NZIER
NEW ZEALAND INSTITUTE OF ECONOMIC RESEARCH

Business investment in New Zealand

The role of investment conditions

NZIER report to Business New Zealand

May 2023

About NZIER

NZIER is a specialist consulting firm that uses applied economic research and analysis to provide a wide range of strategic advice.

We undertake and make freely available economic research aimed at promoting a better understanding of New Zealand's important economic challenges.

Our long-established Quarterly Survey of Business Opinion and Quarterly Predictions are available to members of NZIER.

We pride ourselves on our reputation for independence and delivering quality analysis in the right form and at the right time. We ensure quality through teamwork on individual projects, critical review at internal seminars, and peer review.

NZIER was established in 1958.

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Key points

Business New Zealand commissioned NZIER to review the influences that affect the favourability of business investment in Zealand.

The key influences of the business environment in New Zealand are well understood

A range of influences on business investment are:

- access to capital and financial constraints
- the cost of capital
- business expectations, uncertainty and risks
- government regulation and policy
- technology
- economic geography.

These influences can act as enablers or barriers to investment. For example, government regulation and the cost of capital can contribute to whether specific investments are attractive. Whether the settings that underpin these drivers are favourable to investment depends on the comparative options. For example, lowering one nation's corporate taxes improves the favourability of investment in that country relative to others.

New Zealand has a mix of favourable and unfavourable conditions for investment

The evidence shows that business investment in New Zealand is affected by a range of favourable and unfavourable conditions.

Table 1 Favourable and unfavourable conditions for investment in New Zealand

Favourable conditions for investment	Unfavourable conditions for investment
Strong and reliable institution	Higher corporate tax compared to other OECD countries
Trade policy is well developed for agriculture but less so for other sectors	Thin financial markets
Robust competition policy	Foreign Investment policy is more restrictive
Starting a business is easier than in other countries	Room for improvement on incentives for research and development
Corruption is consistently lower than in most countries, and high trust in institutions	Economic geography is a barrier to further integration in global value chains
Human capital is comparable with other countries, but a small labour market	Small home market discourages investment at scale
	Lagging on digital transformation

Source: NZIER

Key areas that could be explored to support more favourable conditions for investment

- Lowering the barriers to foreign direct investment would attract more investment and support greater integration with global value chains and diffusion of technology.
- The OECD (2017; 2022) has repeatedly recommended corporate tax reform to stimulate business investment. Local research also supports the case for lowering corporate taxes to boost investment levels. But more work on the detail is warranted. The findings of this literature point to an area of potential, but getting into the detail was out of scope.
- Increased public-private investment in research and development would boost productivity, and policy reform is needed.

Investment is important for creating and growing frontier firms

Internationally, frontier firms are early adopters of technology and attract investors in developing and commercialising emerging technologies that support the objectives of their business model.

These frontier firms are more capital-intensive than non-frontier firms. Frontier firms also support the diffusion of technologies in the market over time. Frontier firms in New Zealand are less capital-intensive than their international counterparts but still support a degree of innovation and technology diffusion.

New Zealand's frontier firms face investment constraints that seem to affect productivity. To overcome these challenges, the New Zealand government has a significant role to play in developing clear strategies such as:

- Attracting high-quality foreign direct investment.
- Supporting individual companies to meet the fixed costs of innovation and exporting.
- Investing in building ‘innovation ecosystems’ around their frontier firms in select focus areas. For example, the Danish Digital Growth Strategy focuses on specific industries and technologies to actively support innovation and inclusive industry-wide transformation (The Danish Government 2018; Ministry of Foreign Affairs Denmark 2022).

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1 Objectives and scope

Introduction

Business New Zealand commissioned NZIER to review the influences that affect the favourability of business investment in Zealand.

Research objective

The objective of the research is to understand where improvement to investment conditions for business in New Zealand could be made with the aim of improving productivity.

Research questions

The key research questions were:

- What are the key influences of the business environment in New Zealand?
- Are there known barriers to investment?
- What features of the investment environment encouraged important investments in the past, and are there lessons to be learned from these experiences?
- What does the literature indicate about how policies can help to create and grow more frontier firms?
- Based on the key drivers of investment, is the business environment in New Zealand relatively unfavourable towards investment, and in what respects is it relatively favourable?
- What are the implications for New Zealand based on the initial findings associated with the previous questions?

Scope of the research

The scope of the research includes findings from international and domestic literature that are relevant to New Zealand. New research, analysis or data collection was out of scope. The timeframe of the research project excluded the possibility of a comprehensive and exhaustive literature review. Instead, the focus was on distilled findings relevant to a range of relevant sources and the implications for New Zealand.

The scope of the research is limited to business investment. Consumer savings and investment are not the focus of the report, but not completely out of scope. Consumer savings and investment influence financial markets by the way they work through bank deposits, direct investment, or equity markets.

Funding statement

The research was funded by Business New Zealand and completed independently by NZIER.

2 Research approach

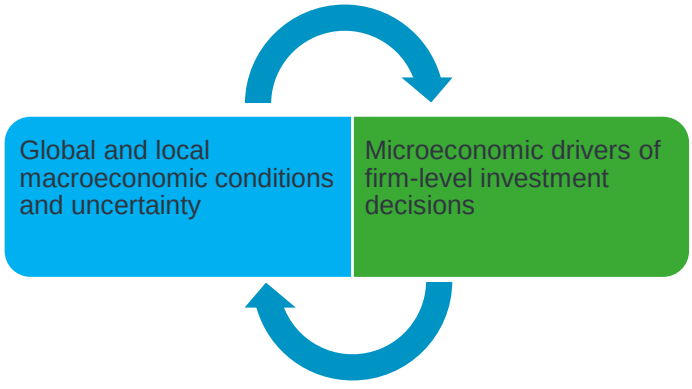
The research approach applied in this report included the following components:

- A robust foundation was developed based on the established economic theory of the role of business investment in the economy and its positive effect on productivity.
- A specific focus on the theory and evidence regarding the enablers and barriers for business investment in New Zealand.
- An assessment of good policy investment design drawn from established research and peak body guidance.
- An evaluation of how well investment policy in New Zealand aligns with good policy investment design.

These four components collectively provide a basis for answering the research questions by combining the best theory, evidence and policy analysis.

Our research approach is framed through identifying the macroeconomic and microeconomic parameters that favour investment or are barriers to investment. Most of the focus was on the microeconomic drivers of investment due to the focus of the research scope being business investment. Therefore, we were keenly interested in what parameters or factors were driving investment decisions at the firm or investor level. However, it is needless to say that macroeconomic conditions, locally and globally, influence investment decisions, the favourability of investments and the timing of investments (Bloom 2014). For example, among businesses in New Zealand, the evidence suggests that global uncertainty has greater influence over investment decisions than local uncertainty (Greig et al. 2018). Through the research, there is an interplay between macroeconomic conditions and the microeconomic drivers of investment (see Figure 1) (Bloom 2014).

Figure 1 The macro-micro interplay in the research approach



Source: NZIER

3 Macroeconomic observations on capital and productivity

There is a rich literature on capital deepening and its positive effects on productivity and economic growth (Aghion and Howitt 1998; Romer 1990; Solow 1956; Mankiw, Phelps, and Romer 1995; Jones 1995, to name a few). Capital widening is an investment that increases the capital invested in scaling up the business so the ratio of capital and labour stays broadly the same. Capital deepening involves increasing the capital intensity of a business.

Capital deepening is known to have several positive effects:

- increasing the output per worker
- improving the quality of output through access to better tools and equipment
- introducing technological innovation can improve efficiency
- allowing labour to specialise
- allow staff to spend time on innovation and business development instead of producing output.

The New Zealand productivity puzzle looks to have roots in capital investment

There has been a lot of discussion of New Zealand's apparent productivity puzzle (McCann 2009). New Zealand's investment and productivity story involves more labour intensity and less capital investment. Nolan, Fraser, and Conway (2018) point to several explanations that are related to investment conditions (see Table 2).

Table 2 Explanations of the productivity puzzle

Explanations based on aggregate data	Explanations based on microdata
Capital shallowness reflecting: - high long-term real interest rates - high off-the-shelf cost of capital goods - fast population growth	Impaired reallocation and diffusion (firms that are disconnected and stuck) reflecting: - weak international connections - the small size of domestic markets - low investment in knowledge-based capital - firms' limited ability to learn - weaknesses in the allocation of labour

Source: Nolan, Fraser, and Conway (2018)

These observations and others are explored in the rest of the report from three perspectives:

- the wider set of microeconomic influences on business investment decisions
- the policies that influence investment conditions
- the special case of investment and frontier firms.

4 The Influences on business investment

Investment includes the expansion of tangible and intangible capital. Investment in tangible capital includes activities such as the acquisition of machinery, vehicles or buildings. Investment in intangible capital includes training, skill development, recruitment, research and development and knowledge investment.

The aim of investment is a return on the investment for the investors. The mechanism for that is that investment is typically made to increase the net output of enterprises by:

- increasing production
- decreasing costs
- introducing new or better products

These actions lead to a combination of the following investment outcomes:

- expanding production capacity
- improving technology
- increasing productivity.

4.1 The microeconomic drivers of investment

Businesses invest intending to make a profit, and a range of different factors influences investment potential and capacity. A range of influences on business investment are:

- access to capital and financial constraints
- the cost of capital
- business expectations, uncertainty and risks
- government regulation and policy
- technology
- economic geography.

Access to capital

Access to capital involves the volume and type of capital. There are two main groups of capital. Sources of capital involve equity or debt. Equity typically involves sharing ownership and profits. Debt has repayment costs but the benefit of no change in ownership.

Financial constraints are a common barrier to investment (Fazzari et al. 1988). Businesses need access to capital to invest in assets and the knowledge base required to be successful in their chosen endeavour. When investment is impeded by financial constraints, businesses invest in opportunities that involve less risk. This means that access to capital is a major potential enabler or barrier to the level of investment activities and returns. Smaller businesses can face higher financial constraints due to a lower asset base. This is especially true for capital borrowing. Capital from equity, such as private equity and venture capture, has a greater interest in the growth and success of the business. Equity investment often involves bringing in the expertise of the new investment along with the monetary investment.

Access to capital was identified as a key barrier to internationalising business ventures in New Zealand (Shaw and Darroch 2004). Access to capital through venture capital funds appears to be limited in New Zealand due to a lack of observable proven returns on investment, constraining the attractiveness of New Zealand to international venture capital funds (Kalidas, Kelly, and Marsden 2014).

Board members in New Zealand see access to sufficient capital for investing in growth, innovation and achieving scale as a constraint on business performance in New Zealand. Board members also see that part of their role or added value for businesses is the ability to use their professional networks and professional reputations to assist businesses they govern in accessing capital (Smith and Garden, 2020).

Cost of capital

The cost of capital is a fundamental driver of investment decisions. Business leaders and investors make investments based on a range of factors. For the investment to be profitable, expected returns must exceed the cost of the investment. The cost of capital is a key component in the overall cost of the investment (Hall 2001). The cost of capital includes interest and repayments on debt financing and the cost of equity financing (which is financed based on an agreed rate of return). The cost of capital can be either a barrier or an incentive to invest.

The Official Cash Rate set by the Reserve Bank of New Zealand fundamentally affects the cost of capital for business investment in New Zealand. As does inflation. Low and stable inflation is more favourable for business investment.

The Reserve Bank also influences the cost of capital associated with bank loans and their ability to require banks to retain a reserve percentage of the total deposit. The requirement is intended to ensure that banks have greater liquidity during a financial crisis. The benefits are greater resilience for banks and their customers. The costs are that banks will increase the cost of capital to outset the impact of the requirement.

Expectations, uncertainty and risk

Uncertainty and risk influence the decision to invest by shaping investor confidence in the conditions that affect supply and demand (Dixit, Dixit, and Pindyck 1994). The willingness to commit to the investment will change inversely to the level of uncertainty and risk. If uncertainty and risk increase, the willingness to commit to an investment will decrease, and vice versa.

Investment risks and uncertainties emerge from market conditions, technological progress and government policy. Table 3 shows some examples of typical sources of uncertainty and risks from the demand side and the supply side. They are categorised according to market conditions, technological progress and government policy.

Table 3 Uncertainty and risks

Source	Demand-side	Supply-side
Market conditions	Forecast consumer demand is not realised	Suppliers unable to produce and deliver product inputs
Technological progress	The new technology provides consumer access to the product at a very low cost, for example, print media vs digital media	New technology renders product processes obsolete or radically uncompetitive
Government policy	Government increase consumer taxes or introduce a subsidy for a competitor's product or service	Government introduces trade policy that changes the trade conditions Risk of government standards affecting product design, production and certification costs

Source: NZIER

Government policy is one source of uncertainty for businesses considering investment. Policy uncertainty weakens the responsiveness of businesses to changes in the cost of capital due to the effect that uncertainty has on the current and future operating environment (Drobetz et al., 2018). The effect of policy uncertainty is stronger for firms with high government dependency. Policy uncertainty distorts the fundamental investment-cost of capital relationship with investment decisions.

An empirical investigation (Greig et al. 2018) into the influence of global and local sources of uncertainty on business investment activity in New Zealand showed that:

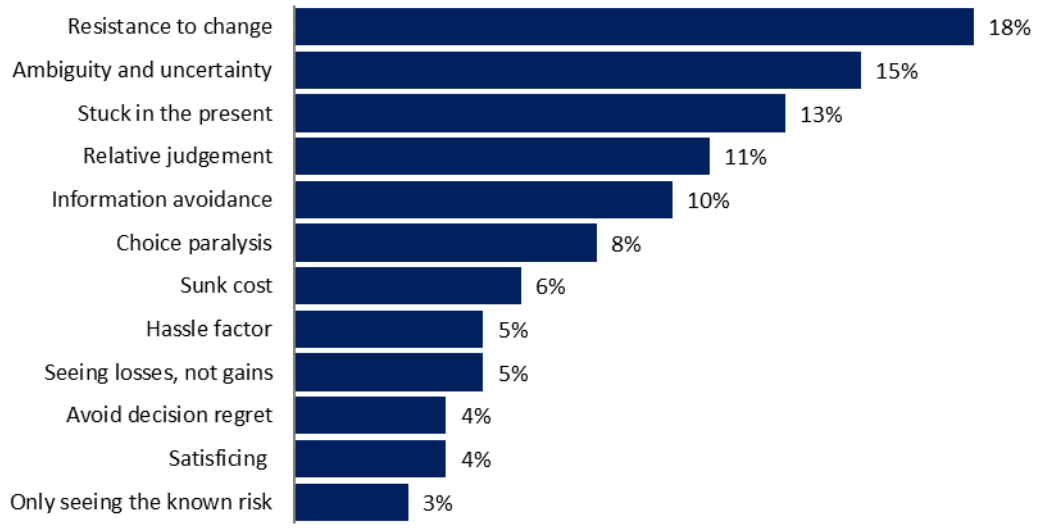
- increased uncertainty is associated with a lower overall investment level in New Zealand, as it is in other countries
- investment is more sensitive to uncertainty than consumption is
- global uncertainty affects investment more than local uncertainty due to our export orientation.

Uncertainty discourages investment and risk-taking. Increased uncertainty is associated with deferred investment internationally (Fuss and Vermeulen 2008). In New Zealand, the effect of uncertainty on investment decisions is meditated by the level of experience of the exporter. New exporters favour labour-intensive investment rather than capital investment because capital investments are more irreversible than labour. Exporters with more experience are more likely to have the confidence to invest in capital-intensive strategies (Fabling and Sanderson, 2013).

Uncertainty and concern about irreversibility can also manifest as behavioural barriers to business transformation and investment in adopting new technology. Behavioural barriers are beliefs, motivations and perceptions that cause small business leaders to be reluctant about technology adoption. Internationally, Xero found that there are 12 hurdles a small business must overcome to go digital (Xero 2021). Figure 2 shows the relative impact of those barriers. These results indicate ambiguity and uncertainty were one of the largest behavioural impacts of technology adoption. In New Zealand, choice paralysis, a form of uncertainty about the options and future needs, was a barrier to investing in adopting digital tools among small and medium-sized enterprises (SMEs).

Figure 2 Relative impact of barriers to technology adoption among SMEs

The relative impact of behavioural barriers



Source: Xero (2021)

Business confidence and expectations

Business confidence and exceptions are closely associated with business uncertainty as increased confidence positively affects investment level and risk-taking, while increased uncertainty has the opposite impact. Business confidence in market conditions and the outlook drive investment decision. Declining market conditions negatively affect investment levels (Bloom 2014).

Government regulation and policy

Government regulation and policy have profound and wide-ranging effects on the drivers of business investment. Government, directly and indirectly, shape the settings that underpin the drivers of investment through regulation, policy, enforcement and political stability (Lean and Tucker 2001).

The government's role in determining the settings for investment conditions is substantial. Regulation implemented by Government directing determines tax policy, competition law, property rights, foreign direct investment, investment government and labour market policy that affects investment decisions.

Aside from the regulatory role of the Government in setting investment conditions, the Government is also a major investor in the economy. The key ways in which the government invests in the economy include:

- Infrastructure (transport, hospitals, telecommunications, water management and electricity) influences the economic efficiency and economic geography of public and private investment and economic activity.
- Social policy spending influences private investment and economic activity.
- Property leases and rental fees of keystone properties, where for example, government departments act as major tenants in a commercial property development, and government staff consumption activity support surrounding business.

- Direct investment in research and development (R&D) and education.

Governments have strong power to influence the use of resources (or limit resource extraction) and the ability to legislate to compel owners to invest in property improvements such as requiring earthquake strengthening. To support investor confidence, regulatory takings need to be balanced, in principle, by mechanisms for compensation and robust analysis of the societal costs and benefits.

The OECD's updated Policy Framework for Investment (OECD 2015) discusses several areas of policy through which government shape the drivers of business and consumer investment. The next section explores this in detail. The implications and performance of investment policy in New Zealand are compared to the OECD's recommended policy prescription.

The disruptive relationship between technology and investment

Technology and investment are jointly and separately recognised as major sources of productivity improvement and growth. This applies at the firm level and the overall macroeconomy.

Investment generates technology improvements

Investment in R&D and innovation is key to the development and commercialisation of new technologies. These technologies boost productivity and improve profitability, and investment in the development of human capital also improves productivity and firm performance.

Investment in technology improves productivity

Digitalisation is an important global business trend for boosting productivity and flexibility. The most recent review of New Zealand by the OCED went to some length in recommending greater digitalisation among businesses (OECD 2022).

International evidence suggests that funding from the government and funding from private sources are complementary rather than substitutes (Branscomb and Auerswald 2002). Government funding for technological development is important in the early-stage development of technology. As such, government funding for technological development contributes to the growth of the ecosystem that underpins the digital economy and influences attitudes and firm readiness for digitalisation.

Research into digitalisation across the OECD shows that the experience of digitalisation has been uneven between countries, within countries and between industries. Industries with a pre-existing higher level of digital intensity experienced higher multi-factor productivity (MFP) improvement than lower-intensity industries (OECD 2019), so it should be no surprise that the estimates of the benefits of digitalisation vary. Research also supports the existence of a learning curve associated with digital technologies. The learning curve is evident in the gradual improvement in MFP over several years, and skills development is a significant barrier to digitalisation.

Research on digitalisation and productivity in European countries shows that increasing cloud computing uptake by 10 percentage points increases MFP by 0.9% instantaneously, 2.3% after 3 years and 3.5% after 5 years (Gal et al. 2019; Sorbe et al. 2019).

Technology can generate investment opportunities

It goes without saying that new technologies open opportunities for new investment.

Digital trade supports investment lowering the barriers to trade and increasing the potential for greater integration in global value chains. NZIER (2021) identified a range of benefits:

- Productivity gains from efficiency improvements, increased scope for automation, reduced risk of human error and much greater use potential for complex analytics.
- Connectivity gains. Lower barriers to trade in existing and new markets.
- Predictive gains. Information supports greater consumer tailoring and accurate forecasting.
- Visibility and transparency gain. All parties within the value chain can access one set of documents. This avoids confusion on what trade terms parties agreed upon and clarifies the obligations of each of the parties.
- Inclusiveness gains. By making it easier to trade, trade barriers are reduced, especially for MSMEs (micro-, small and medium-sized enterprises) and SMEs. This allows more SMEs and MSMEs to be involved in trade and share the potential benefits of trading exclusively on the domestic market. It may also improve perceptions of trade more generally.

Financial technology has lowered the barriers to investing in equities through online and mobile platforms (Bollaert, Lopez-de-Silanes, and Schwienbacher 2021).

Technology can also disrupt existing investment

Technology can have a creative destruction effect on investment. Creative destruction is a process by which new technology creates new investment opportunities but, at the same time, makes existing investments, at best, less competitive or, at worse, obsolete (Aghion and Howitt 1998).

Economic geography and investment

New Zealand is at the edge of the world, with a small population that is spread unevenly over its land area. The economic geography of New Zealand and the distance to the market has contributed to productivity challenges (McCann 2009). Distance to markets has been estimated to cause New Zealand's GDP to be around 10% lower than it might be if the spatial separation was reduced (Boulhol, de Serres, and Molnar 2008). As this is not an option, other solutions need to be explored to boost our GDP.

De Serres, Yashiro, and Boulhol (2014) found that lower investment in R&D in New Zealand than in comparable countries could explain 17% to 22% of the productivity gap. Business investment in exporting, digital trade and R&D has a role in reducing the negative effects of economic geography, but as alluded to later in the report, distance also constrains investment. Incremental improvements through building networks, opportunities and experience are key roles for business.

5 Policy features of a favourable investment environment

New Zealand faces many barriers in cultivating a favourable investment environment. The settings put in place by the government provide an opportunity to incentivise or disincentivise the level and type of investment. The OECD produced a framework that provides a checklist of key policy issues for consideration to mobilise private investment that supports steady economic growth and sustainable development, contributing to the economic and social well-being of people worldwide (OECD 2015).

Table 4 Policy enablers for investment

Policies	General link to investment	The New Zealand context
Investment policy	Laws, regulations, and policies relating to investors.	Regulation and its enforcement play a key who can invest and how property rights are maintained.
Investment promotion and facilitation	Promotion of investment conditions and facilitation of new or existing investments.	New Zealand is ranked 11th on the Global Opportunity Index in the world and in the OECD.
Trade policy	Export market opportunities, regulations, and global value chain participation.	New Zealand is considered one of the most open economies in the world and considers trade critical for its prosperity.
Competition policy	Facilitation of competition and establishing a fair business environment.	The Commerce Act prohibits anti-competitive agreements between firms, such as agreements to fix prices, allocate markets or restrict output.
Tax policy	Favourable tax policies to attract investment.	New Zealand has a high corporate tax compared to the OECD average.
Corporate governance	Creating trust for investors in business behaviours.	The Companies Act 1993 is the core legislation within the New Zealand corporate governance regulatory system, as companies are the predominant form of entity.
Policies for enabling responsible business conduct (RBC)	The effective policy for RBC entails establishing and enforcing a framework that protects the public interest by monitoring performance and compliance.	The External Reporting Board provides a framework for the requirements for entities to report their financial results externally.
Human resources policy for investment	Policies influencing the labour force and regulation of the labour market.	New Zealand's measures of human capital are in line with the OECD levels.
Investment in infrastructure	Quality infrastructure increases participation in value chains and reduces costs.	New Zealand has seen the challenges of reduced access to global value chains during the COVID-19 pandemic.
Financing investment	Ensuring a well-functioning financial system.	New Zealand has a relatively underdeveloped financial system lacking depth and liquidity.
Public governance	Government efficiency and effectiveness attract investment.	New Zealand is ranked the second least corrupt country in the world, increasing confidence for investors.

Source: NZIER

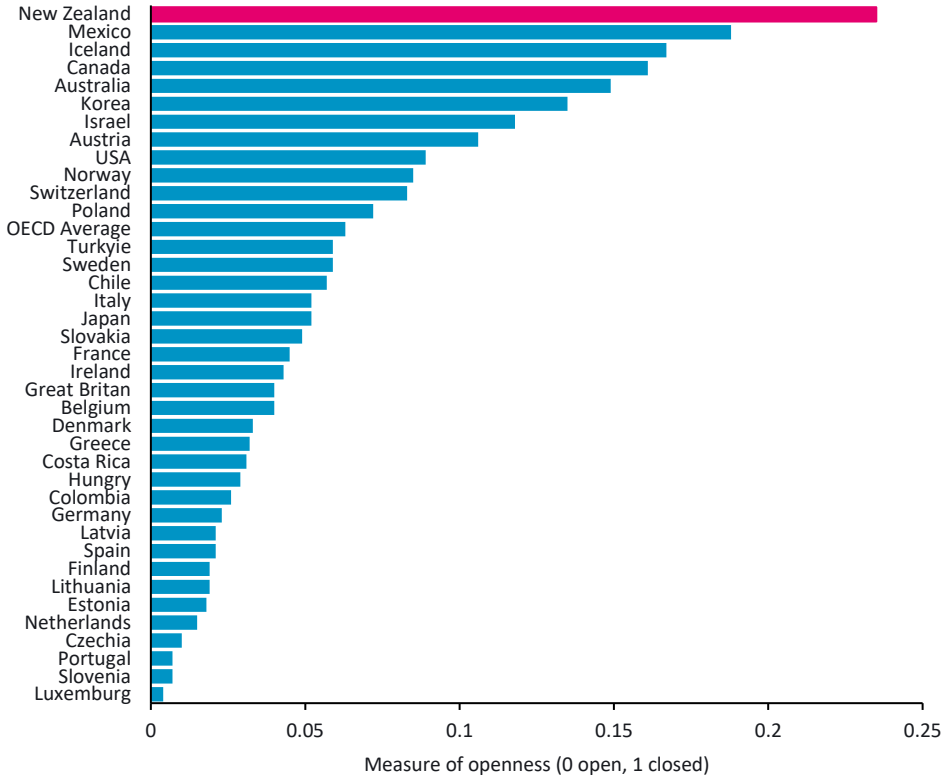
5.1 Investment policy in New Zealand defends our significant assets

A key determinant of cultivating investment is whether New Zealand has strong investment policies to help provide investors transparency and predictability and identify which parts of the economy are open to investment. Business investment reflects expectations about the future, and the more certainty that can be provided, the easier it is for individuals and firms to make investment decisions (OECD 2015). Effective investment policy establishes a clear and comprehensive legal and regulatory framework for business and investment activities that is flexible and consistent with overall government strategy (OECD 2015).

New Zealand, like many other countries, has legislation that establishes what areas of investment are deemed sensitive or matters of national security. One of the key governing policies is the Overseas Investment Act 2005. Investment in New Zealand requires consent or having certain conditions imposed on investments (New Zealand Government 2005). New Zealand has the most restrictive FDI policy in the OECD. This may be from New Zealand's large agricultural sector and the restrictions around it.[1] Figure 3 compares FDI restrictiveness in New Zealand to OECD members. Figure 4 shows that New Zealand's inward FDI as a percent of GDP has remained relatively constant, whereas the OECD average has been increasing over time.

Figure 3 FDI restrictiveness

Comparing New Zealand to the OECD average across different sectors in 2020



Source: OECD – FDI restrictiveness[1]

[1] https://data.oecd.org/fdi/fdi-restrictiveness.htm

Figure 4 Inward FDI as a percent of GDP

Comparing New Zealand to the OECD average of inward FDI to GDP

Source: OECD – FDI stocks (indicators)[2]

The Overseas Investment Act was amended in 2021 to ensure that risks posed by foreign investment can be managed effectively while better supporting productive overseas investment by reducing the regulatory burden of the screening process (The Treasury 2021).

Foreign direct investment in New Zealand is lower than in other countries, and the rules and procedures are more restrictive. The OCED (OECD 2022) suggests this has been barriers to:

- inward international investment
- greater integration with goods-based global value chains
- diffusion of technology and knowledge from engagement with large multinational businesses.

The OCED applauded recent moves to streamline FDI applications, but they also noted that further easing of restrictions would improve investment and diffusion of technology in New Zealand.

5.2 Investment promotion and facilitation

Attracting investment requires promotion around the benefits of investment as well as facilitation to help remove barriers. This function can help streamline administrative procedures to ease off doing business and reduce the cost of investing (OECD 2015).

Effective promotion and facilitation require alignment with government objectives with clear policy tools and measures to achieve this. This requires strong connections between regional and international networks to ensure the connection between local and global value chains (OECD 2015).

[2] http://data.oecd.org/fdi/fdi-stocks.htm

One of New Zealand's main promotion and facilitation agencies is Invest New Zealand, a branch of New Zealand Trade and Enterprise. They provide market intelligence, scouting for investment locations, connections to potential partners and professional services in-market, help navigating the New Zealand business and regulatory environment, advice on government programmes and approval processes, and facilitation of introductory visits to New Zealand to help improve foreign direct investment (Invest New Zealand n.d.).

New Zealand was ranked 11th using the Global Opportunity Index globally and within the OECD. This measures a country's attractiveness to international investors using a combination of economic, financial, institutional, and regulatory factors (Milken Institute n.d.).

5.3 Trade policy leverages our competitive advantage

Trade policies influence the size of export markets for the output of firms and can shape both foreign and domestic investment. Trade liberalisation can improve allocative efficiency, provide access to larger markets, and allow for greater-scale economies and lower costs (OECD 2015).

Effective trade policy focuses on reducing compliance costs, addresses trade barriers, and supports local firms' facilitation in global value chains. Ensuring that trade policies and practices contribute fully to a favourable investment climate also requires emphasising transparency, policy stability and predictability (OECD 2015).

New Zealand is considered one of the most open economies in the world and considers trade critical for its prosperity (WTO 2022). New Zealand's goods exports are largely from the primary sector, accounting for 81.4% of total goods exports for the year ended June 2022. Goods also account for most of total exports, with services only accounting for 16% of total exports in 2022 (Ministry of Foreign Affairs and Trade 2023). Further research is required to compare New Zealand's trade policy against the OECD.

5.4 Competition policy establishes the 'rules of the game'

A competitive environment encourages risk-taking and, therefore, investment. It is important for firms and investors to feel confident in the regulation. A competitive business environment needs structured competition law and enforcement of that law (OECD 2015).

Competitive markets help to keep prices down and ensure that the quality of goods and services remains high. The competition also ensures consumers have a range of choices, and firms have incentives to innovate, invest and operate efficiently. Anti-competitive behaviour can jeopardise all of this and a company's ability to win new customers (New Zealand Commerce Commission, 2023).

Investors need to know the rules of the game and be aware of what they can and cannot do when talking to their competitors. The Commerce Act prohibits anti-competitive agreements such as agreements to fix prices, allocate markets or restrict output (New Zealand Commerce Commission 2023). Further research is required to compare New Zealand's competition policy against the OECD.

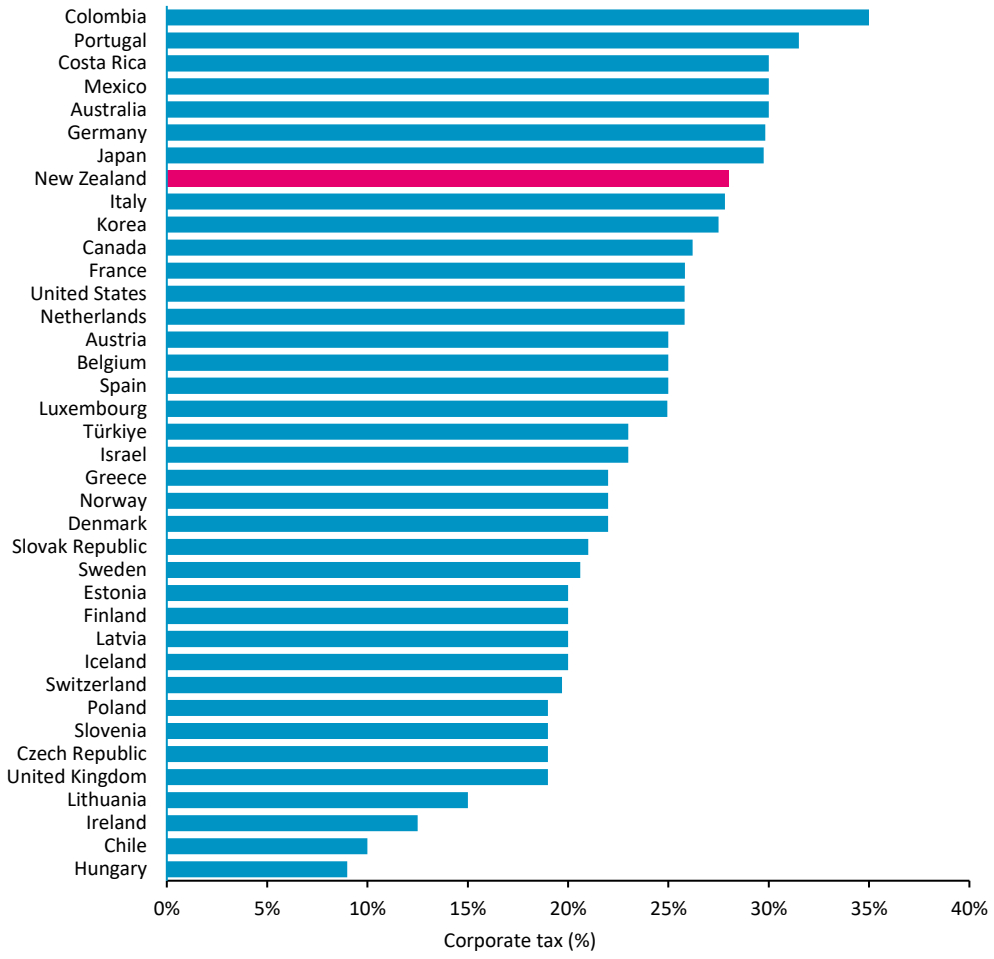
5.5 New Zealand has higher corporate tax rates compared to the OECD average

Policymakers often take a holistic view of their country's tax rates and tax mix to balance the broad range of social and development objectives against the need to attract investment (OECD 2015). Effective tax policy supports the government development objectives, has tax incentives that can favourably affect investment decisions, and tax incentives are targeted to special groups/locations, can a non-uniform treatment of investors be justified (OECD 2015).

Figure 5 shows that New Zealand has a comparatively higher statutory corporate tax level than other OECD countries (Ministry of Business, Innovation and Employment 2020) and that the tax system is characterised by relatively high taxes on business and capital income and low taxes on labour incomes.[3] These are basic corporate tax rates and don't reflect the complex nature of tax systems. The interaction between income and corporate tax is out of scope. This has contributed to the attractiveness of investment in property and housing domestically (OECD 2017).

Figure 5 OECD corporate tax rates

Comparing New Zealand to the OECD in 2022



Source: OECD – Statutory Corporate Income Tax Rates

[3] Statutory corporate income tax rate is 'basic' (non-targeted) central, sub-central and combined (statutory) corporate income tax rates for resident corporations. Where a progressive (as opposed to flat) rate structure applies, the top marginal rate is shown.

In 2017, the OECD suggested that tax reform to lower corporate taxes would support increased capital stocks in New Zealand and improve the relative attractiveness of international and domestic investment (OECD 2017). Lower corporate taxes to support the expansion of business investment has been supported by local research (G. Nolan and Nolan 2021; Coleman 2019).

In the most recent OECD survey of New Zealand (OECD 2022), they repeated the recommendation for reducing corporate taxes. The recommendation was to reduce corporate taxes as a percentage of GDP from 5.1% to the OECD average of 3.1%. The joint aims of this tax cut would be to increase business investment and enhance the attractiveness of New Zealand for international investment. It was noted the fiscal impact would be material. However, the OECD also recommended considering a capital gains tax and lowering the barriers to foreign direct investment.

The OECD also highlighted that business investment in research and development was lower than in other countries. Collaboration between businesses and universities on research and development appears lower than elsewhere. The OECD recommended fiscal policy reform to encourage business investment in research and research, and greater public-private collaboration on R&D would boost productivity (OECD 2017).

5.6 Corporate governance policies promote transparency

Good corporate governance practices will help improve the confidence of domestic investors, reduce the cost of capital, underpin the good functioning of financial markets, and ultimately induce more stable sources of financing (OECD 2015).

An effective corporate governance framework should help ensure equitable treatment of shareholders, address conflicts of interest, and provide timely, relevant, and reliable discourse to help increase transparency (OECD 2015).

The Companies Act 1993 is the core legislation within the New Zealand corporate governance regulatory system, as companies are the predominant form of entity. The corporate governance regulatory system includes the rules, institutions and practices which govern the creation, operation, and dissolution of various types of entities. These entities enable individuals to come together in pursuit of a common objective, whether social or commercial (Ministry of Business, Innovation & Employment 2019).

5.7 Policies for enabling responsible business conduct

Similarly to corporate governance policies, the government can use rules and regulations to increase transparency for investors. The government can regulate and create legal frameworks businesses must operate to protect social interests. Responsible business conduct (RBC) means that businesses should positively contribute to economic, environmental, and social progress and avoid and address adverse impacts through their own activities (OECD 2015).

The effective policy for RBC entails establishing and enforcing a framework that protects the public interest by monitoring business performance and compliance. It should help facilitate reporting, with clear communication on expectations from businesses as well as leading by example (OECD 2015).

Many New Zealand organisations, such as businesses, not-for-profit organisations and the Government, have a legal obligation to prepare and publish reports which apply External

Reporting Board standards (External Reporting Board 2022). The following Acts set out which types of organisations must produce, obtain assurance and publish financial statements: Charities Act 2005, Companies Act 1993, Financial Markets Conduct Act 2013, Public Finance Act 1989, Crown Entities Act 2004, Local Government Act 2002 (External Reporting Board 2022).

5.8 New Zealand's human capital is in line with the OECD average

An effective and efficient labour force is essential to help attract investment. Increasing society's knowledge, skills, and capacities with designed labour policies can help reduce inequality and spur economic growth, creating more and better jobs for all. Investment in worker skills and enhanced access to education, training, and public services play a key role in labour effectiveness (OECD 2015).

Effective human development policy is consistent with the government's overall investment aims. It increases accessibility and incentives to higher education, training, and services, as well as reducing discrimination in labour markets (OECD 2015).

Overall, New Zealand's measures of human capital are largely in line with the OECD average. New Zealand has a lower average wage[4] than the OECD and works slightly more hours on average per year.[5] New Zealand has one of the smallest gender pay gaps[6] in the OECD and higher than the OECD average life expectancy.[7] New Zealand has a similar percentage of adults with a tertiary degree to the OECD average.[8]

5.9 Geographic isolation places increased importance on infrastructure

Poor quality or inadequate economic infrastructure increases the costs of business with an impact on countries' integration into global value chains and broader economic development (OECD 2015).

Infrastructure needs a coherent policy that enables the environment to invest in infrastructure. Careful sensitivity and risk analysis are necessary to help strike an adequate balance of risk allocation between public and private partners. It is also important to signal an ongoing commitment to infrastructure development (OECD 2015).

New Zealand has seen the challenges of reduced access to global value chains during the COVID-19 pandemic. The reduction in access creates cost pressure and uncertainty regarding getting critical inputs and products to market.

5.10 New Zealand has shallow financial markets

Well-functioning financial systems are important for economic growth and attracting investment. They help fund capital investment and allocate resources to their best uses. Increased capital accumulation can have long-lasting effects on economic growth and productivity (OECD 2015). An efficient financial system requires policy, operational and legal infrastructure for the financial sector to be conducive to financing investment (OECD

4 http://data.oecd.org/earnwage/average-wages.htm

5 http://data.oecd.org/emp/hours-worked.htm

6 http://data.oecd.org/earnwage/gender-wage-gap.htm

7 http://data.oecd.org/healthstat/life-expectancy-at-birth.htm

8 http://data.oecd.org/eduatt/population-with-tertiary-education.htm

2015). New Zealand has also had a relatively underdeveloped financial system lacking depth and liquidity though this has been maturing in recent years. New Zealand's shallow capital base means overseas investment has a role to play (Conway 2018).

5.11 New Zealand is perceived as one of the least corrupt countries

Trust is essential in attracting investment. Clear regulatory policies and trust in the government are important. Regulations encouraging market dynamism, innovation, and competitiveness help promote the investment destination. Efficient regulations and governance increase the effectiveness of delivering social and economic policies (OECD 2015).

Key governance aspects considered here include quality regulation, transparency, openness and integrity. These characteristics will encourage investment and reduce the costs of doing business. Anticorruption laws and transparency are also in increasing trust (OECD 2015).

New Zealand is considered one of the least corrupt counties, ranking second in the Corruption Perceptions Index (CPI) in 2022 (Transparency International 2023). Research has found a statistically significant relationship linking higher CPI to higher foreign direct investment (Podobnik et al. 2008).

6 Investment and frontier firms

In the last section, we applied the OECD framework for investment policies to assess the current investment conditions in New Zealand.

To gain a better understanding of the investment landscape in New Zealand and its potential impact on the economy, we will delve into how investments can benefit businesses in the context of frontier firms. By examining these firms' challenges and experiences, we can evaluate the effectiveness of current investment policies and identify areas that require improvement. Our investigation began by examining the characteristics of frontier firms in New Zealand. We explored how investments can help these firms overcome barriers to growth, such as access to finance, skilled labour, and markets. This approach will provide a more comprehensive understanding of the role of investment in driving innovation and productivity.

6.1 Definition of frontier firms

According to the OECD, frontier firms are defined as the top 5% (10%–25%) of firms in terms of productivity within their industry or a country (Andrews, Criscuolo, and Gal 2015). The OECD framework on frontier firms contains two productivity dimensions: global and national, representing the most productive firms globally and the most productive firms within a country. These firms are often characterised by their ability to innovate and adopt new technologies, and they play a crucial role in driving economic growth and competitiveness.

Frontier firms are known for creating high-quality jobs and investing in research and development, which can lead to new products and services that benefit both consumers and society. The OECD has studied frontier firms and their impact on the global economy for many years. Their research has highlighted the importance of policies and initiatives that can help other firms learn from these leaders and adopt best practices to improve their own productivity and competitiveness. (Andrews, Criscuolo, and Gal 2015).

The Productivity Commission (New Zealand Productivity Commission 2021) listed the following key characteristics of frontier firms:

- Frontier firms export more: Frontier firms tend to engage more in exporting. They are more likely to be exporters and have a higher revenue share from exports. They are also more likely to enter new export markets.
- Frontier firms invest heavily in innovation: Frontier firms invest more in innovation. They develop new products, processes and methods that boost performance. Frontier firms also benefit non-frontier firms through the diffusion of new technology.
- Frontier firms have scale: Entering new foreign markets is an expensive venture. They are more likely to enter new export markets because they tend to have bigger scales of operation, making riskier investments more feasible. Frontier firms can also enable strong networks around them and surround themselves with an extensive ecosystem of small and medium-sized firms.
- Frontier firms exhibit ‘dynamic capabilities’: ‘Dynamic capabilities is described as a bundle of skills, from high levels of innovation, and strong international connections,

to sophisticated governance and leadership, and risk management processes. (New Zealand Productivity Commission 2021)

6.2 Why are frontier firms important in New Zealand?

The characteristics listed above are crucial to the development of the New Zealand economy.

- Frontier firms export New Zealand products: New Zealand is a small, geographically isolated country that faces unique challenges in accessing the international market. Frontier firms can help overcome some of these challenges by creating new export markets, developing innovative products and services, and adopting new technologies to improve productivity and competitiveness.
- Domestic frontier firms are crucial to boosting the performance of non-frontier firms in New Zealand: According to research conducted by the Productivity Commission, non-frontier firms in New Zealand greatly benefit from the diffusion of innovation and technology from local frontier firms. However, it appears that they do not directly absorb new technologies from frontier firms located outside of New Zealand. (New Zealand Productivity Commission 2021). This underscores the critical importance of technological advancements and innovation from local frontier firms in driving the growth and development of non-frontier firms within New Zealand.
- Frontier firms can help New Zealand businesses achieve economies of scale: New Zealand has a relatively small population, which makes it difficult for firms to achieve economies of scale. By operating at a scale more efficient than non-frontier firms in New Zealand, frontier firms have the potential to increase productivity and competitiveness across the economy.
- Frontier firms can help attract 'dynamic capabilities': Frontier firms can help to attract investment and talent to New Zealand. By being at the forefront of innovation and technology, these firms can create a dynamic and attractive business environment that can help to retain and attract skilled workers. They also have the potential to spread good governance and leadership across other New Zealand businesses.

Development in micro-level data on firm characteristics also allows us to monitor the economic contribution of frontier firms in New Zealand. Using the labour and productivity datasets in the Longitudinal Business Database (LBD) managed by Stats NZ, researchers characterised New Zealand firms into 10 deciles based on their productivity performance. Their results suggested that although frontier firms make up only 8% of firm years, they contribute 29% of the total value-added. Compared to firms just below the frontier, frontier firms play a significantly more significant role in the aggregate output, generating 87% more value-added with the same amount of labour input. The difference in firm performance becomes even more apparent when comparing the aggregate labour productivity of frontier firms to that of the bottom 10% of firms. The frontier firms are nine times more productive than the bottom decile (Fabling 2021).

6.3 Frontier firms worldwide vs frontier firms in New Zealand?

Despite the presence of some world-leading firms, the frontier firms in New Zealand, on average, are not performing as well as their international counterparts. When benchmarked with successful frontier firms in other small, advanced economies (SAEs) of

Belgium, Denmark, Finland, the Netherlands and Sweden, New Zealand's frontier firms have around 50% lower labour productivity levels. (New Zealand Productivity Commission 2021)

In addition, when it comes to the rate of productivity growth, frontier firms in New Zealand exhibit lower rates compared to their counterparts in other small advanced economies. While starting at a much lower level of productivity, New Zealand frontier firms have not been able to catch up with their counterparts in other SAEs. This is concerning because of the influence frontier firms can have on the economy (New Zealand Productivity Commission 2021).

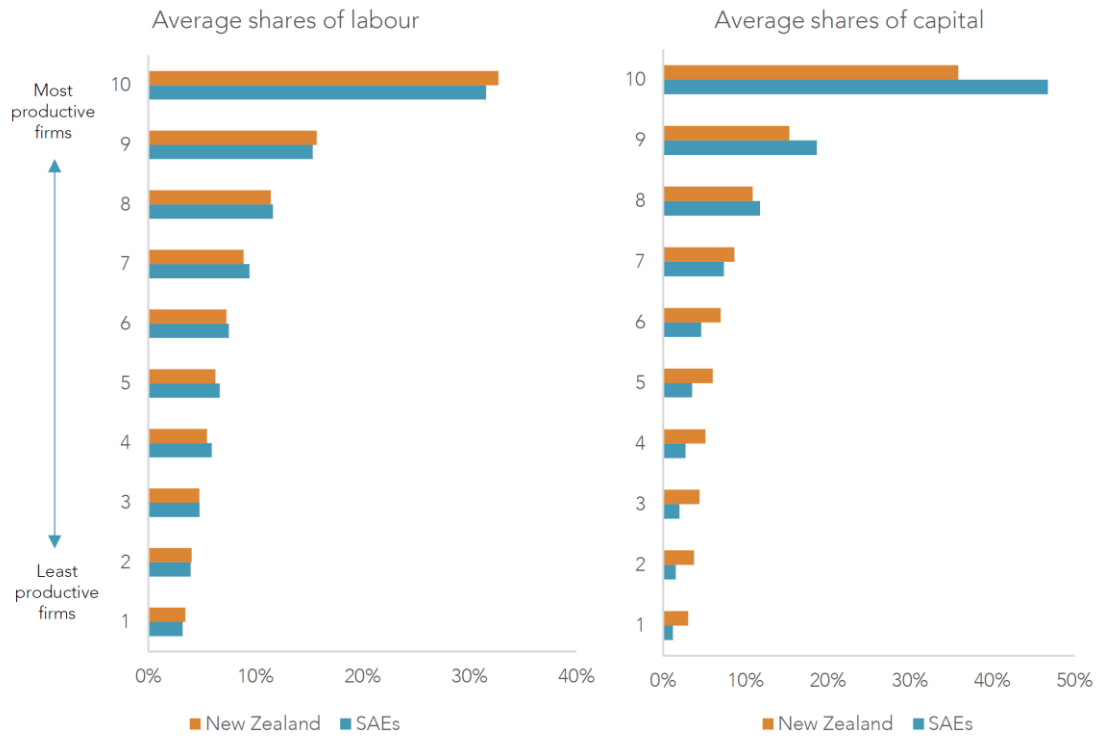
On a brighter note, the gap between New Zealand's frontier and non-frontier firms has been relatively stable in the past decades, suggesting that firms behind the frontier in New Zealand are keeping up with the productivity growth of frontier firms. This suggests that technology diffusion in the domestic economy is working (New Zealand Productivity Commission 2021).

6.4 How does investment help to improve the performance of frontier firms?

Despite making significant contributions to the economy, frontier firms in New Zealand are lagging behind in productivity when compared to their counterparts in other SAEs. In this section, we aim to investigate the reasons behind this productivity gap by analysing and comparing the firm characteristics of New Zealand firms with those of firms in other SAEs.

Figure 6 Share of labour and capital by MFP deciles

Comparing New Zealand to other SAEs between 2003 - 2016



Source: New Zealand Productivity Commission (2021)

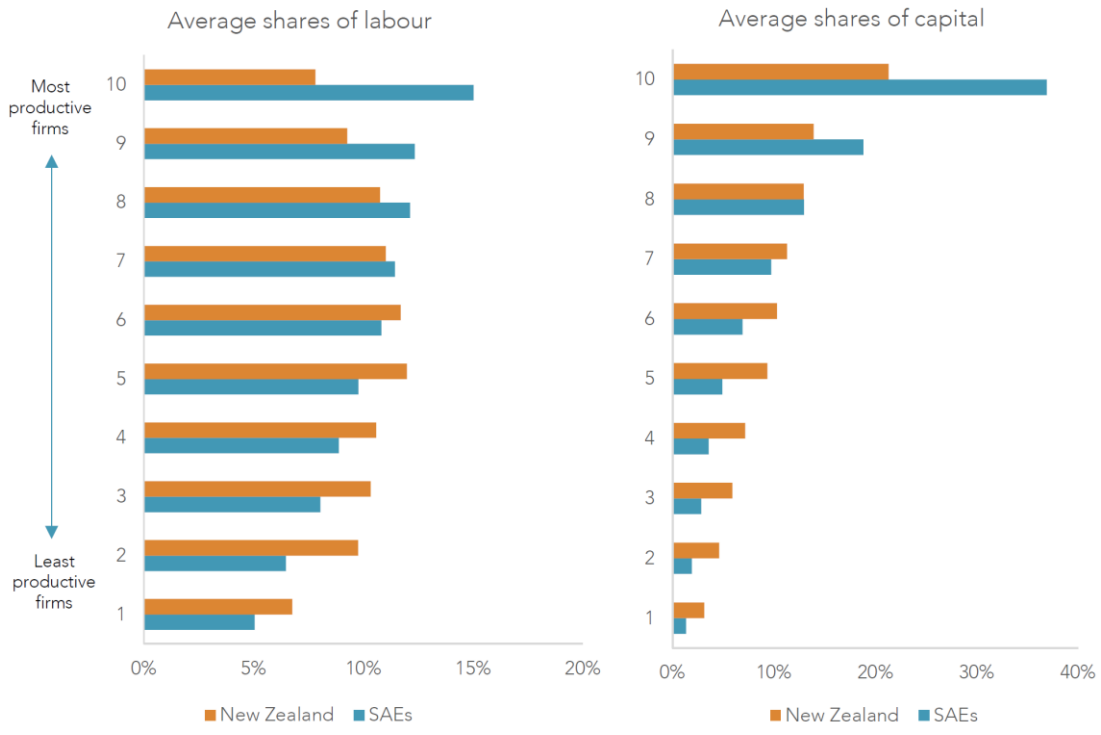
Frontier firms tend to demonstrate greater productivity levels than non-frontier firms. As a result, if these frontier firms have a larger share of labour and capital, then the economy can employ a greater portion of its resources productively. To examine how resources are distributed among firms with varying productivity levels, the Productivity Commission has categorised firms in both New Zealand and other SAEs into ten deciles based on their MFP. By doing so, the Commission can compare the allocation of labour and capital across the different MFP deciles. Their analysis is detailed in Figure 6, with the left panel displaying the share of labour and the right panel displaying the share of capital (New Zealand Productivity Commission 2021).

The data reveals that the most productive firms tend to employ a greater proportion of total labour and capital. Although the allocation of labour is comparable between New Zealand and the European SAEs, the European SAEs assign a higher proportion of capital to the top two deciles and a smaller proportion to the lower deciles than New Zealand does. This suggests that the capital intensity of New Zealand's most productive is lower than other advanced economies. Increasing capital intensity is associated with increased investment due to the upfront and enduring costs associated with capital. Investment in labour is often more short-term for businesses. For example, investing in new machinery is a long-term investment in comparison to short-term training courses for upskilling labour.

Figure 7 plots the labour and capital shares based on labour productivity deciles rather than MFP. This method provides a more straightforward comparison in terms of capital intensity between firms. This is because firms with higher levels of capital per worker will tend to shift to higher deciles, whereas firms with lower capital per worker will shift to lower deciles.

Figure 7 Share of labour and capital by labour productivity deciles

Comparing New Zealand to other SAEs between 2003–2016



Source: New Zealand Productivity Commission (2021)

The left panel of Figure 7 indicates that, on average, the European SAEs have their largest firms (in terms of employment) in the top productivity decile. The next largest firms are in the ninth decile, and so on down to the bottom decile. However, New Zealand's largest firms are situated in the fifth labour-productivity decile. This observation is consistent with New Zealand's lack of large, successful, export-oriented firms with high labour productivity. Instead, its large firms tend to be middle performers and may predominantly serve the domestic market.

The comparison based on labour productivity further highlights the difference in capital allocation between New Zealand firms and firms in other SAEs. The other SAEs assign a higher proportion of capital to the top deciles and a smaller proportion to the lower deciles.

In summary, compared to New Zealand, the European SAEs attract a larger proportion of capital to their frontier firms, whether based on their MFP or labour productivity performance. This finding aligns with the idea that European firms are more capital-intensive than their New Zealand counterparts (New Zealand Productivity Commission 2021).

The capital shallowness of firms in New Zealand may significantly impact their innovation and productivity levels. International literature has suggested that limited access to capital can hinder firms' ability to invest in research and development, upgrade technology, and expand their operations (Coad 2010; Aghion et al. 2005). Low levels of capital investment can ultimately result in reduced innovation and competitiveness, making it challenging for firms to keep up with their international counterparts.

The allocation of a higher proportion of capital to frontier firms in the European SAEs suggests that these firms are better equipped to invest in innovation and adopt new technologies, resulting in higher productivity levels. Therefore, improving access to capital and encouraging investment in innovation could help address New Zealand's capital shallowness and improve the productivity of its firms.

The importance of more investment and cultivating New Zealand’s innovation ecosystem is also highlighted in suggestions from the Productivity Commission. By comparing New Zealand frontier firms with that of other SAEs, the Commission highlighted the importance for New Zealand to employ the following strategies to help firm export specialised, distinctive products at scale: (New Zealand Productivity Commission 2021)

- Attract high-quality foreign direct investment.
- Support individual companies to meet the fixed costs of innovation and exporting.
- Invest in building “innovation ecosystems” around their frontier firms in select focus areas.

In conclusion, New Zealand's frontier firms are confronted with significant challenges in catching up with the productivity levels of their global peers. To overcome these challenges, the New Zealand government has a significant role in developing clear strategies emphasising innovation and capital investment. By adopting strategies prioritising innovation, New Zealand can cultivate a thriving ecosystem that fosters productivity growth and enables firms to transition to the new frontier.

7 Conclusions

7.1 Bringing it all together

The evidence reviewed in this research project suggests that various influences affect business investment in New Zealand. Table 5 discusses those drivers in general and in the context of New Zealand.

Table 5 The influences for investment in New Zealand

Influence	General link to investment	The New Zealand context
Access to capital (financing constraints)	Access to capital drives the level of investment and risk-taking behaviour.	Access to capital in New Zealand appears more limited than in other countries. FDI is more restricted. Financing constraints are a key barrier to the internationalisation of a local business.
Cost of capital	The cost of debt and equity financing affects the expected return needs for profitability.	The cost of capital in New Zealand is higher compared to Australia. Consequently, the investment will be lower in New Zealand relative to across the Tasman.
Expectations, uncertainty and risk	Uncertainty discourages investment and risk-taking. Increased uncertainty is associated with deferred investment. Business confidence in market conditions and the outlook drive investment decision. Declining market conditions negatively affect investment levels.	Increased uncertainty is associated with a lower overall investment level in New Zealand. There is evidence that global uncertainty affects investment more than local uncertainty due to our export orientation. Uncertainty and choice paralysis are barriers to investment in digitalisation among small businesses.
Government regulation and policy	Government policies shape the settings that underpin the drivers of investment through regulation, policy, enforcement and political stability.	Trade and competition policies are robust and favourable for investment. Tax, FDI, and R&D policies are less favourable to investment than other countries.
Technological advancement	There is an interplay between investment and technology that exhibits elements of creative destruction.	New Zealand is known for innovation in some areas, like agriculture. But New Zealand is also lagging behind the OECD on digitalisation which is a global technology, productivity and investment driver.
Economic geography	Investment decisions are affected by a range of economic geography factors such as: - Proximity to trading partners - Population density and distribution - Infrastructure requirements - Transport costs.	New Zealand's economic geography increases the cost of trade.

Source: NZIER

Where improvements to investment conditions could be made

- Lowering the barriers to foreign direct investment would attract more investment and support greater integration with global value chains and diffusion of technology.
- The OECD has repeatedly recommended corporate tax reform to stimulate business investment. Local research also supports the case for lowering corporate taxes to boost investment. This general observation needs in-depth consideration. Tax policy is more complex and nuanced than suggested by basic comparisons, which are not necessarily comparing the same things.
- Increased public-private investment in research and development would boost productivity, and policy reform is needed.

Investment is important for creating and growing frontier firms

- Internationally frontier firms are early adopters of technology and attract investors in developing and commercialising emerging technologies that support the objectives of their business model.
- These frontier firms are more capital-intensive than non-frontier firms but support the diffusion of technologies in the market over time.
- Frontier firms in New Zealand are less capital-intensive than their international counterparts but still support a degree of innovation and technology diffusion.
- New Zealand's frontier firms face significant investment challenges to yield the productivity levels of their global peers. To overcome these challenges, the New Zealand government has an important role to play in developing clear strategies such as:
  - Attracting high-quality foreign direct investment.
  - Supporting individual companies to meet the fixed costs of innovation and exporting.
  - Investing in building ‘innovation ecosystems’ around their frontier firms in select focus areas. For example, the Danish Digital Growth Strategy focuses on specific industries and technologies to actively support innovation and inclusive industry-wide transformation (The Danish Government 2018; Ministry of Foreign Affairs Denmark 2022).

Overall, the extent of research into investment and productivity in New Zealand is limited. Serval studies have considered it, but few use the kind of firm-level data needed to demystify what matters in the context of New Zealand.

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