when debt is from third parties. This alternative is for the borrowing firms to pay AIL at a rate of 2% in lieu of NRWT. A difference between these two types of taxes is that NRWT may give rise to tax credits overseas that reduce the amount of tax overseas lenders must pay on their interest income from New Zealand. No foreign tax credits are available for AIL.

Modifying the OECD analysis for New Zealand settings

- 4.9 The OECD analysis provides a single estimated cost of capital and a single estimated EMTR for non-building tangible assets. However, there are different types of these assets with different economic and tax depreciation rates. This will lead to a variety of costs of capital and EMTRs for these assets. We extend the OECD analysis by considering costs of capital and EMTRs for a broader set of these assets. This allows potential tax biases between different types of these assets to be considered.
- 4.10 We also extend the analysis by considering other important classes of assets. We consider the following set of assets:
- commercial and industrial buildings
 - plant, machinery and equipment that is assumed to have a variety of economic DV depreciation rates (denoted by d) and DV tax depreciation rates (denoted by d^*)
 - a zero-depreciation asset that is assumed to neither appreciate nor depreciate in real terms
 - inventories
 - appreciating assets, and
 - assets for which capital expenditure can be deducted immediately (or expensed).

³² Sometimes non-resident withholding tax on dividends may be paid by a New Zealand subsidiary on unimputed dividends paid to a foreign parent, but double tax agreements can reduce this to 0% in many cases. We ignore dividend withholding tax. Some additional complications can be introduced by New Zealand's foreign investor tax credit for dividends paid to portfolio shareholders. Again, we ignore these complications in the analysis in this chapter. These are extensions that might be considered in future work.

- 4.11 Commercial and industrial buildings are assumed to have an economic depreciation rate of 2.69%, which is an OECD estimate of a weighted average of economic depreciation rates across these two types of buildings.
- 4.12 New Zealand's tax depreciation rates for plant, machinery and equipment (PME) attempt to reflect economic depreciation, that is, how assets are expected to fall in value.³³ However, inflation has not been taken into account when setting these depreciation rates. In our modelling, we assume that tax depreciation rates for PME reflect economic depreciation. This allows us to examine biases that would arise if New Zealand were perfectly successful in matching tax depreciation rates with economic depreciation rates. In practice, biases are likely to be larger than we identify because tax depreciation rates will, at best, approximate economic depreciation rates.
- 4.13 An example of a zero-depreciation asset might be land, if land were not expected to either increase or decrease in real value. If land were expected to increase in real value, it might be covered in the appreciating assets category.
- 4.14 As in the OECD analysis, we allow for trading stock or inventories. Inventories are subject to first-in, first-out (FIFO) accounting in New Zealand, and we make this assumption in our modelling. We also assume that inventories are turned over at least once a year. A slower rate of turnover would tend to reduce costs of capital and EMTRs.
- 4.15 Appreciating assets are assumed to appreciate at a real rate of 1% per annum. Neither the real, nor the inflationary, component of this gain is subject to capital gains tax.
- 4.16 We also consider investment in capital assets that can be immediately written off (or 'expensed'). This is quite a broad set of investments, which are not considered in the OECD modelling. It includes investment in planting and growing a forest, mining exploration expenditure, and repairs and maintenance expenditure where this provides ongoing benefits for many years. It also includes investment by a firm in building up intangible assets if the costs of the investment can be deducted immediately, for example, as salaries and wages. Capital expenditure on many intangible assets that are created by a firm itself can be expensed, including building up good information and data and establishing reputation and customer goodwill.
- 4.17 While the OECD modelling assumed an average debt level (namely, a debt/(debt+equity) ratio) of 35%, the average debt level for both foreign-controlled companies and NZX 50 firms (other than banks) is approximately 43%. This is discussed in appendix 2 of the *Technical appendices*. While the OECD assumed an inflation rate of 1%, we often focus on a slightly higher inflation rate of 2%, which is in the middle of the Reserve Bank target range. This seems reasonable as a long-term estimate of inflation even though the increase in the CPI in the year to June 2022 was significantly higher (CPI inflation of 7.3% over this period).
- 4.18 Finally, we will be taking account of the way in which AIL and NRWT can increase domestic interest rates and the cost of borrowing for companies. For foreign-controlled companies, things become a little complicated because third-party borrowings will normally be subject to AIL and related-party loans will be subject to NRWT on interest. We will discuss this case later in the chapter.

³³ See, for example, the discussion in Inland Revenue and Treasury (2004) *Repairs and maintenance to tax depreciation rules - an officials' issues paper*.
<https://taxpolicy.ird.govt.nz/publications/2004/2004-ip-depreciation>

- 4.19 We start, however, with the simpler case of domestic companies that are not foreign controlled but that are assumed to have marginal foreign portfolio shareholders. For these firms, AIL is likely to be pushing up interest costs rather than NRWT. This would happen if these companies borrowed from third parties abroad themselves. However, New Zealand financial institutions are required to pay AIL on their borrowings from abroad, so AIL is also likely to push up interest rates more generally in New Zealand and be reflected in the interest rates paid by domestic firms when they borrow from domestic financial institutions.
- 4.20 We assume that regardless whether these firms borrow from overseas themselves or through domestic financial institutions, AIL pushes up the domestic nominal interest rate they face by 2%. If the nominal cost of debt would be 3.0% in the absence of AIL, the cost would be expected to rise to 3.06% so that, after AIL is levied at a rate of 2%, non-residents receive the net return they demand. Similarly, if the nominal cost of debt would have been 5.06% in the absence of AIL, the cost would be expected to rise to 5.16%.³⁴

Domestic companies with marginal foreign portfolio shareholders

- 4.21 Appendix 2 of the *Technical appendices* discusses how New Zealand's tax settings are likely to impact on costs of capital and EMTRs. Table 4.1 is the same as table A2.2 and examines costs of capital when AIL is being levied at a 2% rate. It reports results for two levels of inflation, namely, 0% and 2%, and for different levels of debt. When $b = 0\%$, the debt ratio, $\text{debt}/(\text{debt}+\text{equity})$, is 0% and investment is fully equity financed. When $b = 100\%$, investment is fully debt financed. When $b = 43\%$, firms are 43% debt financed, which is about an average level of debt for New Zealand companies.
- 4.22 The first two rows in table 4.1 show the DV rates of economic depreciation (d) and tax depreciation (d^*) that are being assumed. The columns report results for the different assets. The columns show the different assets being considered, including commercial and industrial buildings, PME with a range of economic and tax depreciation rates, zero-depreciation assets, inventory, appreciating assets and assets that can be expensed. For PME, we are assuming that tax depreciation rates reflect economic depreciation rates. For assets that can be expensed, the results hold irrespective of the economic depreciation rate assumed so no value for d is provided.³⁵ Tax depreciation is an immediate deduction for these assets.
- 4.23 It is helpful to start by considering the case where there is no inflation and when investment is fully equity financed. In this case, provided tax depreciation reflects economic depreciation, for zero-depreciation assets and for inventory that is taxed on a FIFO basis, EMTRs are all equal to 28.0%. This is the company tax rate and costs of capital are all 4.17%.
- 4.24 Interest is deductible and, if firms are partly debt financed, there will be lower costs of capital and EMTRs. If there were no inflation and investment were fully debt financed, EMTRs would also be the same across assets if economic depreciation is deductible. If there were no AIL, EMTRs for all these assets would be 0.0%. With AIL of 2%, EMTRs would all be approximately 2%. With

³⁴ As is discussed in appendix 2, the domestic real interest rate would be expected to rise to $r(1+t_o)+\pi t_o/(1+\pi)$ where r is the world real interest rate, π is the inflation rate and t_o is the rate of AIL.

³⁵ One submission suggested that the low EMTRs we report for expensing arise only for appreciating assets but Appendix 5 of the *Technical appendices* shows that the low EMTRs arise for depreciating assets as well.

an average level of debt of 43%, EMTRs for assets where economic depreciation is deductible would all be 18.7%. For any given level of debt, EMTRs would be the same across different assets so long as tax depreciation reflects economic depreciation and there is no inflation. Tax policy officials have often advocated setting tax depreciation rates as close to economic depreciation rates as possible because of the neutral way in which assets with different economic depreciation rates are taxed. However, this depends on there being no inflation.

Table 4.1: Costs of capital and EMTRs for domestic companies with marginal foreign portfolio shareholders, $r^* = 3\%$, AIL = 2%

	Commercial and industrial buildings	Plant, machinery and equipment					Zero-depreciating assets	Inventory	Appreciating assets	Expensing
d	2.69%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		-1.00%	
d*	2.00%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		0.00%	
Costs of capital										
Inflation = 0%										
b = 0%	4.33%	4.17%	4.17%	4.17%	4.17%	4.17%	4.17%	4.17%	3.78%	3.00%
b = 100%	3.20%	3.06%	3.06%	3.06%	3.06%	3.06%	3.06%	3.06%	2.67%	2.20%
b = 43%	3.84%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.30%	2.66%
Inflation = 2%										
b = 0%	4.59%	4.93%	4.89%	4.70%	4.52%	4.39%	4.17%	4.93%	3.78%	3.00%
b = 100%	2.79%	3.10%	3.07%	2.91%	2.75%	2.61%	2.34%	3.10%	1.95%	1.68%
b = 43%	3.81%	4.14%	4.11%	3.93%	3.76%	3.63%	3.38%	4.14%	2.99%	2.43%
EMTRs										
Inflation = 0%										
b = 0%	30.7%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	20.6%	0.0%
b = 100%	6.3%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-12.3%	-36.2%
b = 43%	22.0%	18.7%	18.7%	18.7%	18.7%	18.7%	18.7%	18.7%	9.1%	-12.9%
Inflation = 2%										
b = 0%	34.6%	39.1%	38.7%	36.2%	33.6%	31.7%	28.0%	39.1%	20.6%	0.0%
b = 100%	-7.6%	3.2%	2.4%	-3.0%	-9.2%	-14.8%	-28.4%	3.2%	-54.0%	-78.3%
b = 43%	21.3%	27.6%	27.0%	23.7%	20.1%	17.3%	11.2%	27.6%	-0.3%	-23.3%

4.25 There are, however, two important things to note.

4.26 The first point to note is that, even with no inflation, tax neutrality will not be achieved if tax depreciation rates and economic depreciation rates do not coincide. In particular, for fully equity-financed investment, EMTRs will be greater than 28% if tax depreciation is slower than economic depreciation and less than 28% if economic income is only partially taxed or if tax depreciation is quicker than economic depreciation. For example, the EMTR rises to 30.7% if economic depreciation is 2.69% DV for commercial and industrial buildings but tax depreciation is only 2.00%.

4.27 If capital expenditure can be expensed, EMTRs will be 0% if investments are fully equity financed and negative if investments are partly debt financed. To consider the fully equity-financed case, suppose that there is no inflation. Suppose that marginal foreign shareholders demand a 3% return on their capital. If there were no tax, an investment that cost \$10,000 at the end of year 0 and provided revenue of \$300 at the end of each subsequent year would be a break-even investment because it provides marginal shareholders with the return they require. Suppose, however, that there is now a 28% company tax

rate and capital can be expensed. Tax will reduce the cost of the investment by 28%. It will also reduce revenues from the investment by 28%. But taxes will not affect the after-tax rate of return because costs and benefits fall by the same proportion. As the cost of capital will remain 3%, the EMTR will be 0%.

- 4.28 If the investment is partly debt financed, not only is the full cost of the asset immediately deductible, but there will also be a stream of interest deductions. This causes the cost of capital to fall below 3.0% and the EMTR to become negative. It becomes marginal to invest at a lower pre-tax rate of return than the cost of funds to the economy and investment is effectively being subsidised. In table 4.1 above, we see that, with 0% inflation, the EMTR is 0.0% if investment is fully equity financed and -12.9% if 43% debt financed.
- 4.29 Even in the absence of inflation, difficulties in measuring or applying economic depreciation or deliberate decisions to provide certain tax concessions will lead to a variety of EMTRs.
- 4.30 The second point to note, however, is that even if depreciation deductions reflected economic depreciation, small levels of inflation can upset the neutrality result. There are two key ways in which inflation can push up EMTRs and discourage investment. First, inflation can erode the real value of depreciation deductions.
- 4.31 Suppose that an asset is purchased at a cost of \$10,000 at the end of year 0 and economic depreciation is 20% DV. In the absence of inflation, it would be worth \$8,000 at the end of year 1, \$6,400 at the end of year 2 and so forth. Also suppose that this is captured in depreciation schedules appropriately and the asset qualifies for 20% DV tax depreciation. This depreciation is a true cost of doing business and, in the absence of inflation, this true cost would be deductible. The firm would be able to claim depreciation of \$2,000 over year 1, \$1,600 over year 2 and so forth.
- 4.32 Suppose, however, there is 2% inflation per annum, so the value of money is falling by 2% per annum. To maintain the real value of depreciation deductions, the firm would need to be able to deduct \$2,040 in year 1 (namely, \$2,000 \times 1.02), \$1,665 in year 2 (namely \$1,600 \times 1.02 \times 1.02) and so forth. The fact that depreciation deductions are not adjusted to take account of inflation will tend to push up costs of capital for fully equity-financed investment in depreciable assets. Note, however, that if someone invests in a zero-depreciation asset and this receives economic depreciation (that is, no depreciation), there will not be any similar penalty caused by inflation. As no depreciation is allowed, it does not matter whether the zero-depreciation deduction is adjusted for inflation. This creates a tax bias between investing in assets that depreciate and those that don't.
- 4.33 Inflation can also erode the value of deductions for inventory. Suppose that an item of inventory is fully equity financed and purchased at the end of year 0 for \$10,000. Suppose that it is sold one year later for \$10,416.67. If there were no inflation, this would be a break-even investment. The deduction for the \$10,000 cost of the inventory in year 0 would be fully offset by an increase in the value of stock on hand of \$10,000 in that year. The \$10,000 would end up being deducted when the inventory is sold in the next year. If there were no inflation, the firm would pay tax of \$116.67 and end up with the \$10,300 that shareholders demand. Suppose that there is 2% inflation, however, and the asset is sold for a real value of \$10,416.67. The real value of the deduction the firm receives would only be \$9,803.92 so the firm would pay tax of \$171.37 which is 28% of (\$10,416.67 minus \$9,803.92). The firm would end up with \$10,245.10 after tax (\$10,416.67 minus \$171.37) which is less than what

shareholders require. Thus, deductions for inventories will also be eroded by inflation.

- 4.34 There is, of course, an important offset. If there is a real interest rate of 3% and inflation of 2%, firms will be able to deduct nominal interest expense of roughly 5%, even though only 3% is a real interest cost. This will lead to over-deductions for interest.
- 4.35 These effects are being picked up in table 4.1. First consider zero-depreciation assets. Consider a firm that is 43% debt financed. This firm benefits by being able to deduct the inflationary component of interest expense but faces no offsetting penalty. There is no erosion of depreciation deductions because zero-depreciation assets should not qualify for depreciation deductions. This reduces the EMTR from 18.7% to 11.2%. Similarly, appreciating assets and assets where capital expenditure can be expensed also benefit from being able to deduct the inflationary component of interest expense without any tax penalty on the income side. EMTRs for these two assets fall from 9.1% to -0.3% and from -12.9% to -23.3% respectively.
- 4.36 However, for most types of investment, EMTRs are likely to rise. In particular, for very short-lived investment in depreciable assets and for inventory, EMTRs can rise from 18.7% to 27.6% with 43% debt financing. Most often, inflation is likely to be pushing up EMTRs. This is likely to be discouraging investment in certain business (including those that have faster depreciating assets or inventories) and reducing the productivity of New Zealand's capital stock.³⁶ Some assets that may be associated with technological diffusion such as computers and software have high economic rates of depreciation.
- 4.37 The maximum inflation rate considered in Table 2.1 is 2.0% per annum. Current inflation rates are considerably higher. If higher inflation rate were to continue into the future, distortions caused by variability in EMTRs would be greater than those reported in Table 2.1.
- 4.38 The impact of inflation depends on the real interest rate assumed. If the real interest rate rises, this will tend to reduce biases caused by inflation. This is discussed further in appendix 2 of the *Technical appendices*.

Non-resident withholding tax (NRWT) on interest and foreign-controlled companies

- 4.39 As has been discussed previously, NRWT on interest is unlikely to be levied very often on borrowings by companies that are not foreign controlled. For the companies analysed so far in this chapter, AIL is likely to be the main tax that is applied on interest payments overseas. However, foreign-controlled companies are required to levy NRWT rather than AIL on interest payments to related parties.
- 4.40 NRWT on interest may be levied at rates of either 15% or 10%. NRWT on interest is normally levied at a rate of 10% because of double tax agreements (DTAs). Foreign lenders will, at times, be able to claim tax credits for NRWT on interest, which can reduce foreign taxes dollar for dollar with NRWT collected

³⁶ Even for assets that depreciate extremely quickly and are fully depreciated over the year they are first used, there is an important difference between economic depreciation and expensing. An asset acquired at the end of year 0 that is subject to economic depreciation is assumed to be depreciable in year 1, whereas an asset that can be expensed is assumed to be depreciable in year 0, the year in which it is acquired. This is consistent with the OECD methodology. This is discussed further in Appendix 3 of the *Technical appendices*.

in New Zealand. In this case, NRWT would not be expected to be driving up costs of capital. Often, however, NRWT will not be creditable or at least not creditable in full. In these cases, NRWT levied in New Zealand would be expected to be increasing costs of capital.

- 4.41 The levies and taxes imposed by way of AIL and NRWT can create some biases between costs of capital and EMTRs for different firms with marginal foreign shareholders. For domestic companies that are not foreign controlled with marginal foreign portfolio shareholders, we have the costs of capital and EMTRs discussed previously. For foreign-controlled companies, NRWT on interest must also be accounted for and results will depend on whether NRWT is creditable.
- 4.42 Other biases might also arise if these two types of company have very different debt levels. However, data presented in appendix 2 indicates that for both types of firm overall debt levels are similar on average (about 43%). Appendix 2 also discusses information from our International Questionnaire that suggests 37.3% of debt in foreign-controlled firms is associated-party debt, with the remaining 62.7% being from unrelated parties. On debt from unrelated parties, we expect nominal interest rates faced by foreign-controlled companies to be pushed up by 2% in exactly the same way as those for companies that are not foreign controlled.
- 4.43 On associated-party debt, we expect interest rates to be unaffected if NRWT on interest is fully creditable. We expect nominal interest rates to be pushed up by roughly 10% if NRWT is not creditable.³⁷
- 4.44 Estimated effects on costs of capital are examined in table 4.2, assuming a world real interest rate of 3% and 2% inflation. EMTRs can become somewhat difficult to interpret when we start to take account of creditable taxes such as NRWT.³⁸ For this reason, we focus solely on costs of capital, rather than both costs of capital and EMTRs, when we deal with creditable taxes.

³⁷ As is discussed in appendix 1, the real interest rate rises to $r / (1 - t_N) + \pi t_N / ((1 + \pi)(1 - t_N))$ where t_N is the rate of NRWT.

³⁸ This issue is discussed in footnote 18 of Appendix 2 in the *Technical appendices*.

Table 4.2: Costs of capital for domestic companies with marginal foreign portfolio shareholders and for foreign-controlled companies, $r^* = 3\%$, inflation = 2%, debt = 43%

	Commercial and industrial buildings	Plant, machinery and equipment					Zero-depreciating assets	Inventory	Appreciating assets	Expensing
d	2.69%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		-1.00%	
d*	2.00%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		0.00%	
Costs of capital										
No AIL or NRWT	3.77%	4.10%	4.07%	3.89%	3.71%	3.58%	3.34%	4.10%	2.95%	2.40%
Domestic companies with marginal foreign shareholders AIL = 2%	3.81%	4.14%	4.11%	3.93%	3.76%	3.63%	3.38%	4.14%	2.99%	2.43%
Foreign-controlled companies: AIL = 2% and NRWT = 10%										
NRWT creditable	3.80%	4.13%	4.10%	3.91%	3.74%	3.61%	3.36%	4.13%	2.97%	2.42%
NRWT not creditable	3.88%	4.21%	4.18%	4.00%	3.83%	3.70%	3.45%	4.21%	3.06%	2.49%

4.45 We draw attention to the following points illustrated by table 4.3:

- The figures in the fourth row of the table for domestic companies with marginal FPI and AIL at a rate of 2% are consistent with cost of capital figures from table 4.1 for the case when inflation is 2% and debt is 43%. There are substantial biases between different types of investment for reasons that have been discussed above.
- By comparing the third and fourth rows, we see that AIL has pushed up costs of capital for domestic companies with marginal FPI but only by very small amounts. The 2% AIL has a very small effect on costs of capital.
- By comparing the fourth and fifth rows, we see that the combination of AIL and NRWT has an even smaller effect on pushing up costs of capital for foreign-controlled companies that can claim credits for NRWT. This is unsurprising because, unlike AIL, NRWT is not increasing the cost of capital for these companies. The inter-asset biases remain.
- By comparing the fourth and sixth rows, we see that the combination of AIL and NRWT has a bigger effect on costs of capital for foreign-controlled companies that cannot make use of credits for NRWT.
- Differences in costs of capital going down the rows seem small relative to differences in costs of capital going across the rows. This suggests that tax biases between these different types of company are likely to be small relative to tax biases between different types of asset.

SMEs where there may be little or no shareholding by non-residents

4.46 Appendix 2 of the *Technical appendices* also considers the possibility of an SME where non-residents are not marginal shareholders. Instead, the firm is owned by residents who can borrow or lend at a given real interest rate. In appendix 2, we consider two sub-variants. In the first, it is assumed that taxable profits are

fully distributed to domestic residents. In the second, it is assumed that profits are retained in the company.

4.47 Here we report only the results for the full distribution case. It is assumed that domestic residents are taxed at a marginal tax rate, m , of 33%, and the world real interest rate is 3%. The question arises which marginal rate to use for m . We use a rate of 33% because many higher-rate shareholders may be able to use trusts and other entities to limit the amounts of income taxed at the new top personal marginal tax rate of 39%. AIL pushes up the domestic real interest rate to 3.06% or 3.10% if the inflation rate is 0% or 2% per annum respectively.

4.48 Table 4.3 provides estimates of costs of capital and EMTRs.

**Table 4.3: Costs of capital and EMTRs for domestic SMEs - full distribution
m = 33%, r = 3%, AIL = 2%**

	Commercial and industrial buildings	Plant, machinery and equipment					Zero-depreciating assets	Inventory	Appreciating assets	Expensing
d	2.69%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		-1.00%	
d*	2.00%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		0.00%	
Costs of capital										
Inflation = 0%	3.23%	3.06%	3.06%	3.06%	3.06%	3.06%	3.06%	3.06%	2.57%	2.05%
Inflation = 2%	2.71%	3.10%	3.07%	2.88%	2.67%	2.50%	2.13%	3.10%	1.64%	1.43%
EMTRs										
Inflation = 0%	7.2%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	-16.8%	-46.3%
Inflation = 2%	-10.5%	3.2%	2.2%	-4.3%	-12.4%	-20.0%	-40.6%	3.2%	-82.8%	-109.9%

4.49 We draw attention to the following points:

- If inflation were zero, the EMTR for PME where economic depreciation is deductible, for zero-depreciation assets and for inventory would all be 2% and equal to the rate of AIL. This is regardless of the debt level in the company. By comparing this with table 4.1, we see that this is similar to results for domestic companies with marginal foreign portfolio shareholders which are 100% debt financed. It is very different from the results in table 4.1 for full equity finance where, if inflation were zero, EMTRs would all be equal to the company tax rate.
- A key reason for the difference in the results is that company tax is likely to have quite a different impact for firms where non-residents are marginal investors than for firms where there is no foreign shareholding and where domestic residents are marginal investors. In the modelling, it is assumed that the opportunity cost of investing equity capital in an SME is the after-tax interest rate that could otherwise be earned. Thus, whether investment in the SME is debt or equity financed, the opportunity cost of investment is the after-tax interest rate. Unlike companies with marginal foreign portfolio shareholders, there is no tax bias favouring debt finance relative to equity finance.
- These results should be treated as provisional because there are a variety of different possible assumptions that can be made about the opportunity cost of capital for an SME and how heavily this is likely to be taxed.

- In table 4.1, we saw that small amounts of inflation could tend to increase costs of capital and EMTRs for equity-financed investment in many assets quite markedly. By contrast, we see that for domestic SMEs without marginal foreign shareholders, inflation often makes negative EMTRs more negative.
- With 2% inflation, there will be small positive EMTRs for very short-lived PME and inventories, but significantly negative EMTRs for long-lived PME, zero-depreciating assets, appreciating assets and assets where capital expenditure can be expensed.
- It should be noted that the fact that EMTRs are negative is because the (risk adjusted) cost of capital ends up being less than the real interest rate. It does not mean that those who invest their own capital in a business will pay negative amounts of tax. All that it is saying is they end up paying less tax than they would if they were earning interest. Another valid question is whether the tax impost on other forms of saving such as interest-bearing securities is appropriate.³⁹
- Changes in EMTRs across the different asset types are qualitatively similar to those provided by the OECD model for companies where non-residents are marginal shareholders. EMTRs are highest for inventory and PME with fast economic depreciation rates and lowest for assets where capital expenditure can be expensed.
- Unlike the OECD model, there are no large positive EMTRs. This is because the after-tax real interest rate is the opportunity cost of both debt and equity finance.

³⁹ In later chapters we discuss the possibility of inflation indexation and of a dual income tax with a possibly lower flat rate of tax on capital income. Either of these might relieve tax biases not by taxing business income from SMEs more heavily but by reducing taxes on some relatively heavily taxed forms of saving.

CHAPTER 5

Tax changes to reduce New Zealand's costs of capital and EMTRs and make them more neutral

- There are important trade-offs between competing objectives to consider when examining if, or how, to reduce taxes on inbound investment.
- This chapter introduces some possible reform options that will be considered in more detail in later chapters and considers if, and how, they are likely to impact upon these competing objectives.

Costs and benefits of reducing costs of capital and EMTRs

- 5.1 In chapter 2, we discussed a framework for evaluating taxes on inbound investment in a small open economy. There are trade-offs to consider when deciding on tax settings for inbound investment.
- 5.2 On the one hand, tax can discourage marginal inbound investment, and this can lower a country's capital stock and reduce economic performance. The economic incidence of the tax is likely to be borne by domestic residents in a way that is more costly to them than if the same amount of revenue were raised by taxing the incomes of domestic residents directly.
- 5.3 On the other hand, we have discussed several reasons for levying source-based taxes. Source-based taxes tax location-specific rents (returns that are better than marginal) on investments that non-residents will want to make in New Zealand regardless of whether they are taxed. Given that New Zealand provides the infrastructure that firms require to generate these rents in New Zealand, there is a reasonable fairness case for New Zealand having a right to levy tax on these rents. In principle, there is an economic case for reducing EMTRs on marginal investment as much as possible while maintaining substantial taxes on location-specific rents.
- 5.4 An important consideration will be whether any company tax reductions in New Zealand are likely to lead to offsetting increases in tax payments overseas. Both external reviewers questioned whether the draft LTIB put sufficient emphasis on the OECD's Pillar 2 tax changes and their importance for domestic settings. These reforms are likely to result in a global minimum tax of 15%. This may mean that some tax changes that could be put in place to lower the cost of capital in New Zealand might lead to large multinational enterprises paying higher taxes in other countries. This is a factor to consider when thinking through the pros and cons of different possible tax changes.
- 5.5 Options that reduce taxes on sunk investments (investments made in the past) would provide a windfall benefit to those that invested in the past in the expectation of the current company tax rate continuing. Providing windfalls can be costly to New Zealand. Most taxes will create efficiency costs and providing windfalls which are financed with distorting taxes will normally be costly to New Zealand as a whole. This is especially so if a substantial fraction of the windfall flows to non-residents. Replacement taxes are likely to fall on New Zealanders.
- 5.6 Other issues may also be critical. One is the importance that is placed on the company tax base as a source of raising revenue. In its Long-Term Insights

Briefing and Long-Term Fiscal Position He Tirohanga Mokopuna 2021,⁴⁰ the Treasury has identified long-term fiscal pressures from an ageing population and rising healthcare demand. Moreover, responding to COVID-19 has been fiscally costly. A cut in company tax revenue would create pressure for increases in other taxes or cuts in government spending. Increases in taxes are always controversial. Governments may consider there is little scope to make changes that lead to a substantial reduction in company tax collections.

- 5.7 Another issue is the distributional effects of any tax changes. There are many ways of lowering costs of capital that can have different distributional effects. However, some, including lowering the company tax rate, may make it harder for the government to levy as progressive an income tax on individuals. High income earners may be able to shelter their income in companies and have it taxed at the company rate, rather than at higher personal tax rates, and a lower company tax rate would increase the benefits of doing so. These concerns might be able to be addressed in other ways, for example, by increasing taxes at the shareholder level. The overall implications of any package of measures on the progressivity of the tax system may be an overriding concern.
- 5.8 At the same time, chapter 3 provided evidence that New Zealand does appear to have higher costs of capital and EMTRs than most other OECD countries. It is reasonable to question whether New Zealand's tax settings are appropriate or whether we are unnecessarily detracting from New Zealand's economic performance and lowering productivity more than is desirable by taxing inbound investment relatively heavily.

Choosing between different methods of reducing taxes on inbound investment

- 5.9 If a government wishes to reduce EMTRs on inbound investment on average, several potential aims and objectives will need to be traded off when considering the best way of doing so.
- 5.10 In chapter 4, we saw that not only was the current tax system likely to be leading to substantial costs of capital and EMTRs for many assets, but there were also major biases between different types of investments and between investments that are financed in different ways. Our current method of trying to allow for economic depreciation would be neutral if there were no inflation and we were successful in matching our tax depreciation rates to economic depreciation rates. In practice, we will never be able to measure economic depreciation very accurately. Moreover, there are biases created by even minor levels of inflation. Another issue is the way in which costs of capital and EMTRs can vary markedly for multinational firms with different debt levels.
- 5.11 An important question is whether measures to reduce EMTRs on average should be focussed on reducing higher EMTRs most, with smaller reductions in investments with lower EMTRs and possibly tax increases for investments with negative EMTRs. Is addressing current tax biases an important objective?
- 5.12 There are several other issues to consider. First is whether to maintain current levels of tax on location-specific rents. If so, how do we best reduce taxes on marginal investments without reducing taxes on these economic rents at the same time?

⁴⁰ Treasury, 'He tirohanga mokopuna 2021: the Treasury's combined statement on the long-term fiscal position and the long-term insights briefing'
<https://www.treasury.govt.nz/publications/strategies-and-plans/long-term-insights-briefings>

- 5.13 A second issue is whether to minimise windfall gains to firms with sunk investments.
- 5.14 A third issue is whether there is any case for targeted tax reductions for particular industries or activities rather than reducing taxes on inbound investment in a more general way.
- 5.15 Finally, there are the questions of how personal income should best be taxed, how any changes in company tax provisions should be integrated with personal taxation, and whether having good integration should be an objective. How governments wish to tax the income of individuals may place constraints on how they wish to tax companies. This can have implications for costs of capital and EMTRs. Conversely, concerns about costs of capital and EMTRs could lead to a consideration of how personal income itself should best be taxed.

Possible options

- 5.16 There are many ways of reducing costs of capital and EMTRs with different impacts on tax neutrality. In subsequent chapters, we consider a small number of possible options and their pros and cons. The options chosen are key options to consider, but the list is not meant to be exhaustive.
- 5.17 For example, we discuss the possibility of a company tax rate reduction by itself (without any changes to the full imputation company tax system or any other measures to boost taxes at the shareholder level to maintain the progressivity of the personal income tax system). This would increase the incentive for those with a high income or wealth to shelter their income in companies and have the income taxed at a low company tax rate rather than higher rates of personal tax.
- 5.18 In practice, many other options could be considered. For example, the McLeod Review suggested reducing the company tax rate only for foreign-owned firms to lower the tax rate on inbound investment without giving rise to greater tax sheltering problems. Another alternative might be to shift back from an imputation system to the classical company tax system, where there is double taxation of dividends and no credits for company tax. This option was discussed in a 2009 paper to the Victoria University of Wellington Tax Working Group.⁴¹ A lower company tax rate might be accompanied by a tax on capital gains on shares. A further option we consider is a dual income tax, but there are many other options that could also be examined and may well be in the future.
- 5.19 At this stage we have not attempted to cost the different options. This is because many of the resulting revenue changes would require assumptions about how the rest of the tax system (in particular, the personal tax system) was being changed at the same time. As set out in many of the policy chapters in this LTIB (that is, chapters 6 to 12), unless changes to the personal tax system were being made, then any reform might make little sense.
- 5.20 The options we have identified include:
- **Lowering the company tax rate:** This is discussed in chapter 6. This option would reduce taxes on marginal investments, which would reduce current biases between investment in different assets and investment financed in different ways. It would reduce distortions caused by inflation, as well as tax subsidies for tax-preferred investments with negative EMTRs, at the same time as reducing some of the relatively high EMTRs.

⁴¹ See Inland Revenue and Treasury (2009).

It would reduce transfer pricing pressures. It would also reduce taxes on location-specific rents and provide a windfall benefit for owners of sunk investments. As noted above, it is likely to reduce the progressivity of the tax system.

- **Accelerated depreciation:** This is discussed in chapter 7. This option could lower tax on investments with some of the highest EMTRs. If restricted to new investment only, it would be doing so without providing a windfall to owners of sunk investments. This would constrain the costs but create some other distortions. At times, this could lead to investment subsidies and promote inefficient investment.
- **Indexation of the tax base:** This is discussed in chapter 8. Some of the highest EMTRs are likely to be for short-lived depreciating assets and inventories, and these EMTRs will typically increase with inflation. One way of reducing these EMTRs would be to index the tax system comprehensively. This would be likely to reduce the highest EMTRs and make the tax system more neutral. No longer taxing the inflationary component of interest income is also likely to reduce savings distortions. The key argument against comprehensive indexation is the administration and compliance costs it is likely to impose. An alternative might be to index depreciation, or both depreciation and inventories, but not interest. As with accelerated depreciation measures, this could at times lead to investment subsidies and promote inefficient investment. It might, however, be a more neutral way of dealing with distortions caused by inflation than allowing accelerated depreciation.
- **A higher (less stringent) thin capitalisation threshold:** This is discussed in chapter 9. This option would reduce costs of capital and EMTRs, but it would only do so for foreign-controlled firms. It is also likely only to be effective for firms that are trying to maximise their interest deductions and are close to the current thin capitalisation threshold. Data suggests that many foreign-controlled firms are not in that position.
- **Allowance for corporate equity (ACE) system:** This would involve allowing firms a notional interest deduction for corporate equity and is discussed in chapter 10. In principle, it could reduce taxes on marginal inbound investment without forgoing tax on economic rents. It could also reduce or remove debt/equity biases. Some ACE systems have been designed to apply only to new investments to minimise windfalls. A key question is whether it is possible to minimise windfalls in a country like New Zealand without a capital gains tax. There is also the question of how such a tax would integrate with the personal tax system. This is difficult without a capital gains tax at least on sales of shares.
- **Specific incentives for certain types of business investment:** This is discussed in chapter 11. Rather than providing measures that reduce costs of capital and EMTRs generally, this option would involve tax cuts targeted at specific investments.
- **Dual income tax system:** This is discussed in chapter 12. This option would allow a lower company tax rate on inbound investment income in a way that would integrate well with personal income taxation. Dual income tax systems have been adopted in several Nordic countries, so their performance can be assessed. Despite involving a lower tax rate on capital income than on labour income, the system has been adopted by several countries with quite progressive fiscal systems. However, a move in this direction would go well beyond addressing cost of capital concerns.

Decisions would need to be made that it was fair and reasonable to tax capital income at lower rates than labour incomes. At the same time, a dual income tax system may possibly be used to support progressive tax rates on forms of income that can be taxed without too much distortion or evasion.

- 5.21 These options are explored further in subsequent chapters. Before doing so, it may be helpful to mention three issues that were raised in submissions on the draft LTIB and one issue that was raised by an external reviewer.
- 5.22 An issue that was raised in most submissions is that uncertainties, complexity and the chopping and changing of tax rules can discourage investment in ways that are not being analysed formally. Submissions called for greater clarity in the direction of future tax changes. This is perhaps one of the greatest underlying issues as we think through how tax policy might respond to longer-term challenges. Different future governments will have different views on how progressive the tax system should be, on how much revenue should be raised and how best to trade off fairness and efficiency concerns. It may be difficult to get much certainty about future directions unless New Zealand has a flexible enough tax system to accommodate governments with different policy objectives without wholesale restructurings of the tax system whenever governments change. A key issue will be the government's flexibility to change the personal income tax scale in ways it considers best serve New Zealand as a whole.
- 5.23 This is discussed in subsequent chapters. The current New Zealand tax system was designed in the late 1980s around a system where the company tax rate, the trustee tax rate and the top personal marginal tax rate were all aligned. This prevented companies or trusts being used to shelter income from higher rates of personal income. This was complemented with a full imputation system which ensured that once companies distributed profits to domestic shareholders, the profits ended up being taxed at the marginal tax rates of shareholders. The underlying goal was to create a tax system where personal tax rates could not easily be sidestepped. Since then the company tax rate has decreased and the top personal marginal tax rate has increased. This makes it easier for companies and trusts to be used to shelter income from higher rates of personal income tax. At the same time New Zealand's company tax rate is higher than average for OECD countries and the top personal marginal tax rate is lower than average. As a result New Zealand has a relatively small gap between the company tax rate and the top personal marginal tax rate. A question is whether New Zealand's tax system is sufficiently flexible to accommodate governments with different views on how progressive the tax system should be or how much revenue should be raised.
- 5.24 In their submission on the draft LTIB, CA ANZ argued that most of the measures we list are likely to be ineffective in reducing costs of capital and promoting investment. This is because foreign-controlled companies operating in New Zealand have transfer pricing agreements with Inland Revenue that may be based on profit methods. They may require taxable profits returned for New Zealand to be some fixed percentage of sales. If this is the case, CA ANZ argue that many of the options would not impact on the taxes paid by these firms.
- 5.25 We have discussed this issue with Inland Revenue experts working on these transfer pricing agreements and do not agree with CA ANZ on this. Any profit method is based on benchmarking comparable company behaviour/results and is not an arbitrary formula. Inland Revenue will benchmark the New Zealand operating margin of a subsidiary against those of other independent comparable companies. Generally speaking, the comparable companies will be in the same industry and subject to the same or similar trading conditions as the subsidiary.

Their behaviour will be influenced by any special depreciation rates, tax incentives and so forth. By lowering taxes paid by comparable firms, measures that reduce company tax are likely to be factored into lower tax payments under transfer pricing agreements based on profit methods. Also the CA ANZ analysis only applies to foreign-controlled firms. The cost of capital and EMTR issues we are considering apply to other companies as well.

- 5.26 A separate issue was raised by the Corporate Taxpayers Group (CTG). It commented on the negative EMTRs that can arise with expensing if investment is partially debt financed, identified in chapter 4 above. The CTG notes that the subsidies identified would not arise if companies were in a tax loss position. The CTG asserts that most firms benefitting from expensing will be in a tax loss position, but we doubt whether there is any good data on this. However, it is correct to point out that the analysis is considering only firms that are in a profitable taxpaying position. As mentioned earlier, about 34% of companies had a loss they carried forward from the 2019/20 to the 2020/21 year, and these firms are not being picked up in our estimates of EMTRs. This is a broader concern than the expensing issue and would impact on the effectiveness of all the policy options we discuss. It is a complex issue to work through and is left for further work. There is, however, an associated issue. Some of the possible options, such as accelerated depreciation provisions, may make it much more common for companies to end up in a tax loss position. When considering the desirability of these options in the future, it is likely to be important to extend the analysis to consider firms in a tax loss position as well. This is especially so if the tax changes being contemplated are likely to make it more likely for firms to end up in a tax loss position.
- 5.27 One reviewer suggested that some of the options should be considered as alternatives rather than as options that might be adopted at the same time. For example, consider accelerated depreciation or a less stringent thin capitalisation threshold. If, say, we were to allow expensing for investments, EMTRs would be negative whenever there is any debt. The more generous the depreciation deductions or other capital write off provisions are, the greater the case for tightening, rather than loosening, thin capitalisation provisions. Thus, at times, there may be an either/or choice between the options listed. Also a set of tax changes that reduces costs of capital and EMTRs on average may include some measures that are increasing and others that are decreasing these costs of capital and EMTRs.

CHAPTER 6

Reducing the company tax rate

- Reducing the company tax rate would reduce the relatively high costs of capital and EMTRs that apply to many forms of investment into New Zealand.
- This is likely to encourage efficient marginal investment that would otherwise not take place, and this is likely to promote economic efficiency and productivity.
- This would also reduce distortions between different types of assets and different methods of finance. These distortions arise in part because of difficulties in measuring economic income.
- This would reduce tax subsidies to investments with negative EMTRs.
- It would also reduce transfer pricing pressures.
- At the same time, there are trade-offs to consider. This would provide a windfall to firms with existing investments and to firms earning location-specific economic rents that would invest regardless of any cut in the company tax rate.
- Unless accompanied by higher taxes at the shareholder level, a reduction in the company tax rate is likely to make the personal income tax system less progressive and increase the benefits of sheltering personal income in companies.
- This is likely to reduce the integrity of the personal income tax system.

Introduction

- 6.1 Company tax is the major tax on inbound investment in New Zealand and changes to the company tax rate can have a significant effect on costs of capital and EMTRs.
- 6.2 One of the many ways the cost of capital can be lowered in New Zealand is by reducing the company tax rate from the current 28%. This would reduce marginal taxation on inbound investment and potentially attract foreign investment. It might attract some additional firms to set up operations in New Zealand. However, this policy option comes with trade-offs, such as loss of taxation from location-specific economic rents and more scope for personal income to be sheltered in companies. This could reduce the progressivity and integrity of the personal income tax.

The dual role of company tax

- 6.3 Company tax has two roles. One supports the coherence of personal tax settings and makes sure that higher income earners do not pay very low rates of tax on the income they earn. The second role is to tax income earned by non-resident investors investing into New Zealand, both as foreign direct investment (FDI) by foreign-controlled entities and foreign portfolio investment (FPI) into domestic companies.

- 6.4 Supporting the coherence of personal income tax settings creates a motivation to make the company rate as close to the top personal rate as possible. If the company rate is significantly lower than the top personal rate, there is an incentive for those with high income and wealth to use companies to shelter income from higher rates of personal tax.
- 6.5 However, company tax is also a tax on non-resident investment into New Zealand and high taxes may reduce investment, capital stock and economic performance. Concerns about taxes on marginal inbound investment and the cost of capital may create an opposing motivation to cut the company rate.
- 6.6 This dual role was acknowledged in the 2001 McLeod Tax Review, and this led to a consideration of cutting the company rate, but only to the extent that it applied to non-resident shareholding. This would mean that companies owned by domestic residents would continue to be taxed closer to the top personal rate.
- 6.7 The Review further suggested restricting this cut to new activities, or significant expansions of existing activities, by non-residents. This would more narrowly target new investment by non-residents, which would avoid providing a significant windfall to those who had invested in the past. It would mean that the tax cut was focused where investment responses were likely to be sensitive to tax.
- 6.8 The McLeod Review suggestion was a logical and more targeted response to cost of capital concerns that takes into account the dual nature of company tax. In practice, we suspect it may be difficult to limit a company tax cut to new investment only. It could seem unfair to firms replacing their capital stock if existing firms face a different tax rate from new firms.⁴² Having a lower tax on foreign-owned firms is not common internationally, and its economic justification is likely to be difficult to explain to domestic businesses who think they also should benefit from a company tax rate cut.
- 6.9 In this chapter, we focus on the implications of a general cut to the company tax rate for both New Zealand residents and non-residents. There are other more targeted options, such as the McLeod Review suggestion, that could also be considered in the future. These could reduce some of the downsides of the company tax rate cut that we consider.

Impact on costs of capital and EMTRs

- 6.10 In chapter 4 we discussed how inflation and the mismeasurement of income could affect costs of capital and EMTRs.
- 6.11 Costs of capital and EMTRs are estimated in table 6.1 for a domestic company with marginal foreign portfolio shareholders, assuming a world real interest rate of 3% and 2% per annum inflation in New Zealand. As in the OECD analysis, we also assume that foreign shareholders demand a real return of 3% on their funds net of any domestic taxes. Because of the approved issuer levy (AIL), the domestic real interest rate is bid up to 3.10%. We assume that firms are 43% debt financed and the depreciation deductions are set to mirror how assets would depreciate in the absence of inflation for plant, machinery and equipment (PME).

⁴² At the same time, countries that have introduced an allowance for corporate equity have most often restricted this allowance to new equity only, which raises some of the same issues. This is discussed in chapter 10.

6.12 We examine three possible company tax rates: 28%, 24% and 20%.

**Table 6.1: Costs of capital and EMTRs, domestic companies with marginal foreign portfolio shareholders, debt = 43%, $r^* = 3\%$, inflation = 2%, AIL = 2%
Company tax rate options**

	Commercial and industrial buildings	Plant, machinery and equipment					Zero-depreciating assets	Inventory	Appreciating assets	Expensing
d	2.69%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		-1.00%	
d*	2.00%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		0.00%	
Costs of capital										
t = 28%	3.81%	4.14%	4.11%	3.93%	3.76%	3.63%	3.38%	4.14%	2.99%	2.43%
t = 24%	3.67%	3.94%	3.91%	3.76%	3.62%	3.51%	3.32%	3.94%	3.00%	2.52%
t = 20%	3.53%	3.75%	3.73%	3.61%	3.50%	3.41%	3.26%	3.75%	3.01%	2.61%
EMTRs										
t = 28%	21.3%	27.6%	27.0%	23.7%	20.1%	17.3%	11.2%	27.6%	-0.3%	-23.3%
t = 24%	18.1%	23.8%	23.3%	20.2%	17.1%	14.6%	9.5%	23.8%	0.0%	-19.0%
t = 20%	15.1%	20.0%	19.5%	16.9%	14.2%	12.1%	8.0%	20.0%	0.3%	-15.1%

6.13 We draw attention to several points:

- Focusing on the current tax rules (rows where $t = 28\%$), we see that costs of capital can vary significantly from 4.14% for very short-lived PME and inventories to 2.43% for assets that can be expensed.⁴³ The real cost of funds to New Zealand is assumed to be 3.00%, so this varies from a substantial tax (an EMTR of 27.6%) to a significant subsidy (with an EMTR of -23.3%).
- Reducing the company tax rate to 20% would narrow this range of EMTRs to between 20.0% and -15.0%.
- Thus, unsurprisingly, a cut in the company tax rate lowers costs of capital for investments that are heavily taxed and reduces tax subsidies for investments that are subsidised. This reduces tax distortions between investment in different assets.

Pros

Lowering costs of capital when EMTRs are high

6.14 A benefit of a company tax rate cut is that this would address New Zealand's relatively high costs of capital and promote additional investment in activities that have high EMTRs. This is likely to increase economic efficiency and productivity.

Reducing distortions between different investments

6.15 As discussed in chapter 4, an attraction of allowing economic depreciation (at least if there is no inflation) is that it would promote neutrality across different types of investment for any company. There would be incentives to invest in the most productive assets rather than assets that provide the biggest tax

⁴³ These are, of course, identical to the estimates provided in table 4.1 for domestic companies with marginal foreign portfolio shareholders in the case where debt is 43% and inflation is 2%.

advantages. Hurdle rates of return across different possible investments would be the same.

- 6.16 There is, however, a major difficulty in setting depreciation rates to mirror economic depreciation because we are far from certain about how different assets are likely to depreciate. As a result, biases to investment decisions are inevitable. These are likely to be compounded by inflation if the tax system is not indexed to take account of inflation. Biases will also be created if, for practical reasons, some forms of income are untaxed (for example, because there is no tax on capital gains) or because certain forms of capital expenditure can be expensed. An obvious way of reducing these distortions is to lower the company tax rate. As table 6.1 above shows, reducing the company tax rate will tend to reduce investment biases. There is a narrower range of costs of capital when the company tax rate is 20% (from 3.75% to 2.61%) than when the company tax rate is 28% (from 4.14% to 2.43%).

Reducing base erosion and profit shifting

- 6.17 New Zealand has reasonably robust anti-avoidance rules to mitigate the risk of tax base erosion and profit shifting. Nevertheless, no rules will be watertight, and if profits are shifted away from New Zealand, this will tend to reduce New Zealand's national income and reduce tax collections. This puts upward pressure on the levels of taxes New Zealanders must pay.
- 6.18 New Zealand becomes more vulnerable to international profit shifting if its company tax rate is high relative to tax rates in other countries. Other measures, such as the OECD's Pillar 2 tax changes, are likely to result in a global minimum tax of 15% for larger multinational enterprises. This is likely to reduce incentives to shift profits out of New Zealand. However, a potential benefit of reducing the company tax rate is that this would further reduce the incentive for firms to shift profits out of New Zealand to countries with lower company tax rates.

Cons

Reducing tax revenue on existing investments

- 6.19 One disadvantage associated with reducing the company tax rate is that it would reduce the tax revenue from existing investments in New Zealand. This provides windfall gains to existing owners of firms where the investment was undertaken with the expectation that future returns would be taxed at a higher rate. Ideally, it would be preferable to limit any company tax rate reductions to new investments only, as it is only in this case that new investment will be promoted. However, this is likely to be impractical with a company tax rate cut.

Loss of taxation on location-specific economic rents

- 6.20 Furthermore, a company tax rate cut would mean reducing taxes on location-specific economic rents. Economic rents are returns over and above those required for investment to take place, and location-specific means the rents arise from factors that are linked to a location. If we forgo tax on these rents and must levy replacement taxes, these replacement taxes are likely to be less efficient than the taxes we have forgone. Rents of this kind are likely to be larger in a geographically isolated market like New Zealand where supply of certain goods and services is likely to be helped by having a physical presence. New Zealand's geographical remoteness is likely to create a bigger than normal barrier to many goods and services being supplied from nearby other countries.

Consistency, fairness and efficiency of personal income tax

- 6.21 A reduction in the company tax rate would mean that income being earned through companies is taxed at rates that are further below the higher rates of personal tax rates than they are at present. Personal tax rates are set to reflect a government's views on the level of progressivity that is desirable so that higher income earners pay rates of tax that are deemed to be fair. This goal is undermined if income taxed in different entities is taxed at significantly lower rates.
- 6.22 The tax system becomes less fair if people with high levels of wealth and income can shelter income in companies to avoid the top personal tax rates. As noted in chapter 2, in 2018 roughly 8% of tax paid by high-wealth individuals was tax on personal income, 21% was on trustee income and 71% was on company income. Only small amounts of the taxable income of high-wealth individuals are taxed at personal rates. There is now a 5% rate differential between the company rate and trust rate (33%), and a greater 11% rate differential between the company rate and the top personal tax rate (39%). This can provide even greater incentives for higher income earners to shelter income in companies and have it taxed at the company tax rate rather than at personal tax rates.
- 6.23 Reducing the company tax rate would exacerbate these gaps unless personal tax rates were cut at the same time. Cutting personal tax rates may be supported by some future governments but not by others.
- 6.24 If governments want to lower the company tax rate and maintain the progressivity of the New Zealand tax system, higher levels of tax might be needed at the shareholder level. One option might be a tax on gains from share sales. As discussed by Chen and Mintz (2009), New Zealand is particularly vulnerable to a gap between the company tax rate and the top personal tax rate because of the absence of any tax on capital gains. As a result, those on the top marginal tax rate of 39% can have income taxed at a low rate if this is earned in a company and then gains are realised by selling shares in the company. Chen and Mintz expressed surprise that New Zealand had not adopted the solution of taxing share gains to help with integrity concerns.
- 6.25 Company tax rates and top personal marginal tax rates in OECD countries are provided in table 6.2. Having a small gap between the company tax rate and the top personal rate is attractive because it limits the scope for personal income to be sheltered in companies. At the same time, New Zealand's gap between the company tax rate and the top personal marginal tax rate is not high compared to other OECD countries. In 2020, the latest year for which OECD data is provided, New Zealand had a company tax rate of 28% and a top personal marginal tax rate of 33%. The gap between the two was 5 percentage points, which was the fifth equal lowest gap for the 37 OECD countries for which data is recorded. Even now, with a top marginal tax rate of 39% and an 11 percentage point gap, the gap is not large compared with other OECD countries. Only six other OECD countries had a smaller gap than this in 2020.

Table 6.2: Company and top personal tax rates – 2020

Country	Company tax rate	Top marginal tax rate	Difference
Australia	30.0	47.0	17.0
Austria	25.0	55.0	30.0
Belgium	25.0	52.9	27.9
Canada	26.2	53.5	27.3
Chile	10.0	35.0	25.0
Colombia	32.0	33.0	1.0
Czech Republic	19.0	15.0	-4.0
Denmark	22.0	55.9	33.9
Estonia	20.0	20.0	0.0
Finland	20.0	51.2	31.2
France	32.0	55.4	23.4
Germany	29.9	47.5	17.6
Greece	24.0	54.0	30.0
Hungary	9.0	15.0	6.0
Iceland	20.0	46.2	26.2
Ireland	12.5	48.0	35.5
Israel	23.0	50.0	27.0
Italy	27.8	47.2	19.4
Japan	29.7	55.9	26.2
Korea	27.5	46.2	18.7
Latvia	20.0	31.4	11.4
Lithuania	15.0	32.0	17.0
Luxembourg	24.9	45.8	20.9
Mexico	30.0	35.0	5.0
Netherlands	25.0	49.5	24.5
New Zealand	28.0	33.0	5.0
Norway	22.0	38.2	16.2
Poland	19.0	32.0	13.0
Portugal	31.5	53.0	21.5
Slovak Republic	21.0	25.0	4.0
Slovenia	19.0	50.0	31.0
Spain	25.0	43.5	18.5
Sweden	21.4	52.3	30.9
Switzerland	21.1	41.7	20.6
Turkey	22.0	40.8	18.8
United Kingdom	19.0	45.0	26.0
United States	25.8	43.7	17.9
Average	23.1	42.6	19.5

- 6.26 If about 39% of gains were taxable, so gains on shares were taxed at a rate of approximately 15.2%, there would be a similar tax impost when shares are sold to when imputed dividends are paid for shareholders taxed at the top personal marginal tax rate.⁴⁴ Of course, there are other issues to consider. Taxing gains on shares would add to compliance costs but it might provide a revenue base that could help reduce costs of capital and EMTRs, especially if it were accompanied by taxing other forms of capital gain as well. Taxing gains on shares or other forms of capital gains may be unlikely as a short-term or medium-term measure. However, many other countries tax these gains and this may be feasible in the longer term.
- 6.27 There may be options (other than taxing gains on shares) that could make a significant difference between the company tax rate and the top personal marginal tax rate less of a concern. There appear to be some other countries with a larger gap than New Zealand (for example, Switzerland and Belgium) that also do not tax gains on shares. It is possible these countries have ways of making a large gap between the company tax rate and the top personal marginal tax rate less of a concern without taxing gains on shares. However, it is also possible these gaps are creating important inconsistencies in these countries as well.
- 6.28 Other options might involve shifting away from New Zealand's full imputation company tax system to one that leads to heavier taxation of dividends. This would, however, create additional pressures for a tax on gains from share sales and make it less attractive for those on lower marginal tax rates to invest in companies. There would also be a broad set of other pros and cons to consider.
- 6.29 New Zealand is not alone in needing to work through these sorts of issues. In a recent paper, McKenzie (2021) suggests higher taxes on dividends and capital gains plus taxation of rents at the company level as a possible option for Canada. In an accompanying paper, Smart (2021) discusses pressures that arise in Canada through sheltering of personal income in closely held companies.

International experience

- 6.30 In the late 1980s and early 1990s, New Zealand had a relatively low company tax rate compared to most OECD countries, which made New Zealand a relatively attractive place to invest. However, as at 2021, New Zealand's company rate of 28% is the 9th highest in the OECD. This is due to the ongoing trend for OECD countries to cut their company tax rates, which has been prompted by concerns about promoting investment and reducing international tax avoidance. Substantial cuts in company tax rates have occurred in non-OECD countries as well.
- 6.31 An important aspect of this trend is that the competition for tax base and location of companies is likely to be greater in countries that are close substitutes. In Europe, a business may, at times, be able to supply a large

⁴⁴ If \$100 is earned as company income and this is taxed at the 28% company tax rate, this leaves \$72 net of company tax. If this is taxed at 15.2% when shares are sold, this would mean a further \$11 of tax, leaving a shareholder on the 39% marginal tax rate with approximately \$61 of after-tax income. This tax on gains could be achieved by including 39% of the gain as taxable income because $39\% \times 39\%$ is approximately 15.2%. This ignores some timing issues. With a 39% tax on share gains, there could still be advantages in those on the top marginal tax rate accumulating profits in companies for lengthy periods before selling these to generate capital gains.

number of countries out of one country. In that case, a tax rate decrease may attract businesses that were otherwise largely indifferent to location.

- 6.32 Australia is the closest country to New Zealand, and if Australia were to reduce its company tax rate, this might put downward pressure on New Zealand's company tax rate. Currently, just over half of foreign direct investment into New Zealand is from Australia,⁴⁵ and a reduction in Australia's company tax rate would increase incentives for profits to be streamed to Australia. Australia's company tax rate for larger companies is 30%, which is higher than New Zealand's company tax rate (although Australia has a lower 26% rate for small to medium companies). Our relative company tax rate is only one of several factors to consider. A bigger issue may be the Australian full imputation system. This currently provides incentives for companies with Australian parents to pay tax in Australia rather than New Zealand. This is because Australian imputation credits (referred to as franking credits in Australia) are available for taxes paid in Australia but not those paid in New Zealand.
- 6.33 There are recent indications that there may be some movement back towards higher company tax rates internationally. Many countries are examining how best to repair their fiscal position after their COVID-19 response, and this may reduce downward pressure on company tax rates. The UK has announced an intention to increase its company tax rate from 19% to 25%. Most recently, 130 out of 139 jurisdictions have signed up to a new international tax framework that would result in a global minimum company tax rate of 15% targeted at income from intangibles. All of this may be reducing or even end up reversing the long downward trend in company tax rates that has been evident in the last 40 years. However, the OECD unweighted and weighted average company tax rates have continued to decline in recent years (see figure 1.1).

Should future company tax rate cuts be signalled in advance?

- 6.34 If governments wished to cut the company tax rate, the question arises whether to do this in a way that minimises windfalls for sunk investments. One way of doing so might be to announce a commitment to cut the rate at some stage in the future. A credible announcement of a future company tax rate cut, or a programme of such cuts, could promote investment before the cuts taking place. This could reduce the windfall element in the future company tax rate cuts. But it can be difficult for governments to make credible commitments for tax cuts to occur too far into the future. In its submission on the draft LTIB, Business NZ suggested that any promised tax changes should be signalled and occur within a government's political term.

Implications for unincorporated enterprises and domestic SMEs operating as companies

- 6.35 Some businesses are organised as sole proprietorships or partnerships and, in these enterprises, income is taxed at the personal tax rates of the owners. For domestic small and medium enterprises (SMEs) that operate as companies and are fully distributing profits to their domestic owners, this income will also be taxed at personal rates.
- 6.36 The question might be asked whether personal tax rates should be cut at the same time as the company tax rate. If personal tax rates are designed to reflect a government's goals on the progressivity of the tax system, a reduction in the

⁴⁵ Statistics NZ National Accounts Data for the year to 31 March 2021.

company tax rate because of cost of capital concerns should not provide a case for lower personal tax rates. Rather, the issue should be how to ensure that company income is adequately taxed at the personal level to ensure that company income ends up being taxed at appropriate personal rates.

Views of stakeholders

- 6.37 Stakeholders had mixed reactions to the idea of a reduction in the company tax rate. For Business NZ, this was the preferred way of reducing costs of capital and EMTRs. Business NZ argued that the company rate had a strong and positive signalling effect, promoting New Zealand as a good place in which to invest. At the same time, Business NZ expressed concerns about integrity pressure that arises when the company tax rate and top personal marginal rate are poorly aligned. It argued for cuts to personal income tax rates as well.
- 6.38 The Corporate Taxpayers Group was also supportive of a cut to the company tax rate while recognising that this created important integrity concerns. It was not convinced that these concerns could be efficiently and effectively addressed by taxing gains on shareholders. It was, however, supportive of developing a process to work through changes that might accompany a cut in the company tax rate.
- 6.39 CA ANZ did not believe that it would be appropriate for New Zealand to cut its company tax rate. They also voiced concerns about greater integrity pressures from a bigger gap between the company tax rate and the top personal marginal tax rate.

CHAPTER 7

Accelerated Depreciation

- Accelerated depreciation schemes are measures that many countries have used to incentivise investment.
- They could reduce higher costs of capital and EMTRs by reducing taxes on marginal investments, and by offsetting some biases caused by inflation they could potentially increase the neutrality of many forms of investment.
- They would, however, lead to biases between assets that benefit from these accelerated depreciation schemes and inventories.
- An attraction of accelerated depreciation schemes relative to a company tax rate cut is that accelerated depreciation could be restricted to new investments and minimise windfalls.
- At the same time, restricting accelerated depreciation to new investment would create some distortions by discouraging sales of assets.
- Accelerated depreciation would also not be as likely to create tax sheltering opportunities as a cut in the company tax rate would.
- Unlike a cut in the company tax rate, accelerated depreciation would not reduce biases between debt and equity financing by non-resident investors.
- Accelerated depreciation would also not reduce international tax avoidance pressures caused by New Zealand's company tax rate being higher than the company tax rates in many other countries.
- At times, accelerated depreciation may lead to investment subsidies and promote inefficient investment, especially if depreciation is very substantially accelerated.

Introduction

- 7.1 Accelerated depreciation or additional deductions for capital costs (such as investment allowances) or tax credits are commonly used by countries to lower the cost of capital and incentivise investment.
- 7.2 Before 2010, New Zealand allowed accelerated depreciation of machinery and equipment but not buildings. Accelerated depreciation as a deliberate policy was removed in 2010.

Possible accelerated depreciation measures

- 7.3 In this chapter we focus on two types of accelerated depreciation measures: depreciation loading and partial expensing.
- Depreciation loading means allowing a deduction from taxable income that is greater than the standard depreciation rate. Suppose an asset would normally receive a diminishing value (DV) rate of depreciation of 10% each year. This means that if an asset costs \$10,000, \$1,000 would be allowed as a depreciation deduction in the first year, \$900 (namely,

10% of the residual balance of \$9,000) in the next year and so forth. Now suppose that an additional 20% depreciation loading is permitted. The yearly DV depreciation deduction would be increased to 12%.

- Partial expensing means that a portion of the cost of a new asset can be deducted immediately (in the year that an asset is acquired) from taxable income. The remaining cost of the asset is deducted at the normal depreciation rate. For example, suppose once more that an asset costs \$10,000 and would normally qualify for a 10% DV rate of depreciation. Now suppose that partial expensing of 50% is permitted. Taxable income is reduced by \$5,000 immediately. The remaining \$5,000 is depreciated at a 10% DV rate of depreciation.

Impacts on costs of capital and EMTRs

7.4 Table 7.1 reports the estimated EMTRs for various assets. As in chapter 6, we assume that the assets are held by a domestic company with marginal foreign shareholders. The world real interest rate is 3%, and non-resident shareholders demand a real rate of return of 3% net of any New Zealand taxes. Due to approved issuer levy (AIL), the domestic real interest rate is bid up to 3.10%. Furthermore, we assume that firms are 43% debt financed. The depreciation allowance rates for 'plant, machinery, and equipment' (PME) are assumed to be set to mirror how the asset would depreciate in the absence of inflation. Rows 3–5 report estimated costs of capital and rows 6–8 report estimated EMTRs. We consider three possible tax treatments:

- the status quo
- 20% depreciation loading for both buildings and PMEs, and
- 20% partial expensing for buildings and for PMEs with depreciation rates greater than zero.

7.5 The question arises how depreciation loading would be applied to an asset that qualifies for full depreciation of $d = d^* = 100\%$ over its first year. This is because it would be impossible to give a depreciation loading without allowing more than the full cost of the asset to be depreciated. We assume that current depreciation rules are maintained for these assets, so costs of capital and EMTRs are unchanged from the status quo. An alternative might be to allow some level of partial expensing in lieu of depreciation loading for those assets for which $d = d^* = 100\%$. This would mean allowing some fraction of the cost of the asset (perhaps 20% or 40%) to be written off in the year that the asset is acquired rather than in the subsequent year even if the asset is acquired right at the end of an income year.

**Table 7.1: Costs of capital and EMTRs, domestic company with foreign marginal portfolio shareholders, debt = 43%, $r^* = 3\%$, inflation = 2%, AIL = 2%
Status quo compared with accelerated depreciation options**

	Commercial and industrial buildings	Plant, machinery and equipment					Zero-depreciating assets	Inventory	Appreciating assets	Expensing
d	2.69%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		-1.00%	
d*	2.00%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		0.00%	
Costs of capital										
Status quo	3.81%	4.14%	4.11%	3.93%	3.76%	3.63%	3.38%	4.14%	2.99%	2.43%
Depreciation loading	3.73%	4.14%	3.85%	3.75%	3.64%	3.56%	3.38%	4.14%	2.99%	2.43%
Partial expensing	3.54%	3.80%	3.78%	3.63%	3.49%	3.39%	3.38%	4.14%	2.99%	2.43%
EMTRs										
Status quo	21.3%	27.6%	27.0%	23.7%	20.1%	17.3%	11.2%	27.6%	-0.3%	-23.3%
Depreciation loading	19.6%	27.6%	22.1%	20.0%	17.6%	15.6%	11.2%	27.6%	-0.3%	-23.3%
Partial expensing	15.1%	21.1%	20.5%	17.4%	14.1%	11.4%	11.2%	27.6%	-0.3%	-23.3%

7.6 We draw attention to the following points:

- As has been discussed elsewhere, the current rules lead to considerable variety in costs of capital, varying from 4.14% for heavily taxed PME and inventories to 2.43% for assets that can be expensed. EMTRs vary from 27.6% to -23.3%.
- Either form of accelerated depreciation would be a way of lowering some of the higher costs of capital and EMTRs. For example, consider assets that are provided with a 50% rate of depreciation (such as computers). Depreciation loading would drop the EMTR from 27.0% to 22.1%. Partial expensing would drop the EMTR a bit further to 20.5%. In the absence of inflation, all depreciable and non-depreciable assets would have an EMTR of 18.7%. Thus, either change could be thought of as offsetting some of the upward bias to EMTRs that is caused by inflation for these assets.
- Depreciation loading would have a smaller effect than partial expensing on assets with lower depreciation rates. For example, an asset with a 2% rate of depreciation has an EMTR of 17.3% under current tax rules. It is significantly less heavily taxed than assets with much faster economic depreciation rates. Such an asset's EMTR falls to 15.6% under loading or 11.4% under partial expensing.
- Neither of the measures would increase tax subsidies to appreciating assets or assets that can be expensed. Nor would they reduce the high EMTR of 27.6% faced by inventories although it would always be possible to consider a separate measure to help reduce EMTRs on inventories.

Effects of the two accelerated depreciation schemes on neutrality

7.7 Either of the two schemes would reduce EMTRs on depreciating assets that are currently facing high EMTRs. This would reduce disparities in EMTRs between these assets and assets that are taxed less heavily. At the same time, they

would introduce a tax bias between these depreciating assets and inventories unless there were also measures to reduce EMTRs on inventories.

- 7.8 Of the two schemes, depreciation loading seems more targeted at depreciating assets with high EMTRs. Depreciation loading gives a relatively small benefit to assets that depreciate slowly, while partial expensing provides a significant benefit to all depreciating assets. One possible argument for depreciation loading rather than partial expensing is that this would tend to offset the high EMTRs faced by PME with higher rates of economic depreciation. Thus, it would tend to counteract some of the inflation biases discussed in chapter 4. As is discussed in chapter 8, a more direct way of counteracting these biases would be to index the tax system for inflation. If the tax system were indexed for inflation, partial expensing is likely to be considerably more neutral than depreciation loading. Whether or not the tax system is indexed for inflation can obviously affect the desirability of different accelerated depreciation options.
- 7.9 The results for depreciation loading for assets that fully depreciate over a year look anomalous (the EMTR remains 27.6% when EMTRs for other depreciating assets are falling). As has been discussed above, an alternative might be to allow partial expensing for these particular assets.
- 7.10 These are just two types of accelerated depreciation. It may be possible to devise a scheme that is better targeted at supporting assets with relatively high EMTRs.

Design issues

New or all investment

- 7.11 Accelerated depreciation can be restricted to new assets. This would mean a firm that owns depreciable assets on the day the new scheme came into force would not benefit from a higher depreciation rate on these assets. Also, if it sold these assets to a new purchaser, the new purchaser could only claim depreciation at the old depreciation rates.
- 7.12 New Zealand used to allow a 20% loading for purchases of new machinery and equipment. This provision, which was repealed in 2010, was restricted to purchases of new machinery and equipment.
- 7.13 Restricting accelerated depreciation to new assets minimises windfall benefits to firms that have invested in the past. It reduces the fiscal cost of accelerated depreciation. If accelerated depreciation were given to incentivise investment, there would seem to be little reason to allow it on investments that have already taken place.
- 7.14 At the same time, restricting accelerated depreciation to new assets would have implications for assets that were acquired new after the accelerated depreciation scheme came into force. It would mean that the assets would only continue to qualify for accelerated depreciation if they were retained by their initial owner. Restricting accelerated depreciation to new investment might create biases. For example, some firms might want to use relatively new trucks or buses only, while other firms may be quite willing to use older trucks or buses. Efficiency may decrease if tax is an obstacle to assets being acquired by those who will use them most productively.

Treatment of firms in loss

- 7.15 Accelerated depreciation confers a benefit to businesses that have tax liabilities, but it may confer little or no benefit to businesses that are in tax loss. This can

be distortionary. The draft LTIB suggested that this bias may be of little concern because it is only for firms that are in a taxpaying position that high costs of capital and EMTRs will arise. However, one of the reviewers has pointed out that start-up companies and other companies that are temporarily in loss may also sometimes face high EMTRs. This is something that could be explored further in future work.

Asset limitations

- 7.16 If a system of accelerated depreciation were put in place, the question of which assets should be included in the scheme would arise. Depreciation loading is only relevant for assets that are depreciable for tax purposes. Potentially, a system of partial expensing could apply not only to depreciable assets, but also to non-depreciating assets or even appreciating assets. However, table 7.1 suggests that non-depreciating and appreciating assets are unlikely to face high EMTRs. As a result, it would seem appropriate for any partial expensing scheme to also be limited to depreciating assets.
- 7.17 Before 2010, New Zealand applied depreciation loading to machinery and equipment but not buildings. Buildings depreciate relatively slowly and assets that depreciate more slowly tend to face lower costs of capital and EMTRs if there is inflation but depreciation provisions do not take this into account. However, there would appear to be little reason for distinguishing buildings from other assets that also depreciate at slow rates.

Interactions with Pillar 2 reform

- 7.18 Under the OECD's Pillar 2 tax reforms, large multinational enterprises operating in New Zealand are likely to become subject to a global minimum tax of 15%. This means that if the tax rate in New Zealand falls below 15%, there will normally be additional taxes to pay overseas. If this applied to reductions in tax brought about by New Zealand adopting accelerated depreciation provisions, this might make accelerated depreciation provisions a cost-ineffective way of promoting investment because lower taxes paid in New Zealand might be offset by higher taxes paid abroad. However, the Pillar 2 rules explicitly exclude timing differences brought about by measures such as accelerated depreciation. Thus, if the company tax rate in New Zealand falls below 15% because of accelerated depreciation measures, this will not trigger additional taxes overseas. Thus, the Pillar 2 rules would not interfere with the effectiveness of accelerated depreciation as a means of promoting investment.
- 7.19 By contrast, if a country were to provide an investment allowance that was a deduction in addition to depreciation, this could trigger additional taxes overseas. The Pillar 2 changes will make it relatively more attractive to promote investment by accelerated depreciation rather than by an investment allowance.

International experience

United States

- 7.20 The United States introduced a partial expensing scheme, which it referred to as "bonus depreciation", for certain forms of qualifying expenditure in two tax changes in 2002 and 2003. Under the 2002 change, 30% of qualifying capital expenditure could be expensed, and this was increased to 50% in the 2003 change. Qualifying assets were investments in new machinery and equipment but not buildings. This bonus depreciation scheme terminated at the end of 2004, but in 2008, bonus depreciation measures were reintroduced and the fraction of investment that can be expensed has varied since then. Currently,

100% of qualifying expenditure can be expensed. As has been discussed, full expensing will involve negative EMTRs and a tax subsidy for investment that is partially debt financed.

Australia

7.21 Australia introduced a partial expensing scheme as part of its response to COVID-19. Under the Australian legislation, 50% of the cost of qualifying assets could be expensed. Qualifying assets included new machinery and equipment but not buildings. To qualify, assets needed to have been first held on or after 12 March 2020 and first used or installed and available for use by 30 June 2021. To qualify for this incentive, firms needed to have a turnover of less than \$50 million. (In addition, Australia offered immediate capital write-off to these firms for assets costing less than \$150,000 acquired between 12 March 2020 and 30 June 2020.) There is now a temporary full expensing provision under which firms with turnovers below \$5 billion can immediately deduct the cost of eligible new depreciating assets. The eligible new assets must be first held and first used or installed ready for use between October 2020 and June 2023. For firms with turnovers of less than \$50 million, temporary full expensing also applies to eligible second-hand depreciating assets.

Pros and cons of accelerated depreciation

7.22 Both forms of accelerated depreciation reduce some of the higher costs of capital and EMTRs. They both could be targeted at new investment, which would limit windfall gains to those with sunk investments and limit the fiscal costs of the measures. Of the two schemes, depreciation loading would probably be better targeted at reducing costs of capital and EMTRs on the most heavily taxed depreciable assets.

7.23 An important question is whether accelerated depreciation measures merely reduce high positive EMTRs or go further and produce negative EMTRs. With 20% loading or 20% partial expensing, accelerated depreciation would appear to be reducing higher EMTRs without making EMTRs negative (at least at average debt levels). However, with high enough levels of depreciation loading or partial expensing, EMTRs can become negative.

7.24 For example, with full expensing, EMTRs in table 7.1 would fall to -23.3% and investment would be subsidised. It would be attractive at the margin for firms to be acquiring funds at a cost of 3% net of New Zealand taxes and investing these in investments earning only 2.43%. Even though this investment would be adding to capital stock, which would support greater labour productivity, borrowing at 3% to earn 2.43% is likely to be inefficient.

7.25 There is also a question about the effects of accelerated depreciation for firms where non-residents are unlikely to be marginal shareholders. In chapter 4, we discussed SMEs owned by domestic residents where the individuals would otherwise invest in interest-bearing securities. As discussed in chapter 4 in table 4.4, these firms may have incentives to invest at risk-adjusted rates of return that are lower than the interest rate. Negative EMTRs can arise for these firms even if investment is fully equity financed. An unattractive feature of accelerated depreciation measures is that they can increase investment subsidies for such firms.

7.26 Table 7.2 examines costs of capital and EMTRs for such SMEs owned by domestic residents on a marginal tax rate of 33%. It considers the case where these SMEs are fully distributing taxable earnings. As in table 4.3, it is assumed that the world real interest rate is 3.0% but the domestic real interest rate is bid up by AIL to 3.10% with 2% inflation. Owners of the SMEs can borrow or

lend at this real interest rate. We compare the status quo with either 20% depreciation loading or 20% partial expensing.

Table 7.2: Costs of capital and EMTRs for domestic SMEs without foreign marginal shareholders, full distribution, $m = 33\%$, $AIL = 2\%$

	Commercial and industrial buildings	Plant, machinery and equipment					Zero-depreciating assets	Inventory	Appreciating assets	Expensing
d	2.69%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		-1.00%	
d*	2.00%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		0.00%	
Costs of capital										
Status quo	2.71%	3.10%	3.07%	2.88%	2.67%	2.50%	2.13%	3.10%	1.64%	1.43%
Depreciation loading	2.63%	3.10%	2.81%	2.69%	2.55%	2.43%	2.13%	3.10%	1.64%	1.43%
Partial expensing	2.46%	2.77%	2.74%	2.59%	2.42%	2.29%	2.13%	3.10%	1.64%	1.43%
EMTRs										
Status quo	-10.5%	3.2%	2.2%	-4.3%	-12.4%	-20.0%	-40.6%	3.2%	-82.8%	-109.9%
Depreciation loading	-14.2%	3.2%	-6.8%	-11.6%	-17.7%	-23.6%	-40.6%	3.2%	-82.8%	-109.9%
Partial expensing	-22.1%	-8.5%	-9.5%	-16.0%	-23.9%	-31.3%	-40.6%	3.2%	-82.8%	-109.9%

7.27 We draw attention to the following points:

- Under current rules (the status quo), EMTRs are slightly positive for inventory and PME with fast economic depreciation rates, but for many forms of investment, EMTRs are negative.
- Allowing depreciation loading or partial expensing can lead to negative EMTRs if the opportunity cost of capital is a heavily taxed income stream.
- There will be times when accelerated depreciation schemes are likely to lead to inefficient investment subsidies rather than merely reducing high EMTRs on inbound investment.

Views of stakeholders

7.28 Business NZ expressed support for some form of accelerated depreciation measures and commented that they had argued against the removal of depreciation loading in the context of the Budget 2010 tax changes. They are open to the idea of restricting the measures to new investment if the aim is to incentivise new investment. CTG also supports reconsidering depreciation rules and higher depreciation rates. CA ANZ did not support accelerated depreciation as they consider it runs against the overall philosophy of the tax system, and they suggested it should not be undertaken without wider consultation on the structure of the tax system as a whole. CA ANZ's preference was to consider a simplified system of depreciation rates instead.

CHAPTER 8

Indexation

- Under the present income tax system, costs of capital and EMTRs for real investment can vary significantly from the statutory rates when there is inflation.
- This increase can be significant even at low rates of inflation in the middle of the Reserve Bank's 1% to 3% target range.
- The effects of inflation are not uniform across different asset classes.
- This tends to reduce the neutrality of the tax system.
- In principle, these distortions could be addressed by comprehensively indexing the tax base for inflation, which would include sales of revenue account assets, depreciation, trading stock, and interest.
- While comprehensive indexation could eliminate the mismeasurement of income and reduce tax distortions, it could also be complex and have high compliance and administration costs.
- Several OECD countries have indexation measures for depreciation. Two countries (Mexico and Chile) have broad indexation provisions that extend to interest income and expense.
- Indexing depreciation deductions, or both depreciation deductions and inventories without indexing interest, might be a way of lowering costs of capital and EMTRs and making these more neutral.
- However, like accelerated depreciation schemes, this would sometimes lead to investment subsidies.
- The case for indexation measures will depend on compliance and administration costs and how these change over time, as well as on future interest and inflation rates.
- The case for indexation is strongest when inflation is high relative to real interest rates.

Introduction

- 8.1 Currently, the New Zealand tax system is not indexed for inflation, so it taxes nominal income and allows deductions for nominal interest expenses. However, some nominal income is compensation for inflation and should not be taxed under an economic definition of income. Under an economic definition, gains in the value of a person's assets that are merely compensating for inflation would not be taxed. However, gains that contribute to an increase in a taxpayer's real net worth should be taxed.

Example 8.1

Suppose the average price of goods is initially \$10, and a person has \$10,000. That person can buy 1,000 goods.

The person puts the money into a bank account and earns 5.06% interest, and there is a 2% inflation rate. This is a 3% real interest rate. After one year, the person will have \$10,506, but the average price of goods will increase to \$10.20. Before accounting for tax, the person's real worth will have increased by 3% – in the first year, they can buy 1,000 goods and in the following year they can buy 1,030 goods.

However, New Zealand currently taxes nominal income. If the person's marginal tax rate is 30%, then the person will have \$10,354 in the second year and can only buy 1,015 goods. The person has been taxed at a rate of 50% on their real economic income.

- 8.2 Taxing nominal gains can increase the effective marginal tax rates (EMTRs) for investment in certain assets. At the same time, businesses can deduct more than their real interest expenses. When compared to the economic definition of income, the current rules can:
- overtax taxpayers with income and assets that have an inflationary component, such as trading stock, and depreciable property, and
 - allow excessive deductions for taxpayers with interest expenses.⁴⁶
- 8.3 This can increase costs of capital and EMTRs on investments that are already taxed quite heavily. This overtaxation can reduce investment in many types of assets and be distortionary between different types of investments.
- 8.4 While it is not the focus of this LTIB, taxing nominal gains can also impose a heavy tax impost on those who are earning interest income, which may discourage savings and distort how people choose to save. This can reduce economic efficiency and horizontal equity. If, in the example, above we only wanted to tax the real interest that is being earned, we would levy tax on only \$306. This is because the first \$200 of the \$506 of interest income is merely maintaining the purchasing power of money that has been lent.
- 8.5 As was seen in chapter 4, at times the current rules can *lower* costs of capital and EMTRs and promote investment in certain assets, especially for heavily geared investments.

How might the tax system be indexed for inflation?

- 8.6 This chapter looks at the idea of comprehensively adjusting the income tax base for inflation. To clarify, this is different to the idea of inflation indexing personal income tax thresholds. Even if personal income tax thresholds were indexed for inflation, or if there were a flat personal tax rate and no personal income tax thresholds to index, there would still be a question of how to take inflation into

⁴⁶ Tax Working Group. (2018). Appendix E – Inflation indexing the tax system
<https://taxworkinggroup.govt.nz/resources/twg-bq-3985472-appendix-e-inflation-indexing-the-tax-system>

account so that people who earn interest or other forms of capital income are not taxed on purely inflationary gains.

8.7 One approach to comprehensive indexation was proposed by the 1989 *Consultative Document on the Taxation of Income from Capital*.⁴⁷ This Consultative Document approach involves four key changes:

- Sale of revenue account capital assets – on sale, the cost base of the asset and improvements is increased by the amount of inflation since incurring these expenses.
- Inventories or trading stock – the 'opening value' of trading stock is increased by an inflationary component based on the average value of stock through the year.
- Depreciation – the cost base of depreciable assets is increased every year by inflation.
- Financial arrangements – the inflationary component of interest received is non-assessable and the inflationary component of interest paid is non-deductible. Other adjustments would be required for more complex financial arrangements, such as derivatives and arrangements in foreign currency.

Impacts on costs of capital

8.8 In chapter 4, we discussed how inflation and the mismeasurement of income could affect costs of capital and EMTRs.

8.9 Costs of capital are estimated in table 8.1. As in previous chapters, we consider a domestic company with marginal foreign portfolio shareholders, using the OECD company tax model modified to take account of approved issuer levy (AIL).⁴⁸ We assume that foreign shareholders demand a real return of 3% on their funds net of any domestic taxes, as do foreign lenders. Because of AIL, the domestic real interest rate is bid up to 3.06% if the tax system (including interest) is comprehensively indexed for inflation or 3.10% if interest is not indexed. We assume that firms are 43% debt financed and the depreciation deductions for plant, machinery and equipment (PME) are set to mirror how assets would depreciate in the absence of inflation.

8.10 Rows 3–5 report costs of capital and rows 6–8 report EMTRs. We consider three possible tax treatments:

- the status quo
- full indexation of depreciation allowances, inventories and interest payments, and

⁴⁷ Consultative Document on the Taxation of Income from Capital (December 1989) <https://taxpolicy.ird.govt.nz/-/media/project/ir/tp/publications/1989/1989-dd-taxation-income-capital/1989-dd-taxation-income-capital-pdf.pdf?modified=20200910102401&modified=20200910102401>.

⁴⁸ As discussed in chapter 4, costs of capital and EMTRs would be slightly lower for foreign-controlled companies that are able to claim foreign tax credits for NRWT levied in New Zealand and somewhat higher for firms that are unable to claim foreign tax credits. However, the differences are not very large.

- indexation of depreciation allowances and inventories but not interest.

Table 8.1: Costs of capital and EMTRs OECD company tax model
debt = 43%, r* = 3%, inflation = 2%, AIL = 2%
Indexation options

	Commercial and industrial buildings	Plant, machinery and equipment					Zero-depreciating assets	Inventory	Appreciating assets	Expensing
d	2.69%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		-1.00%	
d*	2.00%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		0.00%	
Costs of capital										
Status quo	3.81%	4.14%	4.11%	3.93%	3.76%	3.63%	3.38%	4.14%	2.99%	2.43%
Fully index	3.84%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.69%	3.30%	2.66%
Index depreciation and inventory	3.53%	3.38%	3.38%	3.38%	3.38%	3.38%	3.38%	3.38%	2.99%	2.43%
EMTRs										
Status quo	21.3%	27.6%	27.0%	23.7%	20.1%	17.3%	11.2%	27.6%	-0.3%	-23.3%
Fully index	22.0%	18.7%	18.7%	18.7%	18.7%	18.7%	18.7%	18.7%	9.1%	-12.9%
Index depreciation and inventory	14.9%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	11.2%	-0.3%	-23.3%

8.11 We draw attention to the following points:

- As was discussed in chapter 4, the current tax rules can result in costs of capital and EMTRs that vary significantly — from an EMTR of 27.6% for very short-lived PME and inventories to an EMTR of -23.3% for assets that can be expensed.
- Comprehensive indexation would be a way of reducing higher EMTRs and making these more neutral.
 - EMTRs for short-lived PME and inventories would fall from 27.6% to 18.7%. Rather than taxes pushing up the hurdle rate of return by 1.14 percentage points from 3.0% to 4.14%, they would only be pushing up the hurdle rate of return by 0.69 percentage points.
 - Under our assumptions, the EMTRs for all types of PME, zero-depreciation assets and inventory would be the same (although differences would arise in practice because tax depreciation rates will never reflect economic depreciation rates perfectly).
 - The negative EMTRs for assets that can be expensed would become less negative (changing from -23.3% to -12.9%), which means that the tax subsidy for these investments would be reduced, promoting tax neutrality.
 - An anomaly would be the tax treatment of commercial and industrial buildings, and there would be a case for considering a higher tax depreciation rate for these buildings if we had a fully indexed tax system (at least if the BEA estimate of 2.69% reflects economic depreciation for these buildings in New Zealand).
 - This would be a way of reducing EMTRs for most assets in a way that increases neutrality at the same time.

- Only indexing depreciation allowances and inventories might be a way of reducing costs of capital and EMTRs and making them more neutral.
- While not reported in the table, only indexing depreciation allowances and inventories could sometimes lead to inefficient tax subsidies. This can be true for domestic companies with marginal foreign shareholders that are sufficiently debt financed. It can also be true for domestic SMEs where New Zealand residents are marginal shareholders. The analysis parallels the discussion in table 7.2 above, which considered the effects of accelerated depreciation measures.

Pros and cons of comprehensive indexation

- 8.12 Comprehensive indexation of the tax system for inflation is a way of reducing higher EMTRs markedly. At the same time, it is increasing neutrality and would reduce tax distortions and improve economic efficiency and horizontal equity. The EMTRs on different investments would be more consistent. Table 8.1 shows how the range of EMTRs would narrow for firms with an average level of debt finance (that is, 43% debt finance). While it is not directly reported in table 8.1, it is evident that full indexation would also reduce biases between debt and equity finance by limiting interest deductions to only real interest expense.
- 8.13 Indexation would get to the heart of the problem of removing biases in measuring the tax base that are caused by inflation. In this regard, indexation could be better at mitigating the tax effects of inflation than other more ad hoc measures, which can introduce further biases into the tax system.
- 8.14 Comprehensively indexing the tax system for inflation using the Consultative Document approach would require adjustments to the rules for capital assets, trading stock, depreciation, and interest and financial arrangements (as set out above). Several countries have inflation adjustments for depreciation deductions, including Chile, Costa Rica, Iceland, Mexico, the Netherlands and Turkey.⁴⁹ Australia used to index capital gains for inflation. Inflation adjustments for inventories are also feasible. A simpler alternative, which effectively allows a form of inflation adjustment for firms with a constant level of stock through time, is to allow inventory to be valued on a last-in, first-out (LIFO) basis. Inflation adjustments for interest income and expense from financial arrangements would be the most complex, particularly for financial arrangements involving foreign currency or derivatives. Where taxpayers have financial transactions with New Zealand financial institutions, complexities could normally be removed for most taxpayers by the financial institutions advising on the real component of interest income and interest expense. However, calculations would be more complex if the financial arrangements do not involve New Zealand financial institutions.
- 8.15 While the focus in the LTIB is on costs of capital and EMTRs, a major potential benefit of comprehensive indexation would be the lower and more neutral tax treatment of interest income which is currently taxed quite heavily and other forms of saving that are often taxed less heavily.
- 8.16 The main issues with indexing are its complexity, which can lead to high compliance and administrative costs. In the draft LTIB, we incorrectly stated that no OECD country currently comprehensively inflation indexes their tax system. We have since discovered that both Chile and Mexico have broad

⁴⁹ See the OECD's Effective Tax Rates Explanatory Index, [Corporate Effective Tax Rates Explanatory Annex \(oecd.org\)](#)

indexation provisions that extend to interest. Advances in technology and the widespread uptake of accounting software are likely to be making comprehensive indexation more feasible over time.

Pros and cons of partial indexation

- 8.17 An alternative approach to comprehensive indexation is partial indexation, which reduces the complexities involved. Partial indexation involves adjusting particular items of income or expense for inflation. Partial indexation measures adopted by various other countries include:
- explicit indexation of the basis of depreciable property and of revenue account property in calculating capital gains, and
 - only taxing a portion of interest (for example, 60%) as a rough proxy for indexation.
- 8.18 Either inflation indexing depreciation deductions and sales of revenue account property or inflation indexing both these and inventories might be ways of both reducing higher EMTRs and making EMTRs more consistent and neutral. It would not reduce tax biases between debt and equity investment in companies with non-resident shareholders, and at times, it would lead to investment subsidies. At the same time, it might be a more neutral way of promoting investment in depreciable assets than the accelerated depreciation schemes examined in chapter 7. As with accelerated depreciation measures, it would be less prone to reduce the progressivity and integrity of the personal tax system than a company tax rate cut.

The appropriate index

- 8.19 If the tax system were to be indexed for inflation, the most appropriate price index to use would seem to be a general price index, such as the consumers price index (CPI). Ultimately, all income is income of individuals and using the CPI would avoid overstating or understating the true incomes that individuals receive.
- 8.20 The Reserve Bank's target range for CPI inflation is 1–3%. Therefore, one option might be to index the income tax base by 2% inflation, which would be in the centre of the range. Using a proxy inflation rate like 2% would allow banks and other financial institutions to know the appropriate indexation rate in advance. This would help them withhold appropriate levels of tax on interest income. An alternative might be to allow adjustments based on the actual inflation figure but with a three-month lag, so the inflation rate used for indexing taxes reflects inflation in the previous quarter.

Views of stakeholders

- 8.21 Stakeholders are likely to have been misled by the incorrect statement in the draft LTIB that no OECD countries have comprehensive indexation provisions. This was given as a reason for doubting the practicality of this option at present.
- 8.22 Business NZ considered that indexation was an option to consider in the future only when the relevant digital technology is at a sufficient level for this to occur.
- 8.23 CTG commented that comprehensive indexation of the tax base has been explored in the past and found to be impractical and that indexation of interest seems particularly problematic. The CTG identified that the rules might mean

borrowers are taxed when real interest rates turn negative, but they also acknowledged there may be viable alternatives that could be thought through that would address this problem. CTG suggests, however, that partial indexation measures could usefully be considered.

- 8.24 CA ANZ argued against comprehensive indexation because this is likely to lead to further complexity.

CHAPTER 9

Thin capitalisation

- The deductibility of interest but not dividends creates incentives for multinational entities to use debt to finance investment into New Zealand subsidiaries, at least if investment is from countries with lower company tax rates.
- To combat base erosion and profit shifting by multinationals, most countries (including New Zealand) have introduced thin capitalisation rules, where a deduction for the cost of debt above a debt percentage is denied.
- However, thin capitalisation rules can push up costs of capital and EMTRs.
- There is international evidence suggesting that thin capitalisation rules can have significant negative impacts on foreign direct investment and increase the tax rate elasticity of investments.
- An increased safe harbour threshold would be a way of reducing costs of capital and EMTRs and promoting inbound foreign direct investment.
- It would do so without sacrificing tax on economic rents and without making it harder to levy progressive personal income taxes.
- However, the changes are likely to promote inbound investment for only a minority of firms and not for firms facing the highest EMTRs at present.
- Additional debt levels may trigger higher taxes overseas, making a higher thin capitalisation threshold an expensive way of promoting inbound investment.
- A high threshold could result in inbound investment subsidies.

Introduction

- 9.1 Current tax settings allow taxpayers a deduction for interest but not for dividends paid. This is not a major issue when considering investment decisions for companies owned solely by New Zealand residents, as New Zealand's imputation tax credit regime effectively makes the corporate income tax a withholding tax and reduces debt/equity biases for such firms.⁵⁰ However, multinationals investing into New Zealand may often be able to lower their worldwide tax liability by increasing debt levels in New Zealand. This will be the case if the multinational is based in a country with a lower company tax rate than New Zealand. Interest paid to the foreign parent will reduce tax paid in New Zealand by more than it increases tax paid abroad.
- 9.2 The distinction between debt and equity is largely arbitrary in related-party situations. This is because the overall risk to a parent company is not generally

⁵⁰ If taxed profits were fully distributed and taxed at the shareholders' tax rates each year, there would be no debt-equity bias for firms owned by New Zealand residents. There can, however, be a timing tax bias favouring equity finance when the company tax rate is less than the tax rates of shareholders and profits are retained in a company for several years before being distributed as dividends.

affected by choices between these two methods of financing the operation of subsidiaries when the funding is being advanced by related parties. Multinational entities may sometimes be able to reduce their worldwide tax liability by having a subsidiary borrow from the parent, or another subsidiary, and then pay part of their return to the parent as deductible interest rather than as a non-deductible dividend. Alternatively, the corporate group could lower the amount of tax it pays in a jurisdiction by having a subsidiary in that jurisdiction take on a disproportionately large share of borrowing from third parties.

- 9.3 New Zealand currently has a relatively high corporate income tax rate when compared to other OECD countries. Therefore, there could often be a tax advantage in a multinational enterprise using a much higher proportion of debt to finance its New Zealand operations than is true for the worldwide enterprise.

Thin capitalisation rules

- 9.4 To address excessive profit shifting, many countries have 'thin capitalisation' rules, including New Zealand. New Zealand's thin capitalisation rules aim to limit the amount of interest deductions against the New Zealand tax base and apply to inbound investment by a non-resident.
- 9.5 If the debt level of a corporate group or other taxpayer exceeds prescribed levels, the thin capitalisation rules deem the excess debt to be an item of income, effectively denying interest deductions. This can occur if both:
- the New Zealand group's debt percentage⁵¹ is greater than the 'safe harbour' of 60%,⁵² and
 - the New Zealand group's debt percentage is greater than 110% of the group's worldwide debt percentage.⁵³
- 9.6 The rules apply to foreign-controlled companies but not to domestic companies. They disallow interest deductions if the debt percentage of the New Zealand group exceeds 110% of the worldwide group's debt percentage. However, if the New Zealand debt percentage does not exceed the 'safe harbour' ratio of 60%, then the worldwide comparison is not needed, and all the interest may be deducted. This means that deductions for interest on debt-financed investments is unaffected until this 60% threshold is exceeded.
- 9.7 It should be noted that a case might be made for allowing New Zealand subsidiaries of foreign parents to have higher levels of debt than the worldwide group company. This can reduce costs of capital and help ensure that marginal inbound investment is not subject to high EMTRs. As was discussed in chapter 2, standard economic models would suggest that there is a presumption against high EMTRs on marginal inbound investment. As will be discussed in chapter 10, some countries have introduced an allowance for corporate equity, and this has some similarities to allowing firms to fully deduct interest even if investments are fully debt financed. At the same time, we have

⁵¹ Calculated as debt/(debt+equity).

⁵² There is also a separate 75% safe harbour ratio for outbound investment. We do not discuss this further given our focus on inbound investment.

⁵³ Debt percentage calculated using the multinational's total group debt, total group assets, and total group non-debt liabilities in accordance with generally accepted accounting practice or the financial reporting standards of the country where the worldwide group's consolidated financial accounts are prepared.

seen that, with high levels of debt financing, EMTRs may often be negative. In that case, investment can be subsidised, and this can be inefficient.

International evidence on thin capitalisation rules and investment

- 9.8 Two international studies have investigated the effects of introducing, or tightening, thin capitalisation rules on investments. They have estimated it has a negative effect on employment and investment by multinational corporations, especially in high-tax host countries. This suggests that thin capitalisation rules may normally add to costs of capital and EMTR concerns in ways that we have not been able to model in our work in chapter 4.
- 9.9 De Mooij and Liu (2021) estimated that introducing thin capitalisation rules reduces the investment of multinational affiliates by an average of 20% where the average corporate income tax rate is 27%. The size of this effect depends on the corporate income tax rate and is larger at higher rates.
- 9.10 Similarly, Buettner et al (2014) estimated that introducing thin capitalisation rules, or making them tighter, can significantly reduce the level of foreign direct investment in high-tax countries. In addition, they estimated that foreign direct investment is about twice as sensitive to shifts in tax rates if typical thin capitalisation rules apply than if there are no restrictions. Concerns about excessive taxes on marginal inbound investment become larger the greater the responsiveness of investment to tax rates is.
- 9.11 This international analysis suggests that tight thin capitalisation rules may have a material impact on inbound investment. One potential way of reducing costs of capital and EMTRs would be to increase the thin capitalisation 60% safe harbour threshold. This would, however, increase the scope for multinationals to have much higher levels of debt in New Zealand than is true of the worldwide entity to shift tax payments out of New Zealand. Alternatively, if tight thin capitalisation rules are required to protect the tax base from profit shifting, there may be a greater case for considering whether concerns about high costs of capital and EMTRs on inbound marginal investment should be addressed in other ways. A variety of different possible ways of addressing cost of capital concerns are being canvassed in this briefing.

Impact on costs of capital and EMTRs

- 9.12 Increasing the 60% thin capitalisation safe harbour threshold would lead to increased debt levels for some foreign-controlled companies. This would reduce costs of capital and EMTRs for these firms. This would have no implications for the debt levels of domestic firms, which are not subject to the rules.
- 9.13 In chapter 4, we analysed EMTRs for foreign-controlled firms that are required to pay non-resident withholding tax (NRWT) on interest payments to foreign parent companies. NRWT is normally levied at a rate of 10%, which is considerably higher than the 2% rate of approved issuer levy (AIL).
- 9.14 Whether payments of NRWT increase costs of capital depends on whether this NRWT is creditable against income tax paid in other countries. In this chapter, we focus on the case where NRWT is not creditable, which means that NRWT payments will tend to increase costs of capital. This can be thought of as a worst case scenario. Domestic taxes will be pushing up costs of capital and this would not be the case if NRWT were creditable.
- 9.15 In table 9.1 we show EMTRs for firms investing in our various assets. First, we show EMTRs for a domestic company with marginal foreign portfolio

shareholders with the average debt level of 43%. Second, we show EMTRs for foreign-controlled companies at different debt levels. We assume that 37.3% of debt is related-party debt, which was the average level from the data reported in appendix 2 of the *Technical appendices*. We consider debt levels of 0%, 43%, 60%, 75% and 100% for foreign-controlled firms, assuming interest is fully deductible in all cases. This shows what would happen if thin capitalisation rules were relaxed and this allowed foreign-controlled firms to take up these various debt levels.

Table 9.1: EMTRs for domestic companies with marginal foreign portfolio shareholders and for foreign-controlled companies with varying levels of debt

	Commercial and industrial buildings	Plant, machinery and equipment					Zero-depreciating assets	Inventory	Appreciating assets	Expensing
d	2.69%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		-1.00%	
d*	2.00%	100.00%	50.00%	10.00%	4.00%	2.00%	0.00%		0.00%	
Domestic companies										
b= 43%	21.3%	27.6%	27.0%	23.7%	20.1%	17.3%	11.2%	27.6%	-0.3%	-23.3%
Foreign-controlled companies										
b= 0%	34.6%	39.1%	38.7%	36.2%	33.6%	31.7%	28.0%	39.1%	20.6%	0.0%
b= 43%	22.7%	28.8%	28.3%	25.0%	21.6%	18.8%	13.1%	28.8%	2.1%	-20.7%
b= 60%	16.8%	23.7%	23.1%	19.5%	15.5%	12.3%	5.4%	23.7%	-7.9%	-31.4%
b= 75%	6.5%	15.0%	14.3%	10.0%	5.1%	1.0%	-8.4%	15.0%	-26.2%	-50.6%
b= 100%	-9.0%	2.0%	1.2%	-4.3%	-10.7%	-16.4%	-30.5%	2.0%	-57.0%	-81.2%

9.16 We draw attention to the following points:

- EMTRs for domestic companies with marginal foreign shareholders that are 43% debt financed vary between 27.6% and -23.3%. This is consistent with data that has been provided in earlier chapters.
- For foreign-controlled companies that are 43% debt financed, EMTRs vary between 28.8% and -20.7%. They are slightly higher than for domestic companies because interest payments to related parties in foreign-controlled companies are subject to NRWT rather than AIL.
- As is discussed in appendix 2 of the *Technical appendices*, many foreign-controlled companies have no debt. These would have EMTRs varying between 39.1% and 0.0%.
- As is also discussed in appendix 2 of the *Technical appendices*, there is limited evidence of foreign-controlled companies being clustered at the 60% thin capitalisation threshold. However, for firms that are, EMTRs would vary between 23.7% and -31.4%. These are the firms that would benefit from a higher thin capitalisation threshold.
- Relaxing the thin capitalisation threshold to 75% would mean that firms that move to this new threshold would have EMTRs varying between 15.0% and -50.6%.
- Abandoning thin capitalisation rules completely would mean that foreign-controlled firms becoming fully debt financed would have EMTRs varying between 2.0% and -81.2%.

- Relaxing or eliminating the thin capitalisation threshold would reduce EMTRs and costs of capital for foreign-controlled firms that want to take on more debt to benefit from interest deductibility but are constrained by the current threshold. However, these are not firms that face the highest EMTRs at present.
- Completely eliminating the thin capitalisation threshold could lead to very negative EMTRs for certain asset if foreign controlled companies choose to finance investment with very high levels of debt.

Increasing the safe harbour threshold: policy considerations

9.17 There are pros and cons in increasing the safe harbour threshold.

Pros

9.18 Removing the thin capitalisation rules entirely or increasing the safe harbour threshold would be ways of reducing costs of capital and EMTRs for some firms. This is likely to promote foreign direct investment. The international evidence suggests that the effects on inbound investment may be significant. It would have several potential advantages relative to other ways of reducing costs of capital and EMTRs.

9.19 An attraction of increasing the thin capitalisation safe harbour threshold is that it would not mean forgoing tax on economic rents. So long as interest is not being deducted at inflated rates, economic rents would continue to be taxed. Also, unlike cutting the company tax rate, it would not make it more difficult to maintain a progressive personal income tax structure if that is a key objective for future governments. A higher threshold would only be of benefit to foreign-controlled firms, so it would not undermine the role of the company tax in supporting personal income taxation.

9.20 If there were an intention to lower taxes on inbound foreign direct investment without reducing taxes on inbound investment more broadly, increasing the threshold might be particularly attractive. This is because it would be targeted at investment by foreign-controlled firms. However, this is only likely to be justified if it were thought that foreign direct investment brought in important spillover benefits or other wellbeing benefits not associated with other forms of inbound investment. In chapter 2, we questioned whether there was strong evidence of important productivity spillovers from foreign direct investment and whether these were likely to be bigger than the productivity spillovers from investment by domestic firms.

Cons

9.21 Increasing the safe harbour would be reducing the effectiveness of the rules as a base-maintenance measure. Many would question whether it is fair to provide multinationals with greater scope to stream profits out of New Zealand and reduce their worldwide tax payments in the process.

9.22 Increasing the safe harbour would only benefit some firms. It would benefit foreign-controlled companies that are close to the thin capitalisation border and would like to take on more debt but are stopped from doing so by the thin capitalisation rules. However, these firms are already likely to be facing relatively low EMTRs and costs of capital. As table 9.1 above points out, EMTRs and costs of capital for these firms are likely to be significantly lower than for either foreign-controlled firms with low levels of debt or for domestic firms. This is likely to reduce, rather than increase, the neutrality of inbound investment. Productivity is likely to be supported more by tax measures that reduce costs

of capital and EMTRs most when these are relatively high rather than when they are relatively low to start with. If future governments wish to reduce EMTRs, there is a question of whether this is likely to be the most efficient and effective way of doing so.

- 9.23 An increase in the safe harbour may only affect a relatively small number of firms. There is limited evidence of firms being clustered close to the thin capitalisation safe harbour threshold (see table 9.2). An increase in the threshold is unlikely to have any effect on costs of capital and EMTRs for the large numbers of foreign-controlled firms that are well below it. Of course, not only would this reduce the effectiveness of the measure as a way of promoting investment, but it would also be likely to reduce the fiscal cost.

Table 9.2: Debt/(debt+equity) ratios for IQ firms⁵⁴

Debt / (Debt + Equity)	Numbers	% of total groups	Debt (\$ billion)	% of total debt	Equity (\$ billion)	% of total equity	Debt + equity (\$ billion)	% of total debt + equity
0%	259	44.1%	0.000	0.0%	14.263	27.3%	14.264	15.6%
to 10%	34	5.8%	0.320	0.8%	4.619	8.8%	4.939	5.4%
to 20%	28	4.8%	0.719	1.8%	3.879	7.4%	4.598	5.0%
to 30%	38	6.5%	1.514	3.8%	4.352	8.3%	5.866	6.4%
to 40%	44	7.5%	4.697	11.9%	9.043	17.3%	13.740	15.0%
to 50%	31	5.3%	2.516	6.4%	2.866	5.5%	5.383	5.9%
to 60%	55	9.4%	8.445	21.4%	6.748	12.9%	15.192	16.6%
to 70%	39	6.6%	8.294	21.0%	4.549	8.7%	12.842	14.0%
to 80%	19	3.2%	1.835	4.6%	0.586	1.1%	2.421	2.6%
to 90%	16	2.7%	5.213	13.2%	0.976	1.9%	6.189	6.7%
to 100%	24	4.1%	5.947	15.1%	0.310	0.6%	6.257	6.8%
Total	587	100.0%	39.501	100.0%	52.191	100.0%	91.961	100.0%

- 9.24 There is a further important issue that was not picked up in table 9.1. This is that increasing the thin capitalisation safe harbour threshold may be a relatively costly way of promoting inbound investment from a New Zealand perspective. When it leads to New Zealand subsidiaries being financed with more debt and less equity from a foreign parent, not only will this reduce tax paid in New Zealand, but it will often add to tax paid overseas. This is likely to mean a relatively large revenue cost to achieve a relatively small fall in the cost of capital.

- 9.25 For example, suppose a higher threshold leads to an extra \$100 of interest being attracted from a country with a 20% company tax rate that provides credits for NRWT on interest levied in New Zealand. This reduces New Zealand tax by \$18 (a reduction in company tax of \$28 offset by an increase in NRWT of \$10) but increases foreign tax by \$10 (as the interest income is taxed at a rate of 20% but offset by an NRWT tax credit). Overall, the net benefit to the foreign investor would be a reduction in worldwide tax of \$8, but this would be smaller than the drop in New Zealand tax. Thus, increasing the safe harbour threshold may be a relatively costly way of promoting inbound investment.

⁵⁴ In presenting this data, we ignore a relatively small group of 40 firms with negative or zero levels of equity.

- 9.26 Finally, as has been discussed, at times debt-financed investment may face negative EMTRs and be subsidised by the tax system. For example, table 9.1 above shows that if firms were allowed to use 100% debt finance, EMTRs for several types of investment would be negative (and, in the case of expensing, very negative). Allowing foreign-controlled firms to have very high levels of debt finance would not just be reducing high positive EMTRs; it would sometimes be adding to investment subsidies.
- 9.27 There are some possible interactions to consider. If the thin capitalisation safe harbour were relaxed, this might make it less attractive to make other changes which might also be reducing EMTRs (such as introducing accelerated depreciation measures) if they might also be creating investment subsidies.

Other solutions

- 9.28 One disadvantage of increasing the safe harbour threshold is that increasing debt finance into New Zealand may often mean higher taxes paid overseas. This makes a higher threshold a relatively cost-ineffective way of promoting investment. Also, a higher safe harbour threshold is only likely to be of benefit to foreign-controlled firms that are close to the safe harbour threshold initially. An alternative is an allowance for corporate equity. This would reduce the cost of capital on inbound investment without inducing firms to take on additional debt finance and would apply to a much broader set of inbound investment. This is discussed in chapter 10.

Views of stakeholders

- 9.29 Business NZ noted the thin capitalisation safe harbour threshold had been reduced from 75% to 60% as part of the Budget 2010 changes, which was seen as appropriate at the time. This helped offset the fiscal cost of other tax changes that were taking place at the same time. They believe some further analysis of the most appropriate threshold is warranted.
- 9.30 CTG considered New Zealand's thin capitalisation rules should be reviewed to make New Zealand a more attractive destination for inbound investment.
- 9.31 CA ANZ considered the current 60% thin capitalisation threshold is broadly appropriate and should not be changed.

CHAPTER 10

Allowance for corporate equity

- An allowance for corporate equity (ACE) allows companies a deduction at an imputed interest rate for the cost of equity finance.
- At first sight, it would appear to have several attractions.
- It aims to eliminate tax on marginal inbound investment while continuing to tax economic rents.
- If it is applied only to incremental equity acquired after the tax is put in place, it might avoid windfalls to existing owners of shares in companies, and this would reduce the fiscal cost of the measure.
- The interest rate used in the ACE calculation should, in principle, reflect the risk to a firm of being unable to claim deductions. However, it is likely some average interest rate would be used in practice.
- The neutrality properties of the tax would depend heavily on how the equity base is defined.
- To obtain full neutrality benefits, it would be necessary for the ACE to sometimes operate as an additional tax rather than as a tax deduction.
- If a tax policy goal is to tax individuals on both their capital and labour income, it would seem difficult to integrate an ACE with the personal tax system unless gains on shares were subject to full rates of personal tax.
- An alternative to introducing an ACE would be to introduce a cash flow tax. This would be expected to have similar economic effects to an ACE for firms in a taxpaying position with much the same benefits and costs.

Introduction

- 10.1 Current tax settings allow companies a deduction for the cost of debt but not for the cost of equity. An allowance for corporate equity (ACE) grants companies a notional interest deduction for their equity. For example, if a company has \$1,000 of equity and the interest rate that applies to notional interest deductions is 5%, the company would be able to claim a deduction of \$50.
- 10.2 Providing an ACE would be one way of reducing the relatively high costs of capital and effective marginal tax rates (EMTRs) that New Zealand imposes on inbound investment (discussed in chapter 3). At the same time, a potential danger exists of going beyond the point of merely reducing high EMTRs and instead generating tax subsidies with negative EMTRs. The OECD analysis suggested that several countries with ACE systems, including Italy, Belgium and Poland, had very negative EMTRs on inbound investment.
- 10.3 An ACE could also reduce or eliminate debt-equity biases for foreign-owned firms. As discussed in chapter 4, costs of capital and EMTRs can be substantially higher for equity-financed investment than for debt-financed investment and allowing a notional interest deduction would alleviate these biases.

Policy objectives

- 10.4 A key objective for an ACE is to remove tax on marginal inbound investment and make EMTRs as close to zero as possible.
- 10.5 A strong case for an ACE was made by Griffith, Hines and Sørensen (2010) (GHS) in a chapter written for the Mirrlees Review in the United Kingdom. GHS suggested this as an approach adopted in some countries that would respond to the growing openness of the UK economy. It is a possible way of addressing many of the concerns that were discussed in chapter 2.
- 10.6 An ACE would aim to remove tax on marginal inbound investments and make EMTRs as close to zero as possible. At the same time, it would aim to continue to tax economic rents. It is often suggested the ACE should apply only to new equity issued after the tax comes into force to minimise the fiscal cost of the tax change and windfall benefits to existing firms. While this is attractive in principle, we suspect this might not be feasible for New Zealand without significant other changes to our tax system.
- 10.7 By creating greater neutrality in the tax treatment of debt and equity investment into New Zealand, an ACE would reduce financing biases. This would be likely to increase economic efficiency and productivity.
- 10.8 As well as aiming to remove tax on marginal inbound investments and make EMTRs as close to zero as possible, GHS argue that an ACE would eliminate the distortions associated with the misalignment between economic depreciation and depreciation for tax purposes. GHS argue that, under conventional systems of business taxation, accelerated depreciation measures can distort the behaviour of firms and end up subsidising investment (p.975 ff). This can induce low-productivity investment, which would not be attractive in the absence of tax. They argue that an attraction of an ACE system is that it eliminates these distortions.
- 10.9 Any increase in depreciation will reduce the equity against which an allowance under ACE is calculated. This reduces the ACE allowance by an amount that should, at least in principle, exactly offset any benefits derived from the accelerated depreciation. Regardless of the rate at which firms write down their assets in the tax accounts, the present value of the sum of the capital allowance and the ACE should always equal the initial investment outlay. Therefore, for a fully equity-financed investment, the ACE system is intended to be equivalent to the immediate expensing of investment allowed under a cash flow tax.

Example 10.1

Suppose that the tax code allows a taxpayer to bring forward \$100 of depreciation from year 2 to year 1. Assuming a tax rate of 28%, their tax liability is reduced by \$28 in year 1.

In year 2, the taxpayer is not able to claim the \$100 depreciation as they claimed it in year 1. Their taxable earnings in year 2 are therefore \$100 higher than they otherwise would have been, and their tax liability increases by \$28. Assuming a discount rate of 5%, the taxpayer has gained \$1.40 by deferring the payment of the \$28 to year 2.⁵⁵

However, the equity base used for calculating an ACE liability is increased by retained profits from tax accounts. We assume that the tax saving of \$28 leads to a matching \$28 increase in dividends so that real funds for investment are unchanged. As taxable earnings fall by \$100, taxable retained earnings is reduced by \$100 in year 1 and the equity base for ACE in year 2 is also reduced by \$100. If the imputed rate of return allowed under ACE is also 5%, then the taxpayer deduction under ACE is reduced by \$5. This increases their tax liability in year 2 by a further \$1.40. Thus, the tax benefit from accelerated depreciation is exactly offset by the fall in the future ACE allowance. This is assumed to be matched by a reduction in dividends of \$29.40 in year 2. This means that the rate at which companies write down their assets does not matter for the present value of the taxes they pay.

- 10.10 This neutrality example requires that the imputed interest charge reflects the company's discount rate used to discount future depreciation deductions. As will be discussed below, for this neutrality result to hold, it also requires the equity base to be able to become negative and to then lead to an ACE liability.
- 10.11 Lastly, an ACE system will also influence corporate debt policy. By allowing a deduction for equity financing, it could potentially introduce funding neutrality to the current tax system, thereby reducing or eliminating the debt bias.

Design issues

Rate of allowance

- 10.12 The efficacy of an ACE in alleviating tax on marginal inbound investment and eliminating the debt bias depends on the allowed rate of notional deduction.
- 10.13 In principle, the interest rate used might not necessarily need to include a premium for risk and it might be appropriate to allow a deduction for only the risk-free nominal interest rate (that is, the interest rate of long-term government bonds). This would be the case if losses could be carried forward with interest and were certain to be used at some stage in the future, as is discussed in Bond and Devereux (1995).
- 10.14 However, in practice, firms will often receive less than the present value of their losses, so GHS argue that it would be appropriate to add a risk premium to the interest rate used.
- 10.15 Under an ACE system, on a fully equity-financed investment, any equity invested will increase the amount the company is allowed to deduct in all future

⁵⁵ This is because $\$28 \times 0.05 = \1.40 . Paying the tax bill in year 2, rather than year 1, has a future value (year 2 value) of \$1.40.

years by the amount invested multiplied by the ACE rate. If the value of these deductions is discounted at the same rate, the present value of the additional ACE deductions will equal the amount of equity invested. Thus, the taxpayer ends up receiving the same deduction as if they had been allowed a deduction for the equity invested up front. The premium added to the ACE rate should therefore reflect the risk faced by individual firms in being able to make these future deductions.

- 10.16 This is also necessary if the ACE is to eliminate the distortions associated with the misalignment between economic depreciation and depreciation for tax purposes.
- 10.17 Tax authorities are unlikely to know the risk faced by each individual firm, so an average risk premium would seem the only viable option. This would compromise some of the tax neutrality properties of an ACE. GHS suggest that in countries with a well-developed market for corporate bonds, the average interest rate on such bonds would be a natural benchmark for choosing the imputed rate of return to equity under an ACE.
- 10.18 Most countries with ACE systems have either used rates linked to the yields on government bonds, normally with some additional risk premium, or commercial interest rates. Hebous and Klemm (2019) provide details on the rules used in different countries that have had ACE systems.

ACE base

- 10.19 One question is how the ACE base should best be defined. GHS suggest that the equity base be calculated as follows:

“Equity base in the previous year
+ taxable profits in the previous year (gross of the ACE allowance)
+ dividends received
+ net new equity issues
– tax payable on taxable profits in the previous year
– dividends paid
– net new acquisitions of shares in other companies
= Equity base for the current year”

- 10.20 There are several points to note. First, this approach is aimed at removing tax on marginal investments into New Zealand and achieving investment neutrality across assets. As was illustrated in example 10.1, an important part of making this work is to add in taxable profits when calculating changes in the base from year to year. This approach is also aimed at achieving neutrality between debt and equity financing. It does this by aligning EMTRs for equity-financed corporate investments with assets that can be expensed. In this case, the EMTR for all equity-financed investments would be zero. Likewise, if not for non-resident withholding tax (NRWT) and approved issuer levy (AIL), the EMTRs for debt-financed investments would all be zero. As EMTRs on fully debt-financed investments are normally negative, this means *increasing* the tax impost on debt-financed investment.
- 10.21 Further, acquisitions of shares in other companies should be subtracted from the equity base. This is to avoid double counting. For example, if company A is set up with \$100 of equity and uses this to purchase share capital in company B,

the same \$100 should not be counted twice as equity in both companies. For ACE purposes, it is necessary to subtract new acquisitions of shares so that company A ends up with zero, while company B ends up with \$100. Share purchases in foreign companies would also be subtracted because income derived by a parent company from such firms would typically be non-taxable. If company A was financed with \$50 of share capital and \$50 of debt and used this to purchase the shares in company B, then it would have an ACE basis of -\$50 and would need to be subject to an imputed interest charge on the -\$50 of equity for the GHS approach to work. Thus, under the GHS approach, the ACE deduction might sometimes be negative and adding to a company's tax liability.

- 10.22 This seems central to the GHS approach. It is necessary for the ACE system to be increasing the tax impost on debt-financed investment. We have seen that under current tax settings fully debt-financed investment will normally generate negative EMTRs. With an ACE, these EMTRs would become zero, which means a higher tax liability than at present. Debt-financed investment into an asset that can be expensed would provide an immediate deduction for the cost of the asset. This would reduce the equity base or turn it negative. Debt-financed investment into firms that make tax losses for several years before moving into a tax profit would also tend to generate negative equity bases.

Transition to an ACE

- 10.23 An ACE might, in principle, be applied either to all equity in a company or only to equity acquired after the date that the ACE is implemented. An attraction of applying it only to additional equity built up after the time when an ACE is introduced is that this would limit the cost of the scheme. It would also minimise windfall gains to existing companies.
- 10.24 As we understand it, most ACE systems are based on additional equity acquired after the initial implementation date. This provides obvious incentives for a firm to be wound up and then reborn in a different entity in which new equity qualifies for the ACE deduction. GHS argue that the incentives for this to happen may be attenuated by other taxes if companies are wound up. However, the other taxes that GHS point to are capital gains taxes. This may make it more difficult for countries like New Zealand, without a capital gains tax, to limit deductions only to what is, in reality, new equity.

Anti-avoidance

- 10.25 The issue of the potential abuse of ACE systems has been raised in policy discussions. Indeed, Hebous and Ruf (2017) found that the increases in equity following the introduction of the Belgian ACE were largely earmarked for intra-group lending and for creating deductions to shelter other sources of interest earnings.
- 10.26 They found that a unilateral implementation of an ACE system creates an opportunity for multinational entities to implement 'double-dipping' structures. This is where capital is injected as equity into an affiliate in a country with an ACE system who then lends that capital to another affiliate in a country without an ACE system. The borrower affiliate receives a deduction for interest paid on the loan, while the lender affiliate receives a deduction under the ACE system.
- 10.27 In addition, the borrower affiliate can invest the loan into yet another affiliate in a country with an ACE system, thereby doubling (or 'cascading') the received allowance corresponding to any given amount of equity.
- 10.28 The tax avoidance concerns outlined in this section would mean that ACE reforms might need to be accompanied by anti-avoidance provisions targeting

intra-company transactions. We note that the implementation of the global minimum taxation regime established by Pillar 2 may mitigate these concerns. However, the Pillar 2 changes could also remove some of the cost of capital benefits of an ACE system if lower taxes in New Zealand lead to offsetting higher taxes in other countries as a result of the proposed global minimum tax of 15% for larger companies.

Integration with the personal tax system

- 10.29 A policy concern with an ACE, and quite possibly a fatal difficulty for such a tax at least in the short run, is how to integrate it with personal taxes. So long as individuals are being taxed on both their capital and labour income, it would be necessary to have additional taxes at the shareholder level if investment through companies is not to create an obvious tax avoidance loophole. For example, rather than an individual earning money in a bank account and paying tax on interest earned each year as funds accumulate, the individual could set up a company that puts the money into a bank account. Because of the ACE deduction, there would be no tax on the interest income accumulating in the company's bank account. If there is no tax on gains in shares and the individual subsequently sells the shares in the company for a tax-free capital gain, no tax would have been paid on the interest.
- 10.30 GHS suggest two possible personal tax systems that could be integrated with an ACE system. The first is what they describe as an income tax regime. This is a dual income tax system as described in chapter 12. The second is a personal consumption tax that exempts individuals from tax on their capital income. If income is to be taxed at the personal level, GHS suggest taxing both dividends and capital gains at full personal rates. In the absence of a tax on share gains, it would seem difficult to integrate this tax with New Zealand's personal income tax base.

Land and property and rents capitalised in prices

- 10.31 In the absence of good integration between an ACE and personal taxes, there would be considerable scope for individuals to put assets they own, such as rental properties, into companies. If properties are acquired by the companies at market value, the value is likely to reflect the capitalised value of future earnings. Most, or all, future rental income would escape personal tax.

The cash flow tax alternative

- 10.32 An alternative to an ACE system, with much the same potential benefits and costs, would be to introduce a cash flow tax whereby capital costs could be deducted immediately rather than depreciated over time. There would be full expensing for all capital assets including non-depreciating assets, such as land. Revenue from the sale of any assets would be fully taxable. There are different possible types of cash flow tax that could be considered, but one possible suggestion is to deny interest deductibility at the same time. This would ensure that inbound investment is not subsidised.
- 10.33 Like an ACE, a cash flow tax would remove tax on marginal investments while continuing to tax economic rents. Potential advantages would be its simplicity and the fact it removes any need to determine an appropriate interest rate for notional interest deductions on equity. A disadvantage is that it is likely to make it much more common for companies to end up in a tax loss position. As with an ACE, there would be major questions on how to integrate this sort of tax with the personal tax system. However, if an ACE were to be considered as an

option in the future, this is an alternative that could be considered at the same time.⁵⁶

Views of stakeholders

- 10.34 Business NZ thought an ACE would face some important practical obstacles, including difficulties of integrating this tax with the personal tax system. They did not dismiss this as a possibility to be considered in the future but thought other possible tax changes should be considered first. They suggested the option of an ACE not be considered at this time.
- 10.35 CTG considered an ACE an option that should be explored as part of a broader discussion of the need for alignment between the company tax rate and the top personal marginal rate.
- 10.36 CA ANZ commented that, while an ACE would in theory add neutrality to the tax system, it would not be practical to implement unless changes were made to the personal tax system. They consider an ACE is not viable under current policy settings.

⁵⁶ Auerbach, Devereux, Keen and Vella, 2017, suggest a destination-based cash flow tax which, in addition to the neutrality benefits of a cash flow tax would also alleviate international tax avoidance pressures.

CHAPTER 11

Incentives for specific businesses or industries

- The main objective of this policy option is to favour specific industries or activities where it is believed there will be too little of these industries or activities without an incentive.
- Reasons for incentives include the possibility of positive externalities or that the incentives may bring some desirable activity to New Zealand that is particularly sensitive to tax.
- Downsides of tax incentives are that they reduce the neutrality of the tax system and, unless incentives are very cleverly targeted, they can divert investment into less productive areas and encourage lobbying.
- Questions can also be raised about whether there should be surtaxes on certain activities.
- New Zealand's general approach for many years has been (with a few exceptions) to keep the tax base as broad and neutral as possible.
- This chapter questions whether there are good grounds for changing this approach.

Introduction

- 11.1 One way of reducing the cost of capital is to target favourable tax treatment to specific businesses or industries. This is usually promoted on one or more of the following premises:
- We are competing with other countries for a particular type of activity, and a specific tax incentive is a cost-effective way of attracting that activity while keeping taxes higher on other businesses.
 - There are positive externalities from the activity, and it will therefore be underprovided by the market unless it is subsidised through a specific tax incentive.
 - The activity is important to the future of the economy, and future living standards will be higher if we get more of the activity now by subsidising it with a specific tax incentive.
- 11.2 In the context of a model looking at effective marginal tax rates (EMTRs), a specific incentive can lower the cost of capital by either lowering the tax rate applied to income from the investment or by accelerating or increasing depreciation deductions for the investment.
- 11.3 A typical list of tax incentives is provided by Klemm (2010):
- Tax holidays (a temporary exemption from particular taxes).
 - Special zones (geographically limited areas where various tax exemptions are applied).

- Investment tax credit (immediate tax credit similar to New Zealand's current R&D tax credit for investment, potentially with refundability).
- Investment allowance (immediate deduction for a proportion of the cost of an investment, but its value depends on the tax rate for the firm).
- Accelerated depreciation (depreciation at a faster rate than generally applied).
- Reduced tax rates.
- Exemptions from various taxes.
- Financing incentives (for example, reduced withholding taxes on dividends).

Pros

- 11.4 At times investment may generate positive externalities (that is, spillover benefits to other firms or individuals). This can provide a case for a tax subsidy for that type of investment. This is the justification for the current R&D tax credit. A concern is that, in the absence of some subsidy for the investment, there may be too little investment undertaken because some of the benefits from R&D are captured not by the firm undertaking the investment but by other firms in New Zealand. If a tax subsidy is justified on those grounds, it is important that the measure addresses a specific market failure, that the market failure is not driven by other poor regulatory settings and that providing a tax incentive is the best way of addressing the issue.
- 11.5 Another possible argument for incentives is that, if targeted to mobile investment, investment might be attracted without reducing activity in other areas.
- 11.6 By targeting specific industries, a case can be made that, overall, tax competition might be less damaging because it allows higher general tax rates.
- 11.7 Another perspective is not to look at this approach as a system that has low rates for specific industries or activities, but rather as a system that has a low cost of capital for industries generally but levies higher tax rates on particularly immobile tax bases. This approach (levying higher tax rates on immobile tax bases) has been followed to some degree in a country like Norway (with very high taxes on oil and gas but a broad-based low-rate system generally).

Cons

Moving away from a broad-based low-rate system

- 11.8 The underlying logic of a broad-based low-rate system is that the most profitable pre-tax investments are the most productive investments. That is, they generate the most income for a given investment cost. New Zealand is likely to have the lowest cost tax system (for a given amount of revenue) if it ensures that the tax system is distorting the choice of investments by as little as possible. In chapter 2, we discussed some general benefits of neutrality in tax settings.
- 11.9 The primary weakness of specific incentives is that they create distortions to the economy through preferential treatment. This can have indirect costs even

if the investment would not have taken place but for the incentive. This will happen if the favoured investment or activity crowds out other investment or activity that is taxed at the general rate. Normally this would be expected to reduce economic efficiency and productivity relative to providing more neutral tax cuts that cost a similar amount.

- 11.10 Specific incentives (a move towards a narrow-based high-rate system) would make sense if the government were able to somehow know that, although an investment was less profitable pre-tax than other investments, it was nevertheless more in New Zealand's interests for the investment to be undertaken, and if there were no better instrument to address this presumed market failure other than the tax incentive. The key weakness is about the ability and incentives to gather that knowledge.
- 11.11 As noted in the 2001 McLeod Review, arguments for favourable tax treatment due to positive externalities or other benefits can become "a platform for practically any lobbyist's reform agenda".⁵⁷

International dilution

- 11.12 As a result of the OECD Pillar 2 work, special incentives will be less effective in promoting investment. At times they will bring some entities' tax rates below the minimum rate under Pillar 2 and this would thereby trigger additional taxation in other countries.

When low taxes on specific businesses or industries might be in New Zealand's best interests

- 11.13 There can be cases where it makes sense for a country (for example, New Zealand) to undercut a different country's tax rate to attract investment that can happen in one country or the other (but not both). For example, where this lures highly productive firms to New Zealand with substantial economic rents that they can earn in New Zealand or in other countries and that investment does not draw investment away from other, higher pre-tax return investments in the attracting country (that is, New Zealand).
- 11.14 Low taxes are most effective where a tax base is very mobile. That is, the firm has an economic rent it can earn, but it can earn that same level of rent *regardless* of where it operates. If a tax incentive, such as a low company tax rate for certain businesses or industries, lured firms with large firm-specific rents to locate and grow and expand in New Zealand, this could potentially be in New Zealand's best interests. There would be both the direct revenue benefits of company tax that would otherwise not be collected and the potentially wider skills that might be passed on to other firms that would support productivity and growth. Correctly identifying these businesses or industries is likely to be challenging.

When low taxes on specific businesses or industries are unlikely to be in New Zealand's best interests.

- 11.15 Low taxes on specific businesses or industries will not be in New Zealand's best interests when there are large economic rents to be earned while operating in New Zealand, but they are location specific and only arise if the firm operates within New Zealand.
- 11.16 When there are large location-specific rents, some countries apply higher taxes to the business or activity. A specific extreme example is petroleum resources

⁵⁷ See paragraph 2.12 of the final report, McLeod Review (2021).

in Norway. The ordinary company rate in Norway is 22%, but the additional tax on cash flow principles on petroleum resources is applied at a rate of 56%, giving a total rate of 78%.⁵⁸

- 11.17 In one sense, investment in petroleum extraction 'competes' with all other investments available to international investors. However, applying a 78% tax rate may still be a sensible policy because the firm must be in Norway to earn the returns, and those returns are so high that, even after this tax, the investment earns sufficient returns to still attract investment.
- 11.18 Norway has decided it makes sense to move away from an otherwise broad-based low-rate approach for this specific industry because of the level of economic rent available to firms operating in the industry. This is even though it is a capital-intensive industry with global competition.
- 11.19 Note that even though there are plenty of other countries with petroleum resources, Norway is not 'competing' with these other countries because it is not an either/or question. A firm may appreciate a much lower tax rate in a different country, but it does not have to choose whether to operate in Norway or another country. It can operate and extract and sell petroleum from both countries. Provided the after-tax return in Norway has a positive net present value, it would make sense to operate in both countries, even when the non-Norway country had a more 'competitive' tax rate.
- 11.20 It is challenging to identify areas in New Zealand where location-specific rents are likely to be highest, let alone to design and enforce different tax rates for different activities. Applying higher tax rates where location-specific rents are significant might be easier in an economy with one or two sectors earning high location-specific rents rather than in an economy where these rents are likely to be much more diffuse and harder to identify.
- 11.21 In his survey of specific incentives and the literature surrounding them, Klemm (2010) provides a pithy conclusion that summarises his scepticism about the ability to target tax rates in a beneficial way:

Even if a tax incentive can be useful in principle, a country may be well advised to refrain from introducing one. This reflects the advantage of a coherent and simple tax system, which cannot take account of all issues, especially since they may be changing over time. Moreover, once a system has created the precedence of an exemption for one particular sector or region, the pressure for further ones will increase. The ultimate outcome may be a less efficient tax system, even if a few of the incentives used have a sound economic rationale and are cost-effective.

International experience

- 11.22 Tax incentives for specific businesses or industries are common overseas. The OECD's publication, *Tax Policy Reforms 2020: OECD and Selected Partner Economies*,⁵⁹ gives a sense of the sorts of activities and investment that draw special incentives:

⁵⁸ Ministry of Petroleum and Energy, Norwegian Petroleum Directorate. *The Petroleum Tax System*. <https://www.norskpetroleum.no/en/economy/petroleum-tax>

⁵⁹ OECD. (2020). *Tax Policy Reforms 2020: OECD and Selected Partner Economies*. OECD Publishing, Paris. <https://doi.org/10.1787/7af51916-en>

- In the USA, tax credits for biodiesel and renewable diesel, electricity produced from certain renewable sources and alternative fuels have been extended.
 - In Mexico, tax relief for Special Economic Zones has been repealed, but future tax policies are intended to focus on projects rather than regions.
 - In Korea, tax credits for investments made have been simplified. Previous incentives were more restricted, targeting facilities for (among other activities) research and testing, vocational training, safety, energy saving, and new growth-engine technology commercialisation. The new regime has a 'negative list system'⁶⁰ that excludes, rather than includes, specified industries and assets.
- 11.23 In general, specific incentives are particularly common in developing countries, where governments are often trying to balance taxing location-specific rents (for example, mining) at higher rates with attracting other industries with specific incentives.
- 11.24 Reviews of tax incentives overseas tend to point to a lack of cost-effectiveness (that is, limited additional investment given the fiscal cost) and the risk of rent seeking and corruption, although this is usually in the context of countries that may already suffer from those problems.⁶¹

Views of stakeholders

- 11.25 CA ANZ commented that this sort of change would be such a significant policy decision and departure from the broad-based low-rate structure that it should only be undertaken after a broader examination of New Zealand's tax policy frameworks.
- 11.26 Business NZ strongly supported the existing broad-based low-rate structure and argued that, once tax incentives are considered, this opens a "Pandora's Box" of concerns about what incentives should be introduced.
- 11.27 CTG argued overseas examples of successful tax concessions should be considered. The group suggested that the main economic argument against tax concessions is that they need to be funded by higher taxes on other firms (assuming a set revenue need) and they divert resources to activities generating a lower overall return. However, the group argued that such objections do not hold to the extent tax concessions attract activities that contribute tax revenue but would not locate here without the concessions and that engage resources (including personnel) that would otherwise not be here.

⁶⁰ PwC. (2022).Worldwide Tax Summaries Online. *Republic of Korea: Corporate tax credits and incentives*. <https://taxsummaries.pwc.com/republic-of-korea/corporate/tax-credits-and-incentives>

⁶¹ For example, see International Monetary Fund; OECD; United Nations; World Bank. 2015.

CHAPTER 12

Dual income tax system

- Dual income tax systems have been adopted by Nordic countries.
- A pure dual income tax would involve a low flat tax rate on capital income and higher progressive taxes on labour income.
- A dual income tax might provide a coherent way of allowing reductions in the company tax rate, and in costs of capital and EMTRs, without creating pressures for a lower top personal marginal tax rate.
- Alternatively, it might provide a way for future governments to increase higher marginal tax rates and the progressivity of the tax system for those elements of income that are taxed at progressive rates without increasing costs of capital or EMTRs.
- It provides a way of maintaining a steeply progressive tax system if there are concerns that efficiency or avoidance concerns make it impractical to tax capital income at high marginal tax rates.
- It may require a tax on gains in the value of shares.
- It might be a way of removing some inconsistencies in the way that income earned in different entities is taxed.
- It would be a complex tax change and there would be a lot of detailed issues to work through.

Introduction

- 12.1 A 'dual income tax system' is a system where capital income is taxed separately (at lower rates) from labour income.
- 12.2 The tax systems in the Nordic countries are generally described as 'dual income tax systems': high progressive tax rates are applied to labour income (for example, salaries, wages) while relatively low tax rates are generally applied to capital income (for example, interest, capital gains). In contrast, New Zealand's income tax system is more of a 'comprehensive income tax system', under which capital income is generally taxed at the same rate as labour income, although there are some notable exceptions (for example, portfolio investment entity⁶² income is taxed at a top rate of 28%, and capital gains not specified in legislation as taxable are generally non-taxable).
- 12.3 According to Sørensen (2005), a pure dual income tax system has the following features:
- A flat, uniform personal tax on all forms of capital income (including capital gains) levied at a rate equal to the corporate income tax rate.

⁶² Portfolio investment entities are collective investment vehicles that attract funds for investment on a passive basis from a group of investors.

- Full relief for the double taxation of corporate equity income.
- A broad tax base for capital income and corporate income.
- A basic tax rate on labour income (equal to the capital income tax rate) combined with a progressive surtax on high labour income.

Example 12.1

Assume that:

- the corporate, basic labour, and flat personal tax rates are 20%, and
- the progressive surtax on labour income is 16% on labour income over \$100,000 – thus labour income over and above \$100,000 is taxed at a total marginal tax rate of 36%.

A taxpayer has \$160,000 of salary income, \$5,000 of interest income from personal investments, and \$15,000 of capital losses. This taxpayer does not have any shares, so the technical details of how corporate equity income is taxed in a shareholder's hands is ignored.

This taxpayer would be taxed in the following way:

- The taxpayer's general net income would be \$160,000 + \$5,000 - \$15,000, or \$150,000.
- Tax on this amount would be \$30,000, which is 20% of \$150,000.
- The taxpayer would also be liable for the surtax percentage points of tax on \$60,000 of the salary income.
- This is additional tax of \$9,600.
- Total tax for the taxpayer in this case is \$39,600.

- 12.4 None of the Nordic tax systems have all the features outlined by Sørensen. Norway's system probably comes closest.⁶³
- 12.5 The Nordic systems all make explicit distinctions between types of income, with earned or personal income taxed differently from capital income. Further divisions exist within these two broad categories, particularly for dividends and capital gains.
- 12.6 The corporate tax rates in the Nordic countries are generally low – between 20% to 22%.⁶⁴ In contrast, the personal tax rates are very high, with top marginal tax rates ranging from around 46% to 55%.
- 12.7 The corporate tax rates are not generally aligned with the tax rates on capital income, and the tax rates on capital income are not completely flat and uniform

⁶³ For example, Sweden's and Iceland's corporate tax rates differ from their capital income tax rates; Norway does not provide full double tax relief for corporate equity income; Finland and Denmark do not apply a flat tax to capital income.

⁶⁴ Apart from Norway, the Nordic countries' corporate tax bases appear to be narrower than New Zealand's (despite the larger differential between corporate and personal tax rates). New Zealand's company tax collected 4.0% of GDP in 2019 and Norway's collected 5.7% of GDP, while the other Nordic countries' corporate tax only collected between 2.1% to 3.0% of GDP. Norway's result is likely driven by the significant resource profits from oil and gas.

either. For example, Iceland taxes capital gains, dividends and interest at 22% (with a tax-free threshold for interest), but it taxes rental income at effectively 11%,⁶⁵ and both Finland and Denmark tax capital income progressively.

12.8 Different reasons have been put forward for taxing capital income at a lower rate than labour income. As we see it, the main considerations seem to be:⁶⁶

- to maintain a reasonably low cost of capital for foreign investors while collecting high levels of tax
- to maintain a progressive personal tax system with potentially a significantly higher top rate than New Zealand's current top rate of 39%
- concerns that applying high top marginal tax rates to personal capital income may lead to excessive distortions or to excessive evasion of tax, and
- enthusiasm for, or at least a willingness to accept, a low tax rate on capital income as a quid pro quo for quite steeply progressive tax rates on labour income.

12.9 One concern about taxing the capital income of domestic residents at very high rates is that this can distort intertemporal consumption decisions and cause people to save too little for the future. Up until recently (and at the time dual income tax systems were being put in place), the conventional wisdom held by many economists was that taxing the capital income of domestic residents at all was likely to be particularly inefficient.⁶⁷ More recent analysis has questioned the robustness of these results, and some analysts have suggested high and progressive taxes on wealth or capital income.⁶⁸ Scheuer and Slemrod (2020) puts it as follows: "We point out that the former conventional wisdom – that an optimal tax system would feature no taxes on capital income – has been overturned." It is fair to say that concerns about intertemporal consumption distortions are probably more muted now than they were when Nordic countries adopted their dual income tax systems. Nonetheless, there is no presumption that capital income should necessarily be taxed at the same rates as labour income.

12.10 A second concern is that capital income taxes can produce significant distortions because different forms of capital income, such as income from housing and interest income, are taxed very differently. As a result, taxes on capital income may be particularly distortionary.

12.11 A third concern is the way that capital income tax distortions can be increased because of inflation and the taxation of inflationary gains. This can compound intertemporal consumption distortions and biases between different types of saving.

12.12 A fourth concern is that capital income may be particularly hard to tax and prone to tax evasion by taxpayers concealing wealth offshore. International agreements on the automatic exchange of information (AEOI) between countries will have helped to moderate some of these concerns. At the same

⁶⁵ Fifty percent of rental income is taxed at 22%, with the remaining 50% exempt.

⁶⁶ See also Sørensen, P.B. (2007).

⁶⁷ Key papers are Atkinson, A. and Stiglitz, J. (1976); Chamley, C. (1986); and Judd, K. (1985).

⁶⁸ See, for example, Straub, L. and Werning, I. (2020), who argue that standard models did not establish what many claimed they established, and Saez, E. and Zucman, G. (2019), who argue for high and progressive taxes on wealth.

time, new innovations, such as blockchain, may be making it harder for tax authorities to find out about taxable income. It is hard to predict now how these pressures are likely to change in the future.

- 12.13 A fifth concern is the way in which high tax rates on capital income could increase the benefits of interest deductions, especially in times of inflation.

Table 12.1: Nordic countries' tax rates

Country	Corporate tax rates	Personal/earned income tax rates	Capital income rates
Sweden	21.4%	Around 30% to 52%. Figures include municipal taxes of around 32% but not social security contributions. Social security contributions are around 30% but are capped at around NZ\$6,000 and can be credited against other taxes.	25% for dividends, interest, capital gains and rental income. Dividends are double taxed (no imputation).
Norway	22%	Around 30% to 46%. Figures include national insurance of 8.2%.	22% on interest, royalties, rental and capital gains other than on shares. 31.68% for dividends and capital gains on shares, which are double taxed with an RRA deduction allowed (explained below).
Finland	20%	Around 17% to 55%. Figures include municipal tax (16.75% to 23.5%) and church tax (1% to 2.2%).	30% on dividends, rental income, some interest income, and capital gains up to EUR€30,000. 34% thereafter.
Denmark	22%	Around 8% to 56%. Figures include municipal tax and the social security levy (tax of around 8%).	27% or 42% on dividends and capital gains on shares. Up to 42.7% on other capital income (for example, interest).
Iceland	20%	Around 42% to 53%. Figures include municipal taxes and social security (6.85%).	22% on capital gains and dividends, interest and rent. There is a tax-free threshold for interest and only 50% of rent is taxed.

- 12.14 It is hard to know now if these sorts of concerns are likely to become pressing in New Zealand. If they do, a dual income tax approach is something to be considered. At the same time, measures that reduce taxes on capital income

can obviously end up reducing taxes on some of the wealthiest in society, so there are complex fairness concerns to work through.

- 12.15 If New Zealand wished to move in the dual income tax direction, there are several ways of achieving this, including increasing the rate of GST and using the revenue raised to reduce income taxes or provide payments to households. If this were done in a way that delivers more benefit to those on lower incomes rather than higher incomes, this might be done without reducing the overall progressivity of the tax system.
- 12.16 The Nordic countries collect very high levels of tax. In 2019, Denmark collected the most tax as a proportion of GDP (46.3%), followed by Sweden (42.9%) and Finland (42.2%). Norway (39.9%) and Iceland (36.1%) collected the least. In comparison, New Zealand's tax take was 32.3% of GDP.⁶⁹
- 12.17 Despite such high levels of tax, the Nordic countries' corporate tax rates are all lower than New Zealand's (see table 12.1). The reasonably low corporate tax rates allow the Nordic countries to maintain reasonably low costs of capital for foreign investors. At the same time, dual income taxes allow the Nordic countries to levy high taxes on labour income⁷⁰ without too much distortion.

Pros and cons

Reducing the cost of capital

- 12.18 Many of the strengths and weaknesses of a dual income tax system that relate to the lower cost of capital through a lower corporate tax rate are identical to the strengths and weaknesses of lowering the company tax rate, outlined in chapter 6.
- 12.19 In the context of an exercise looking at costs of capital, the primary strength of a dual income tax system is that it allows a lower cost of capital but still allows greater taxation of domestic residents' labour and capital income (where that capital income earns a higher than risk-free return). One important difference is that cutting the company tax rate and doing nothing else would tend to make the tax system less progressive. This is because those on higher incomes would obtain greater benefits by sheltering personal income in companies. A dual income tax is one way of allowing a company tax cut but supporting this with other measures that support the integrity and progressivity of the personal tax system. These include measures to integrate the corporate tax system with the personal tax system, possibly including a capital gains tax on shareholders.
- 12.20 As set out above, a lower tax rate on corporate income also reduces the effect of non-neutralities in the capital income base (for example, depreciation schedules that do not match economic depreciation), potentially reduces avoidance and evasion, and reduces tax distortions to saving. Other aspects of the regime ensure that the portion of nominal income reflecting inflation is taxed less under a dual income tax system than under a comprehensive income tax system. At the same time, there are some complex design and distributional issues to consider.

⁶⁹ OECD Revenue Statistics 2020.

⁷⁰ In the case of Norway, on economic rents as well.

Issues with the distinction between labour income and capital income

- 12.21 The distinction between labour income and capital income can be very difficult to draw. Broadly speaking, labour income is earned from performing services (for example, wages, salaries) whereas capital income is earned from investment (for example, ordinary business income, interest, dividends, capital gains).
- 12.22 However, items that are typically considered 'capital income' may also include a labour component. For example, part of the capital gain from buying and selling a property may include value added by labour spent fixing up the property. Similarly, capital gains and dividends from closely held companies may include a component that is properly attributable to work performed by a shareholder-employee in the company who is paid a below-market wage or salary.
- 12.23 It therefore seems inevitable that a subjective distinction between labour and capital will be complex and give rise to outcomes that, at times, appear inconsistent or arbitrary and create distortions. This is even in the absence of any tax avoidance or minimisation behaviour. A dual income tax system, therefore, cannot rely solely on anti-avoidance rules that consider the 'true substance' of income to work out if the amount is capital or revenue. Such subjective rules can only be a backstop at best. Norway illustrates an attempt at more objective 'income splitting' rules.

Income-splitting rules

- 12.24 An initial question is how to tax the capital income of sole traders and partnerships where the return comprises both capital and labour income. In principle, there are two potential approaches for splitting income between the capital income and labour income components.
- 12.25 One approach is to identify labour income by attempting to value the labour services that are being provided and then to treat the residual as capital income. A key problem with that approach is that it seems impractical to value the labour services that are being contributed.
- 12.26 The second approach, and the one used in practice, is to attempt to value the capital income component and to treat the residual as labour income. This can be done by attempting to value capital assets employed in a business and imputing a standard return on these as capital income. Everything else is treated as labour income and subject to higher progressive marginal tax rates. This means that if someone has a very smart idea and can generate economic rents, these rents will be taxed as labour income.
- 12.27 Norway calculates capital income by multiplying the value of capital in a business by an imputed interest rate, known as the rate of return allowance (RRA). The RRA, which is currently around 1.3%, is based on interest rates on government bonds and is practically risk free.⁷¹ This income (along with forms of passive capital income, such as interest and rents) is taxed at 22%. Other income is taxed as labour income and subject to higher progressive income tax rates. It should be noted, however, that it is far from a simple exercise to estimate the true risk-free rate, especially in the context of some negative interest rates on government borrowing in Europe.

⁷¹ The RRA is based on the 3-month interest rate for Treasury Bills:
<https://www.skatteetaten.no/en/person/taxes/get-the-taxes-right/shares-and-securities/about-shares-and-securities/the-shareholder-model/>

- 12.28 Before 2006, Norway had mandatory income-splitting rules for sole traders, partners and closely held companies with active owners to prevent labour income being converted to capital income.
- 12.29 Sørensen explains that these rules were not very effective. Taxpayers could structure their affairs to avoid being 'active owners' and thereby avoid the income-splitting rules. Moreover, the rules were frequently changed, usually to be more generous to taxpayers. The salary deduction adjustment is a good example as Sørensen notes that, by the late 1990s, almost 80% of active shareholders had *negative* labour income because of the deduction.
- 12.30 To address the problems with income-splitting rules for companies, Norway introduced a 'shareholder model' in 2006, which is still used today. The key features are the RRA, which is calculated on capital invested, and the intentional double taxation of dividends and capital gains on shares.
- 12.31 The RRA is a deduction that provides relief against double taxation for the risk-free return. Returns above the risk-free rate are intentionally double taxed at a combined effective tax rate (around 46.7%) that is roughly in line with the top marginal tax rate on labour.⁷² The tax rate of 31.68% on dividends and capital gains on shares is set to achieve this result. It should be noted that this tax on capital gains is at quite a high rate and appears to be essential in making Norway's shareholder model work. However, the tax on capital gains is designed to mitigate or eliminate the lock-in effects that are a standard problem with many capital gains taxes. It does this by increasing the cost basis of the shares by any unused RRA. This is more fully explained in Sørensen (2005).
- 12.32 For companies, the RRA model applies at the individual shareholder level rather than at the corporate level. It applies to both listed and unlisted shares held by residents of Norway (with some exceptions for European Economic Area (EEA) residents for EU law reasons). It applies whether the shareholders are active or passive.
- 12.33 One reason the RRA model, including the double taxation of returns above the risk-free rate, applies at the shareholder level (rather than corporate level) is so that it does not affect the location decisions of multinational enterprises earning mobile rents. Another reason is that there is a lower revenue cost. This is because many shares may be owned by exempt entities or foreign residents who cannot use a deduction but whose ownership share of corporate income (including the risk-free return) remains taxed at the corporate level.

Taxing the capital income of domestic residents and fairness considerations

- 12.34 As noted above, a key question is the fairness of reducing the taxation of the return to capital of New Zealand residents. On the one hand, this might be dismissed as a regressive measure that favours some of the wealthiest in society who have high capital incomes. For those earning business income, or earning income through companies, the lower tax rate might be restricted to the risk-free return, with any returns over and above these being taxed at labour income tax rates. However, depending on the balance of tax paid under a tax on share gains (required at least in Norway's dual income tax), as compared with the lower rate on all currently taxable capital income, there might be a reduction in the tax paid by these people. On the other hand, these measures have been put in place by countries with quite progressive fiscal systems, and they have probably enabled the countries to have a considerably

⁷² \$100 profit – \$22 tax = \$78 available for distribution. \$78 × 31.68% = \$24.70 tax. Total tax = \$22 + \$24.70 = \$46.70.

more progressive tax system on the categories of income that are taxed as labour income.

- 12.35 For residents, a lower tax rate on the risk-free rate of return to capital would reduce distortions in intertemporal consumption/savings decisions (whether to consume now or save now and consume later) and on the forms of savings undertaken. It would also reduce distortions caused by inflation and might alleviate the tax avoidance pressure that will arise if capital income is taxed at very high rates. A dual income tax system would be complex.
- 12.36 At the same time, it would provide one way of increasing higher personal marginal tax rates, should future governments wish to do so, without this leading to increases in costs of capital and EMTRs. Alternatively, it might provide a way of reducing costs of capital and EMTRs without changing higher marginal tax rates.
- 12.37 There are already elements of dual income taxes in New Zealand's current tax rules. For example, the top marginal tax rate is now 39%, but individuals on this tax rate are taxed only at a capped tax rate of 28% if they invest into portfolio investment entities. Also, income can often be taxed at less than a person's statutory personal marginal tax rates if they invest into trusts or companies. However, with trusts and companies there is scope for sheltering both capital and labour income. A dual income tax might be one way of increasing the coherence with which different forms of income are taxed.

Views of stakeholders

- 12.38 Business NZ noted that the introduction of a dual income tax system would be complex and present many detailed issues to work through. They raised the question of how high the personal tax rates and/or GST would need to be to compensate for a low tax rate on capital income. Business NZ thought that this option should not be given priority.
- 12.39 CA ANZ thought this was probably the most attractive of the options, particularly because it seemed to be the most coherent overall reform.

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