Frontier firms: An international small advanced economy perspective

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Prepared for the New Zealand Productivity Commission

May 2020

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Executive Summary

New Zealand has weak aggregate productivity performance, relying on growth in the labour input to drive headline GDP growth. And there has been little sign of convergence towards the global productivity frontier, despite high quality policy foundations. This is reflected in the performance of New Zealand firms: few New Zealand firms are at the global productivity frontier. Strengthening New Zealand's productivity performance in a material way rests on developing more frontier firms at scale.

To provide insight into these issues, this paper draws on the international small advanced economy experience. Small advanced economies are not just scaled-down versions of large economies, but have distinctive characteristics in their economic behaviour and performance. Understanding the productivity dynamics of these small economies can provide specific guidance for New Zealand in developing productivity policy. Looking across the small advanced economy group, there are several clear insights.

First, the performance of internationally oriented sectors is central to the performance of small advanced economies. Productivity performance in the domestic economy is constrained in small advanced economies, because the small size of the market limits competitive intensity as well as opportunities for scale and specialisation. However, firms in internationally oriented sectors that scale into international markets are much more likely to be close to the productivity frontier.

Second, large firms play a particularly important role in the productivity performance of small advanced economies. Larger firms have higher levels of productivity, are more likely to export, to innovate, and to pay higher wages. On several measures, small advanced economies have a high number of large, internationally engaged firms that have played a significant role in driving global engagement and productivity growth. An SME-based approach is likely to be under-powered.

Third, small economy firms at the productivity frontier tend to operate in deep clusters, in which they can benefit from external scale economies: flows of knowledge, access to highly-skilled labour, dense backward and forward linkages, specialist advisory services, and so on. This context makes it more likely that firms will be able to develop positions of sustainable competitive advantage based on knowledge and innovation, and move towards the productivity frontier. In small advanced economies, there will only be a handful of internationally oriented clusters with the necessary critical mass for success.

Implications for New Zealand

There are several distinctive features of New Zealand's economic structure and dynamics that provide insight into the relative absence of frontier firms. Relative to other small advanced economies, New Zealand has low levels of international economic engagement; has few firms exporting or investing offshore at scale; and does not have dense, innovative, high-growth clusters of scale around its major areas of competitive advantage in the primary sector and the weightless economy.

Large parts of New Zealand's international sectors are in ownership structures that constrain growth in the cluster. The co-operative structure and regulatory context constrain risky investments, and make it more likely that the product mix is commodity-based. This has improved over time, but New Zealand has not produced competitive, high growth multinational companies (MNCs) around the primary sector.

There has been less of a shift into knowledge-intensive activities than seen in many other small advanced economies. Directly knowledge or technology-intensive exports remain a relatively small part

of New Zealand's export structure despite recent growth. This is largely due to policy choices: New Zealand has not invested in skills and innovation to nearly the same extent as high performing small advanced economies; and has not focused on developing knowledge intensive competitive advantage.

An agenda for action

Policy choices need to connect to these drivers of growth in order to have a material impact on New Zealand's productivity performance. An agenda for action is proposed, organised around four themes.

International focus: Policy to strengthen frontier firms, and to boost productivity performance, should be focused on internationally oriented clusters: the productivity growth engines of small advanced economies. Productivity improvements can also be made in domestic sectors, but the constraints in these sectors will limit the productivity upside. The current agnostic policy approach that treats international and domestic activities neutrally is not appropriate in a small advanced economy context.

Strategic clusters: Policy should aim to build critical mass in a limited number of internationally oriented clusters that can make a material contribution. There are two broad clusters of activity where New Zealand firms have some competitive advantage in global markets. The first is the primary sector. Unleashing the performance of this sector is critical, given the scale of these activities. There have been some success stories, but much more is needed. And support is needed to transition these sectors to respond to competitive dynamics as consumer preferences shift in red meat, dairy, and so on. Second, weightless sectors such as digital, creative, and other knowledge-based services, where distance from market is much less of a barrier, and where there is some evidence of global competitive strength.

Policy instruments: Policy should be focused on the binding constraints on growth in key firms and clusters in order to create a platform for productivity growth. It is difficult to make progress on overall productivity performance if productivity and growth in large exporting firms is constrained. Policy should address growth constraints in the primary sector due to ownership, governance, and capital market issues, and the development of the broader cluster beyond the dominant firms.

There is also a need for a substantially increased investment in skills and innovation, with a particularly focus on these growth sectors, to support the transformation of New Zealand's international economic engagement by firms that are moving to the productivity frontier. New Zealand's R&D investment needs to be increased to the levels seen in other high-performing small advanced economies (~3% of GDP v New Zealand's 1.4%). Similarly, focused investments in research institutions and universities are required to support sustained growth in frontier firms.

Firm capability & incentives: Private sector behaviours are an important reason for the absence of frontier firms. Management capability and aspiration remain constrained despite some progress. And there are weak incentives to expand: many firms and capital markets see higher returns in the domestic market than offshore, and there is a lack of competitive pressure to expand and invest. Addressing capability and incentive issues should be a priority for action. This can only be shaped indirectly by policy; changed private sector behaviours and attitudes are also needed to strengthen productivity.

New Zealand has debated economic transformation for decades, but has not made much progress. A more granular, bottom-up policy approach focused on unleashing growth in international clusters has more potential in developing frontier firms and raising productivity performance. The small economy experience provides a measure of confidence that this can be done even in a challenging global context.

Introduction

This paper uses the international small advanced economy experience to provide perspectives on the relatively low number of frontier firms in New Zealand, as well as to identify classes of policy action that could lead to improved performance. This productivity challenge is even more acute in the wake of the economic shock caused by Covid-19, which will require New Zealand to develop more distinctive competitive advantage to compete in a low global growth environment.

This international small economy perspective is useful for New Zealand, as it highlights a series of properties that matter disproportionately for the growth process in small advanced economies. Different factors matter for productivity growth in small advanced economies than in larger economies: small economies are not scaled-down versions of large economies, and policy needs to be set accordingly.

This bottom-up, firm-based approach to New Zealand productivity offers new insights into policy actions that can lift New Zealand's productivity performance. There has been a couple of decades worth of analysis describing New Zealand's weak productivity performance, identifying contributing factors such as weak business investment, low R&D spending, and low levels of exporting.[1] And efforts have been made by various governments over this period in response, from tax reform to enterprise policy. But New Zealand's productivity dynamics have not strengthened meaningfully.

The aim of this paper is to offer some perspectives on the type of policy interventions that will lead to material improvement in New Zealand's productivity. New Zealand's small size – and small number of large or high growth firms – makes it feasible to use this firm-focused perspective to generate specific insights on how to raise aggregate productivity. This paper draws on my proprietary research and advisory work with small advanced economy governments over the past decade, and my past 20 years of engagement in the New Zealand economic policy debate.

This paper is structured as follows. Section 1 provides brief background context in terms of New Zealand's aggregate and firm-level productivity performance. Section 2 presents the international small advanced economy experience on the characteristics of high productivity firms. Section 3 considers the New Zealand context relative to this international experience and identifies several reasons for the relative absence of frontier firms.[2] Section 4 discusses policy responses that will support the development and growth of frontier firms in New Zealand. Section 5 concludes.

1. Background

The background and motivation to this study on frontier firms – New Zealand's persistently weak productivity performance – is well-understood and documented by the Productivity Commission and

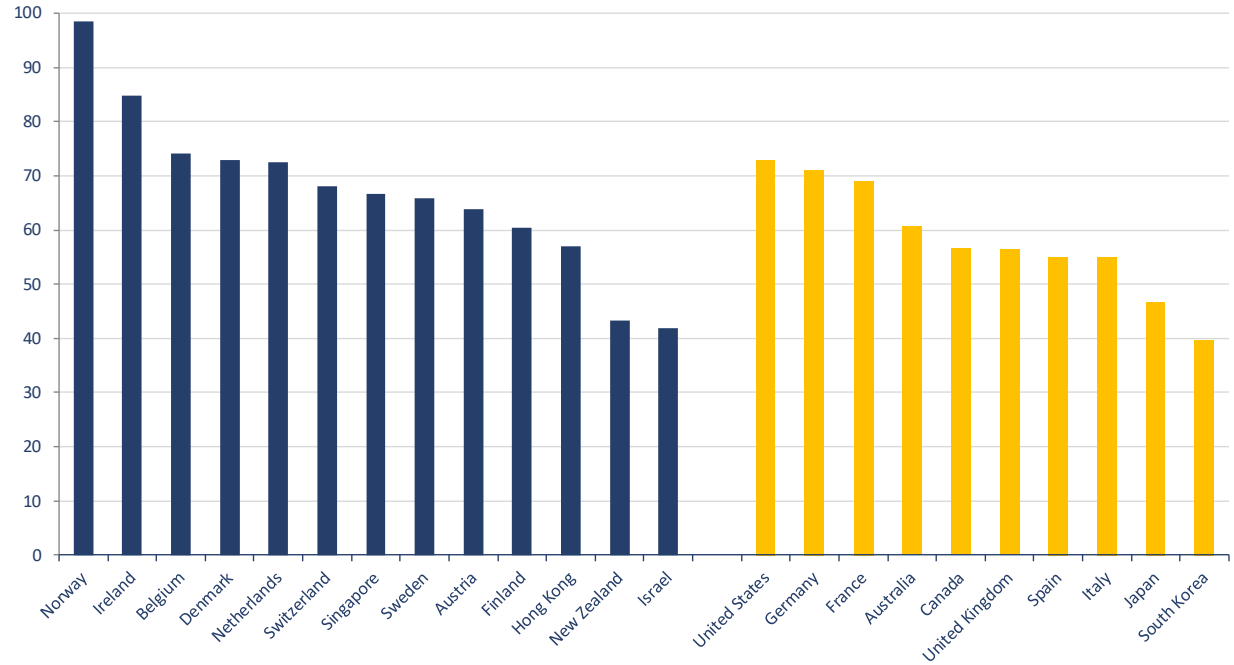
[1] For example, refer to the Treasury's 'Economic Transformation' work from 2001.

[2] For the purposes of this paper, I define frontier firms as those operating at the global productivity frontier (a more demanding definition than firms operating at the domestic New Zealand productivity frontier).

others.[3] New Zealand's per capita income is relatively low, but would be lower again were it not for strong performance in hours worked per capita. Relative to Australia, New Zealand's level of labour productivity is about one third lower. And relative to small advanced economies, there is a larger productivity gap again (Exhibit 1).

Exhibit 1: New Zealand's labour productivity level is near the bottom of the small advanced economy group

Labour productivity (GDP per hour worked), 2016 PPP dollars, 2018



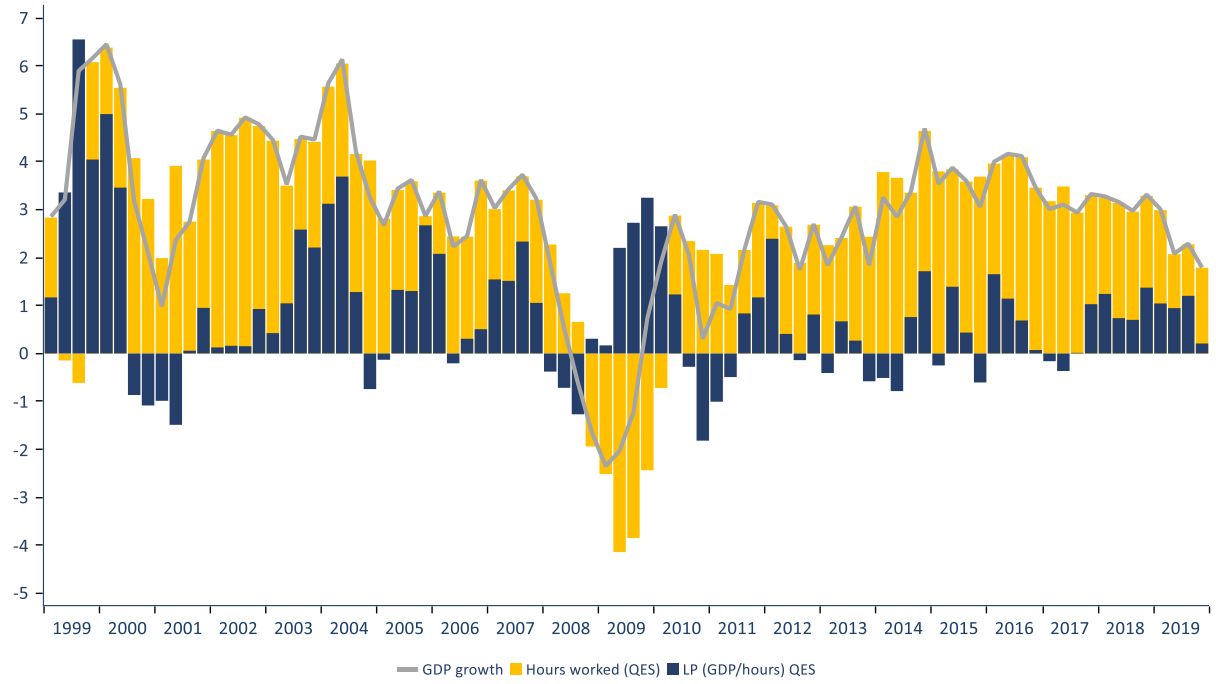
Source: Macrobond, The Conference Board Total Economy Database

Much of New Zealand's GDP growth over the past 30 years has come from growth in hours worked, with low labour productivity growth rates (Exhibit 2).

[3] *For example: Paul Conway, 'Can the kiwi fly? Achieving productivity lift off in New Zealand', New Zealand Productivity Commission, June 2018 (https://www.productivity.govt.nz/research/nz-productivity/)*

Exhibit 2: GDP growth has been largely due to growth in hours worked

Real GDP growth (sa), %, compared to quarter of previous year, Q1 1999 – Q4 2019



Source: Macrobond, Statistics NZ, Landfall Strategy Group calculations

There has been no meaningful improvement in New Zealand's relative productivity performance over the past few decades. This is partly because the incentives to act to lift labour productivity have been relatively weak, including a relatively high cost of capital and an abundant supply of labour (high participation rates, good demographics, strong net migration inflows) as well as the small domestic market. New Zealand firms have expanded through labour rather than through capital and technology; New Zealand's business investment rates remain relatively low. There has been no meaningful convergence towards the global productivity frontier over the past decades.

As noted in the Issues Paper released by the Productivity Commission, this weak overall productivity performance is consistent with the relatively weak performance of frontier firms in New Zealand. The Terms of Reference to this Inquiry notes that 'While New Zealand has some world-leading firms, on average our frontier firms are not performing as well as their international peers'.[4]

[4] *New Zealand Productivity Commission, 'New Zealand firms: reaching for the frontier', Issues Paper, April 2020 (https://www.productivity.govt.nz/inquiries/frontier-firms/issues-paper/)*

Small advanced economies are a very useful comparator group for New Zealand in understanding the priorities for action in strengthening productivity performance.[5] For one thing, small advanced economies are high-performing economies, generating strong economic and social outcomes. But they also face the constraints of a small domestic market as New Zealand does. Although every small economy has distinctive features – Singapore and Ireland are different than Denmark and New Zealand – by looking across the group of small advanced economies, some common themes associated with small advanced economy performance can be identified.

Exhibit 3: Listing of small and large advanced economies

Small advanced economies

Country	Population	GDP/cap (USD)
Ireland	4,950,000	77,771
New Zealand	5,037,000	40,634
Norway	5,356,000	77,975
Finland	5,518,000	48,869
Singapore	5,670,000	63,897
Denmark	5,806,000	59,795
Hong Kong	7,560,000	49,334
Switzerland	8,545,000	83,717
Austria	8,950,000	50,023
Israel	9,054,000	42,823
Sweden	10,322,000	51,242
Belgium	11,458,000	45,176
Netherlands	17,231,000	52,368

Large advanced economies

Country	Population	GDP/cap (USD)
Australia	25,569,000	53,825
Canada	37,445,000	46,213
Spain	46,656,000	29,961
South Korea	51,845,000	31,431
Italy	60,360,000	32,947
France	64,725,000	41,761
United Kingdom	66,867,000	41,030
Germany	82,969,000	46,564
Japan	126,190,000	40,847
United States	329,272,000	65,112

Source: IMF World Economic Outlook, April 2020 (data for 2019)

The small advanced economy experience offers more practical insight for New Zealand than from larger economies that have a different set of economic dynamics. Small advanced economies are not simply scaled-down versions of larger economies, but have a range of specific characteristics that shape their growth process. This small economy experience, rather than benchmarking against larger economies in the OECD or even Australia (that has a GDP 7 times that of New Zealand), should inform New Zealand economic policy making.

[5] *I define small advanced economies as IMF advanced economies, with populations above 1 million and below 20 million people; and with a per capita income above USD30,000. This gives a core group of 13 small advanced economies that I use for analytical purposes.*

2. Characteristics of high productivity firms

This discussion considers the elements of high productivity performance in small advanced economies, and connects this to the existence of frontier firms in these economies. In aggregate, small economy labour productivity is higher than across large economies by around 10%; and there are not substantial differences in labour productivity growth rates between small and large advanced economies. The stronger small advanced economy GDP growth performance over the past few decades comes from superior small economy labour market performance (high participation rates, low unemployment rates). However, there is meaningful variation within and across small advanced economies in terms of productivity levels and growth rates. Understanding the sources of this variation in small advanced economy productivity performance can provide insight into the drivers of the New Zealand productivity experience and the priorities for action.

Three key characteristics can be identified from the small economy experience: the importance of internationally oriented sectors in providing the growth opportunities to support sustained firm-level productivity performance; the importance of large firms in driving material improvements in international engagement and productivity growth; and the central role of a limited number of world-class clusters in internationally oriented that have the critical mass to provide the external scale economies required to develop frontier firms.

International orientation

In small advanced economies, it is internationally facing sectors (activities with high shares of exports and outward direct investment) that are the engines of productivity growth. The domestically facing sectors are too small to allow for firms to grow to the productivity frontier. And there is significantly less incentive to invest in capital or innovation in these domestic sectors because of the small scale of the domestic market, the absence of external scale economies, and the relative lack of competitive intensity. Small advanced economies need strong productivity performance in the internationally oriented sectors in order to overcome low levels of productivity in domestic sectors. There is less cross-country variation in domestic sectors than in internationally focused sectors: it is the productivity performance in internationally oriented sectors (and the relative size of these sectors) that is the more important driver of variation in aggregate productivity performance across small advanced economies.

In small advanced economies there is a particularly sharp gradient in productivity levels between sectors that are internationally facing (such as manufacturing) and those that are domestically facing (such as retail and construction). Based on this sectoral distribution of productivity, frontier firms will likely be in internationally oriented sectors. There will be some exceptions, but in general the small size of the domestic market will tend to constrain productivity performance in domestic sectors.

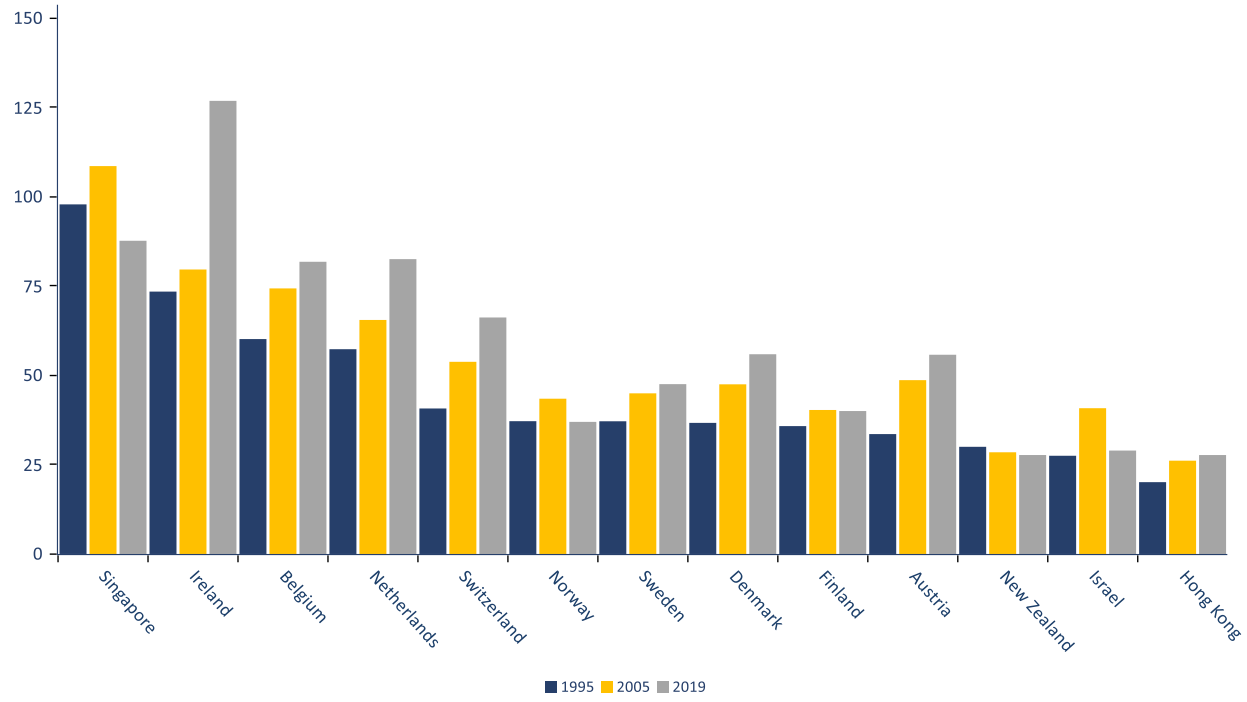
Indeed, high performing small advanced economies are characterised by high levels of international engagement. All of the cases of strong national convergence of small economies towards the global per capita income frontier over the past several decades have been due to strong increases in global activity (exports, outward direct investment), from Ireland and Singapore to Finland. And there is a strong

relationship in the time series between national (and world) export growth and productivity growth in small economies. Although the productivity of domestic sectors matter (from retail and construction to utilities), internationally oriented sectors are the productivity engines of small advanced economies.

Small economies have offset the productivity disadvantage due to small domestic markets by strong performance in internationally oriented sectors. Export shares in small advanced economies are 2x those in large economies on average (59% of GDP v 30% of GDP), with a similarly-size difference in the outward direct investment/GDP ratio. Small economies have grown these international shares significantly over the past decades, responding to stronger global competition and technological change, and moving into higher growth categories in the global economy (Exhibit 4). Often these internationally facing sectors are knowledge intensive in nature, and strong performance by small economies has rested on sustained investment in skills and innovation.

Exhibit 4: The export shares of many small advanced economies have increased materially over the past 25 years, although not New Zealand

Exports of goods & services, % of GDP, year to Q4 1995, 2005, 2019



Source: Macrobond, National sources, Landfall Strategy Group calculations. Note: Singapore = NODX (non-oil domestic exports) + exports of services; Hong Kong = exports of services only.

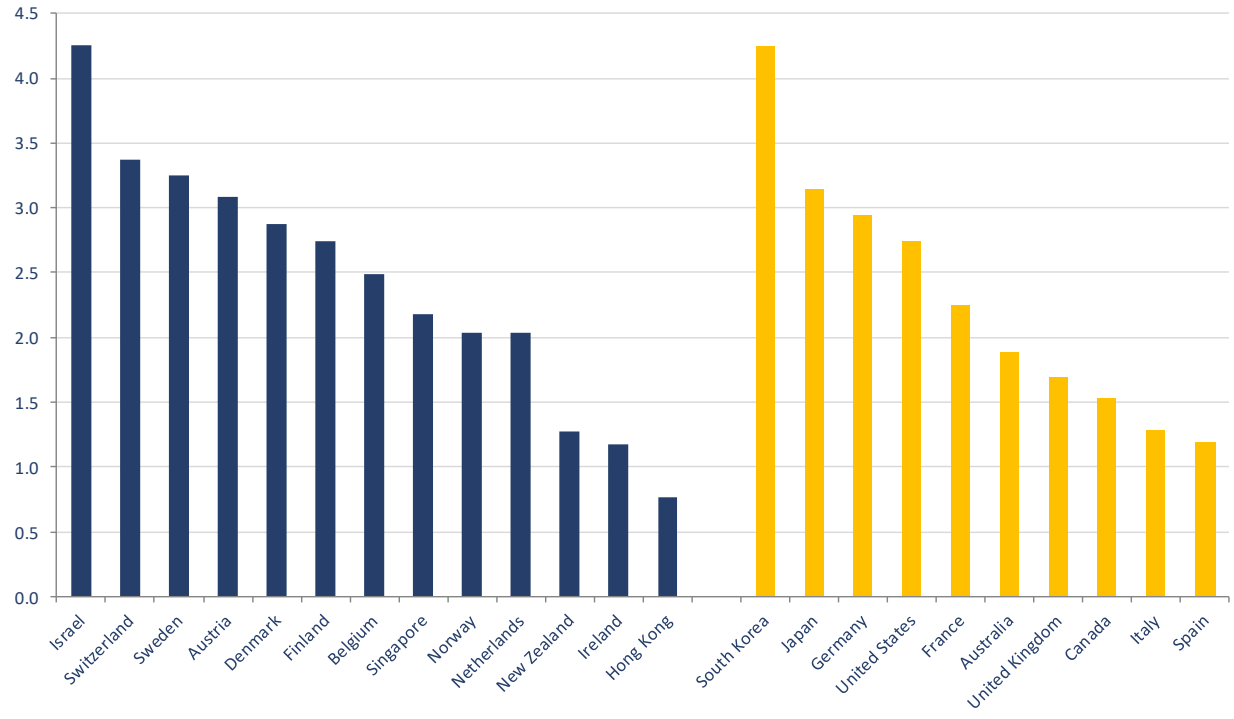
This international performance has been central to the strong economic performance of small economies. Variation in the extent and quality of international engagement maps well onto variation in national economic performance. In contrast, measures of 'policy quality' have far less explanatory power. Structural reform that improves the functioning of domestic sectors is likely to have a positive

effect on the national economy, but it is not the first order driver of productivity performance in advanced economies that already have reasonably good policy foundations in place.

Achieving high levels of international engagement is not simply the result of a passive process, due to intense globalisation and global growth, but requires deliberate policy support as well as firm-level capability and investment. High-performing small advanced economies have set policy to develop and support competitive advantage in internationally oriented sectors. It is notable that the top-performing small advanced economies all place a strong emphasis on skills and innovation in the design of their economic strategy (Exhibit 5). For example, economies like Switzerland, Denmark, and Finland have R&D spending around or above 3% of GDP (including high shares of business R&D spending). But the gap between small economies that invest a lot in R&D and those that invest a little has been widening over the past decade, suggesting a wider variation in competitive strength and productivity outcomes across small advanced economies into the future.

Exhibit 5: Several high-performing small advanced economies invest heavily in R&D, although there is variation across the group

R&D as a % of GDP, 2018 (or most recent available)



Source: Macrobond, OECD

Big firms in small economies

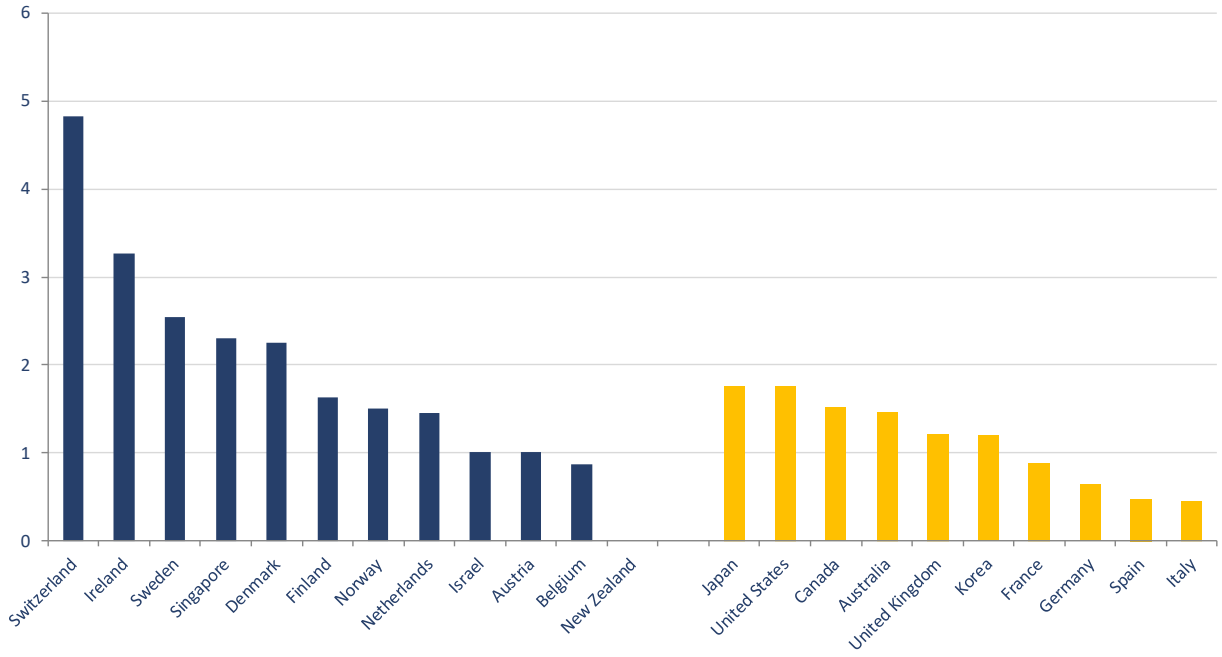
The international evidence shows that larger firms invest more in capital, spend more on R&D, pay high wages, are more likely to innovate and so on. As a result, large firms tend to be more productive – and

the growth in these firms makes a substantial contribution to aggregate productivity growth.[6] These large productive firms are disproportionately engaged in international activity. This is both a self-selection issue (internationally engaged firms need to be relatively productive to absorb the costs of international expansion, and to compete in international markets) and also because of the dynamic effects in which internationally active firms experience more rapid productivity growth (because they get to scale, benefit from learning by doing, and are exposed to more intense competition).

This seems to be the case in small advanced economies also. One of the striking characteristics of successful small advanced economies is their reliance on large firms, with a disproportionate representation of small economy MNCs in measures such as the Forbes Global 2000 (Exhibit 6).

Exhibit 6: Small advanced economies produce a significant number of large multinational companies per capita

Forbes Global 2000 companies per million population, 2019



Source: Forbes Magazine Global 2000, 2019, Landfall Strategy Group calculations. Note: Hong Kong excluded because of high number of Chinese firm listings.

It is these large small economy firms that have developed leading positions with respect to penetrating international markets. For example, Switzerland's innovative, internationally oriented activities often happen in large corporations (Nestle, Novartis, ABB, Swatch, Swiss Re, and many others). The basis for

[6] *For a recent discussion of the relationship between firm size and performance, refer: https://voxeu.org/article/macro-view-size-productivity-challenge-europe Refer also, McKinsey Global Institute, 'Outperformers: High growth emerging economies and the companies that propel them', September 2018; McKinsey Global Institute, 'The role of US-based multinational companies in US growth and renewal', June 2010; Chiara Criscuolo, Jonathan E. Haskel, Matthew J. Slaughter, 'Global Engagement and the Innovation Activities of Firms', NBER working paper 11479, June 2005.*

Denmark's economic dynamism and resilience is the many well-established firms in shipping (Maersk), pharma (Novo-Nordisk), renewable energy (Vestas), brewing (Carlsberg), as well as Lego, Grundfos, and others. The same is true in Finland, Sweden, the Netherlands, and elsewhere. Of course, these large firms are surrounded by small and medium-sized firms also, many of which are also successful in international markets, but these large firms make a disproportionate contribution to economic outcomes.

In contrast, a small economy economic strategy that relies too heavily on SMEs will be under-powered. A healthy ecosystem of firms is required, from large MNCs to high growth smaller firms, as well as a mix of small and medium-sized firms. But without large firms, aggregate productivity performance will likely be constrained. And there is a scale dimension to frontier firms, particularly in small advanced economies. Without international growth opportunities to get to scale, fewer frontier firms are likely.

Competitive clusters

Successful small advanced economies that generate strong economic performance at the frontier tend to have several pronounced clusters of firms organised around areas of existing strengths and capabilities. At the frontier, national innovation happens primarily within and adjacent to existing areas of strength, from pharmaceuticals in Switzerland to renewable energy in Denmark.

Clusters of related and supporting firms are an important engine for innovation and productivity growth, as well as international engagement. Deep, sophisticated clusters support innovation, tacit knowledge transfer, can better absorb shocks, and so on.[7] Clusters enable small economies (and small economy firms) to offset the absence of internal scale economies with external scale economies, such as strong backward and forward (supply chain) linkages, a deep pool of specialist labour, skills, and supporting firms, strong relationships with universities and research institutions, and so on. These external scale economies provide a powerful boost to firm productivity, particularly in knowledge-intensive activities.

The recent literature on economic complexity also notes that national growth processes are driven by capabilities (technology and know-how, tacit knowledge flows, networks, and so on) that are the basis for developing strengths in more complex, sophisticated goods and services. These new strengths will often be in adjacent spaces, into which existing capabilities can be readily extended. This again suggests the importance of dense clusters of related activities for innovation and productivity, allowing for capabilities to be combined and extended.[8]

Dense clusters are at the core of dynamic, resilient economies that operate at the global productivity frontier, such as Switzerland and Denmark. In countries where these clusters are less dense or

[7] *Masahisa Fujita, Paul Krugman, and Anthony Venables, The Spatial Economy: Cities, Regions and International Trade, MIT Press, 1999; Michael Porter, The Competitive Advantage of Nations, MacMillan Press, 1990.*
[8] *Ricardo Hausmann & Cesar Hidalgo, 'The network structure of economic output', Journal of Economic Growth, 2011; Ricardo Hausmann & Cesar Hidalgo, 'The building blocks of economic complexity', Proceedings of the National Academy of Sciences, 2009.*

sophisticated, or where they are limited as a share of the economy (Israel, Ireland), economic dynamism and resilience is constrained or seen in only particular parts of the economy (e.g. among foreign MNCs).

There is a well-developed literature around clusters, which often emphasise their geographic nature.[9] The term is used in a more informal sense in this paper to capture activities that are broader than a sector vertical, and which includes a set of related, supporting, and adjacent activities that together are material as a share of GDP, and from which frontier firms are likely to exist and to be developed. In this context, clusters are not a small, localised set of related activities, but something more like agriculture in the Netherlands, life sciences in Switzerland, or shipping in Denmark. This framing captures a coherent set of related activities, in which external scale economies exist, and which can make a material contribution to national productivity performance.

Across small advanced economies, international engagement and productivity performance comes disproportionately from these clusters. Internationally oriented firms are frequently embedded in deep clusters. For example, Switzerland (finance, pharma, precision engineering), the Netherlands (logistics, environment, agriculture and food), Denmark (shipping, renewable energy, pharma), Israel (high tech), Hong Kong (finance, logistics). These clusters provide a hard to replicate ecosystem, which increases the 'stickiness' of small advanced economies and provides economic resilience.

This 'stickiness' is a particularly valuable characteristics for small advanced economies, which are otherwise deeply exposed to agglomeration dynamics. A distinctive ecosystem that supports growth means that there are reasons for firms and skilled people to remain even if the domestic location is high cost or otherwise disadvantaged (e.g. by location as is the case for New Zealand). Clusters embed firms into small advanced economies (e.g. because of access to skilled labour, world-class research institutions, distinctive tacit knowledge flows), allowing for significantly more economic value to be captured in the domestic economy from firm growth (both directly by the firm, as well as indirectly through spillovers into the surrounding cluster).

These clusters will often be anchored by large MNCs. But the existence of these firms and the surrounding supply chains, specialised labour and capital markets, research and innovation infrastructure, and so on, also make it easier for small firms to grow rapidly towards the global frontier. Small, high growth firms will benefit from the presence of large firms and the surrounding context.

The importance of clusters is important in large economies as well, but they provide particularly important services in small advanced economies – supporting firm-level and aggregate productivity performance. But the challenge is that the small advanced economies only have the national scale to achieve critical mass in a limited number of internationally oriented clusters.

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[9] *Refer for example Christian Ketels & Sergiy Protsiv: "A cluster is a regional concentration of economic activities in related industries, connected through multiple types of linkages. It includes companies of different types, including suppliers, service providers, and producers of final products and services, as well as other innovation actors, such as research and educational institutions, specialised government agencies, financial actors and many other organisations that provide relevant services or in different ways connect the different elements of the clusters"; 'Methodology and Findings Report for a Cluster Mapping of Related Sectors', European Cluster Observatory, October 2014.*

Indeed, small economies tend to have relatively concentrated export structures, reflecting the reality that small economies cannot be world-class in everything: resource constraints allow for only a limited number of clusters to get to the critical mass required to sustain leading positions in global markets and to deliver the valuable services described above. Informal examination of the competitive strengths across high-performing small advanced economies from Switzerland to Sweden and Finland shows that their competitive strengths lie in a limited number of areas (but which generate substantial economic value to the economy). Isolated groups of firms are less likely to generate economic value on a sustained basis, as there will be constraints on external scale economies and the extension of capabilities into related areas.

In many small economies these strengths will be well-established, and the clusters will have formed organically around areas of competitive strength. Of course, there are trade-offs involved. A high level of reliance on a limited number of clusters can introduce risk into the economy (the Nokia effect). An idiosyncratic shock can lead to a significant macro shock. However, with too much diversification across clusters in a small advanced economy, risk exposures can also be created: the risk that firms and clusters do not get to the productivity frontier, because sufficient external scale economies are not created due to the absence of critical mass.

Summary

In short, international engagement is the productivity growth engine of firms (and the overall economy) in small advanced economies, and this commonly rests on high-performing clusters of internationally oriented firms.

Deep clusters will likely become even more important in periods of economic disruption, supporting more rapid innovation by firms. In a context of intense global competition and winner-take-all dynamics in some sectors of the global economy (such as activities with platform characteristics, such as Amazon, Alibaba, and Google), these small economy clusters in continue to support the global competitiveness of firms from small advanced economies. Indeed, the historical record of small economies is that they have been able to deploy disruptive technologies in ways that have strengthened the productivity of their economy (as seen from the mid-1990s with the deployment of ICT and the shift into knowledge intensive activities).

The characteristics of high-performing small advanced economies discussed in this section provide a sense of where frontier firms are most likely to be found in small economies like New Zealand. These characteristics can be shaped by sustained policy action – as seen in small economies from Finland to Ireland and Singapore. Indeed, this economic policy focus is an important reason for the strong performance of these small economies.

3. Implications for New Zealand

This section considers New Zealand's performance on these dimensions that are associated with strong productivity performance – and frontier firms – in small advanced economies. It turns out that there are some substantial gaps between New Zealand and high-performing small advanced economies on these

dimensions, which will contribute to New Zealand's relatively weak productivity performance and the relative absence of frontier firms in New Zealand.

Internationally oriented sectors

New Zealand has the lowest export and outward direct investment shares of GDP of all the small advanced economies. At 28% and 8% of GDP respectively, this compares with an average of 59% and 84% across the small advanced economy group (even after stripping out the outliers of hub economies like Hong Kong and Ireland).

New Zealand's export share of GDP has not changed meaningfully over the past few decades; it is currently the same level as it was in the early 1980s. Despite some fluctuations due to variation in the strength of external demand, the exchange rate, and so on, the trend line has been flat. This is in contrast with most other advanced economies where the export share has increased, particularly in the 15 years prior to the global financial crisis (Exhibit 4).

Similarly, there has been little change in the composition of New Zealand's exports over this period (with the exception of tourism and export education). There have been some shifts within the primary sector (less wool, more dairy, more wine and horticulture), more of which is branded and consumer facing. But there is relatively little evidence of major new strengths in New Zealand's export footprint, compared to the scale of transformation seen in the export structures of other small advanced economies over the past few decades.

Across many other small advanced economies, the increase in small economy export shares from the mid-late 1990s was supported by a greater intensity in research and innovation, enabling small economies to develop strong positions in knowledge intensive sectors. Finland is a classic example of a small economy that deliberately invested in skills and innovation from the early 1990s to develop new sources of competitive advantage. This supported a transformation in its export structure, away from commodities and relatively basic manufactures to increasingly sophisticated industries and technology.

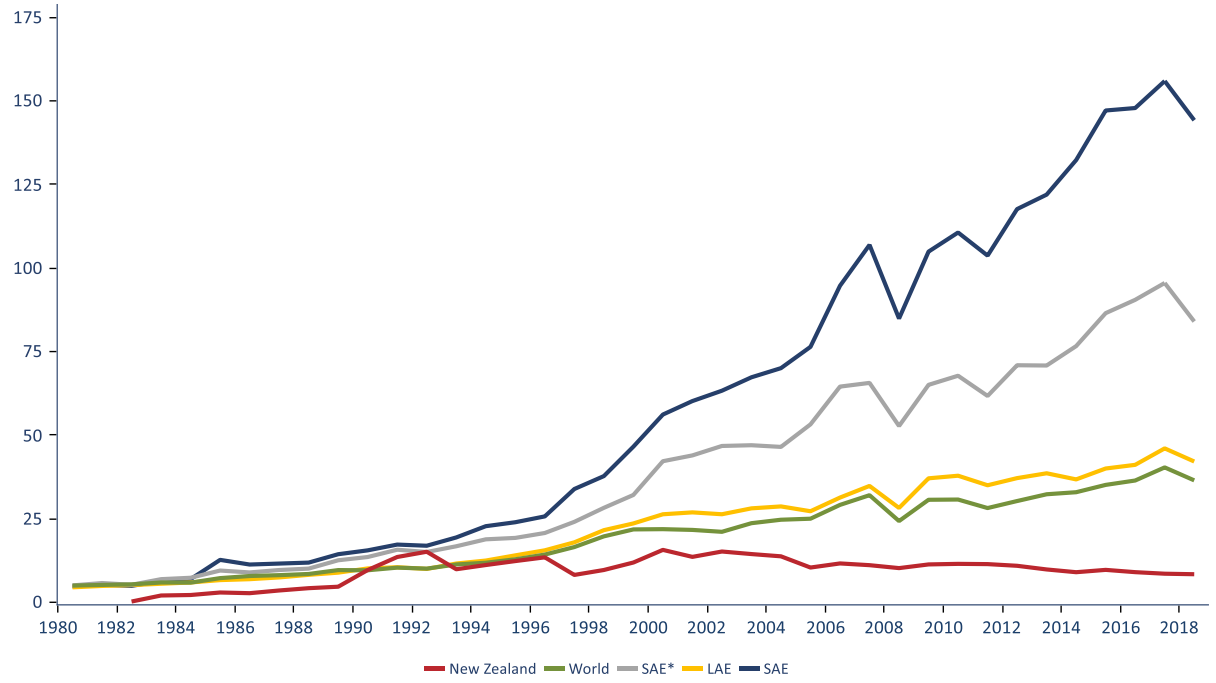
Of course, the external sectors of the New Zealand economy are constrained by physical remoteness from key export markets. This, combined with the characteristics of New Zealand's export structure (such as a low import content of exports), go some way to explaining New Zealand's relatively low export share. But New Zealand's economic geography and structure are not grounds for fatalism: other (slightly peripheral) small advanced economies, from Finland to Israel and Ireland, have been able to transform their international economic engagement model – moving from relatively unsophisticated exports into higher growth, knowledge-intensive international activities. In any case, despite the clear difficulties with respect to international expansion from New Zealand, international economic engagement remains the key channel for strengthening productivity.

New Zealand's outward direct investment (ODI) record is even weaker. The ODI/GDP share is very low at 8% and has been declining since the mid-1990s (Exhibit 7). This is partly because several of the big international expansions over the past 20 years (Air NZ, Telecom, The Warehouse, Fonterra) have

resulted in write downs and disinvestment. There have been few big foreign investments over recent years.

Exhibit 7: New Zealand's outward direct investment share has declined slightly since the mid-1990s, the opposite direction from other economies

Outward direct investment stock, % of GDP, 1980 - 2018



Source: Macrobond, IMF, UNCTAD, Landfall Strategy Group calculations. Note: SAE excludes Hong Kong, Ireland, and Singapore.*

New Zealand's relatively weak record of international engagement constrains the potential for the development of frontier firms. Only a relatively small number of New Zealand firms have exposure to growth opportunities, to the flows of knowledge and ideas, and to the competitive intensity, that are present in global markets – and which are necessary to support the development of frontier firms. Small economy firms cannot build the capabilities or the knowledge to become more productive without deep, sustained international engagement. Limited international engagement also goes some way to explaining New Zealand's low business investment rates; New Zealand firms are only investing to serve the domestic market, which also constrains productivity growth.

Big firms

New Zealand has some large, established internationally oriented firms from Fonterra, Zespri, and the meat companies, to firms such as F&P Healthcare and Datacom. And New Zealand has some large, high growth companies like Xero and A2 Milk.

But relative to other small economies, New Zealand does not have many firms of global scale. New Zealand doesn't have a single entry on the Forbes Global 2000 of the world's largest listed firms (refer Figure 6). And the size of New Zealand's largest firms as a share of GDP is low relative to other small advanced economies. This is distorted a little because of the non-listed nature of some large firms in the primary sector, but it does suggest that New Zealand is under-represented in terms of large firms.

Indeed, of the top 10 listed New Zealand firms on the NZX, four are domestic utilities (Meridian, Mercury, Contact, Vector), two are largely in a domestic sector (Spark, Ryman Healthcare), two are international infrastructure (Auckland Airport, Ports of Tauranga), and only two compete in global markets at scale (F&P Healthcare, A2 Milk). The 'New Zealand champion' firms of 20-30 years ago – such as Fletcher Challenge and Carter Holt Harvey – have been split up and reduced in size. And the growth aspirations of firms from Air New Zealand to the Warehouse and Telecom have been dialled back, partly because their international expansion experiences were not successful.

New Zealand's large firms are more likely to export than smaller firms, and tend to get a greater proportion of their overall revenues from international sources. New Zealand's export revenues are heavily concentrated according to data from Statistics NZ: in 2019, 33 firms accounted for over 50% of New Zealand's exports of goods and services. And only a small number of firms export at scale: only 297 firms were reported to export more than $25m a year. Beyond this, there are a larger number of relatively small or 'opportunistic' exporters. This profile has not changed much over the past 20 years.

Bluntly stated, there aren't enough large firms exporting at scale and too few smaller firms that are growing rapidly by expanding strongly into international markets. New Zealand is sometimes described as a trading nation, but the reality is that only a small number of firms are internationally engaged at scale in New Zealand.

Large parts of New Zealand's international sectors are in ownership structures that constrain the type of growth that are seen in other economies (even in the same sector). The co-operative structure constrains risky investments, and makes it more likely that the product mix skews towards commodity. There are persistent concerns about the performance of these large firms in the primary sector; they are not acting as the growth engines of the New Zealand economy, or anchoring innovative, high productivity activity in clusters. There have been some improvements over time, but New Zealand has not produced the primary sector MNCs seen elsewhere. The constrained growth of large firms also dampens the growth of other firms in related activities.

New Zealand's firm structure is striking less for the number of SMEs, which is the case across most advanced economies, than for the absence of large firms. This absence leads to an under-powered economic structure.

There are many high growth companies, but as a percentage of GDP these firms (in aggregate) have not yet shifted the economic needle. Xero is a great success, but it remains an exception in terms of the scale and pace of growth. Many of New Zealand's high growth companies have not scaled; they are growing strongly off a relatively low base. New Zealand does not currently have the strong pipeline of

high growth firms that are required to make a material difference. As a matter of arithmetic, 100% annual growth in 20 $100 million turnover firms are required to match 10% annual growth in a $20 billion turnover firm like Fonterra.

Competitive clusters

The highest-potential areas of the New Zealand economy in which frontier firms can be developed are in internationally oriented clusters, where external economies of scale exist. But relative to other small advanced economies, New Zealand does not have innovative, high-growth clusters around its major areas of historical comparative advantage; and needs to grow its emerging clusters to scale in order for them to make a material contribution to New Zealand's productivity performance.

Some of the characteristics that we would expect to see in high performing clusters (in addition to outcomes such as high productivity and export growth) include strong research institutions that are linked to commercial activity; evidence of innovation; a high quality advisory ecosystem; the attraction of foreign investment and talent inflows; and so on.

New Zealand has some of this (agricultural research institutions, foreign talent coming into New Zealand's digital sector) but not enough. Outside of the primary sector, the successes are more idiosyncratic rather than systematic – and are not associated with deep and broad strength and capability. Over time, of course, these successful firms will contribute to building the foundation for a broader cluster to emerge. But this will take time, investment, and deliberate policy action (to be discussed in the section below) for this initial success to be developed into a cluster.

4. An agenda for action

New Zealand's weak productivity performance at national level and the relative absence of frontier firms is largely due to a low level of international engagement by firms growing at scale out of deep, innovative clusters. This analysis provides the basis for a discussion of the classes of policy action that can strengthen the performance of New Zealand's frontier firms.

To generalise, New Zealand's historical policy approach has focused on attempting to raise productivity across the economy without a sharp distinction drawn between domestically and internationally oriented sectors. The policy focus has been on efficiency of resource allocation, the quality of the business environment, as well as human capital, infrastructure, and so on. But this approach has not generated the desired economic outcomes: productivity levels still lag economies that have similar or inferior policy foundations.

On many of the standard classes of policy advice (e.g. from the OECD), New Zealand is relatively well-placed. As has been noted frequently, including by the Productivity Commission, New Zealand ranks near the top on most measures of policy foundations. Although improvements are always possible, and New Zealand should aim to be close to the policy frontier in order to offset other disadvantages, the

relative quality of policy foundations does not explain New Zealand's substantial productivity performance gap.[10]

Rather, New Zealand's weak productivity performance and the absence of frontier firms is largely due to constraints on New Zealand firms developing competitive advantage in global markets. This is where there are the most pronounced gaps between New Zealand and high-performing small advanced economies.

On the basis of this analysis, I identify four areas of policy action: a strategic focus on internationally oriented sectors; a focus on key clusters in which frontier firms are most likely to be developed; policy measures to improve the competitiveness of firms in global markets; and addressing firm-level capabilities and incentive structures to the extent possible.

International focus

Policy to strengthen frontier firms – and to boost aggregate productivity performance – should be focused on internationally oriented strengths. These are clusters in which New Zealand firms can get to scale through exporting goods and services (including IP) as well as outward direct investment. Even if a domestic firm/cluster is at or close to the global productivity frontier, to make an ongoing contribution to productivity growth resources need to be drawn into this activity from lower productivity uses elsewhere. This requires the growth opportunities only available in international markets.

This policy focus should be disproportionate not exclusive; policy can also support firms to move towards the frontier in domestic sectors. But firms in domestic sectors operate in a constrained environment that make strong, sustained productivity performance less likely. Moving productivity in sectors like construction towards the global frontier will be challenging in small economies like New Zealand. Of course, improvements can and should be made (e.g. modular construction, greater use of digital in the delivery of services), but the benefits will be limited by the small scale of the domestic market.

A deliberate policy focus on international sectors would be a marked shift away from New Zealand's current agnostic policy approach which treats international and domestic sectors in the same way. But international sectors have disproportionate importance in small advanced economies, and should be approached accordingly. New Zealand's productivity agenda should be organised around these activities.

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[10] The one policy foundation setting that I identify as having had a meaningful impact on New Zealand's productivity performance and the development of frontier firms is with respect to immigration (or more precisely, the absence of a strategic migration policy). The substantial net migration inflows that New Zealand has received over the past 25 years has been a strong source of support for headline GDP growth, but has created a series of distortions and pressures in the New Zealand economy: infrastructure and cost pressures, greater residential real estate demand (with implications for allocation of investment capital), downward wage pressure that deters business investment, as well as upward exchange rate pressure. An explicit immigration policy that was focused on quality and filling skills gaps, with lower gross inflows, would create a more supportive environment for higher levels of international engagement by New Zealand firms (although the transmission mechanism to outcomes is more indirect than those discussed in the body of this paper).

There are of course concerns with respect to the current outlook for globalisation, and that a lower risk approach would be to focus on strengthening the domestic economy. On various measures, the intensity of globalisation has flattened off since the global financial crisis – and there are a range of future challenges, from trade wars to the growing fragmentation of the global system. Coronavirus will likely reinforce these challenges. But my assessment is that globalisation is changing not reversing, and there will be areas of global growth for New Zealand (such as in knowledge-intensive services).

In any case, small economies cannot turn away from an open economy model. Rather the challenge should be to adapt to these new realities, and to build positions of competitive advantage in specific parts of the global economy. Because this will be demanding, the need for a concerted policy agenda on these activities is even more important. Improving New Zealand's international engagement is core to any material improvement in national productivity performance.

Strategic cluster focus

The small advanced economy experience points to the importance of deep clusters that can support the growth and productivity performance of large firms as well as small and medium sized firms. In small economies, there will only be a limited number of these clusters that can get to critical mass and support sustained world-class competitive performance by frontier firms. The implication is that economic policy needs to be more deliberately focused on a small number of high potential clusters rather than being thinly spread.

To deliver a material contribution to aggregate productivity growth, and to support firms that can acquire the scale necessary to become a frontier firm, these need to be relatively large and dense clusters. The key filters to use in making this choice include: the materiality of the sector (e.g. % of GDP); sectors where there is a demonstrated position of competitive advantage in global markets (share of global market, or growth in the global share); and where there are large and/or high growth firms at work in the sector that can anchor these clusters in New Zealand.

Note that this is a very different way of approaching clusters than is standard in much of the New Zealand policy discussion. Often target clusters are very small in scale and local in nature. The focus here is on large clusters of related activities and capabilities that comprise large shares of the export base. At some point, focused policy interventions are required, but it is vital that there is an explicit materiality focus in terms of the desired outcomes. Otherwise, even if these initiatives are successful, it is unlikely that they will make a material difference to New Zealand's productivity performance.

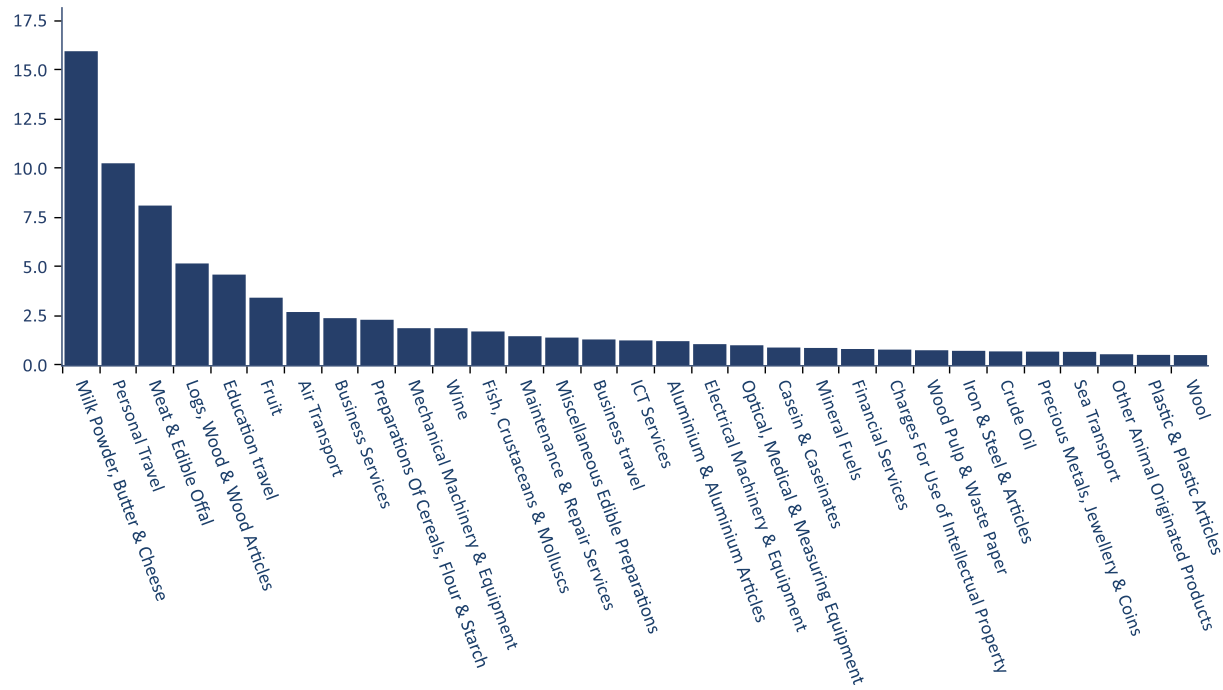
An objective of raising productivity levels by (say) 20% over a decade, or to move 20% of New Zealand's GDP much closer towards the global productivity frontier, require a policy approach at scale. An objective of transforming large parts of the primary sector, or developing the weightless economy such that multiple Xero-type companies grow into international markets, requires structural policy interventions rather than cluster-based policy that is focused around small, local clusters. The resourcing allocated to the Provincial Growth Fund ($4b) or parts of the unallocated Covid-19 Response

& Recovery Fund ($39b) is a more appropriate scale for this type of policy than much existing enterprise policy; and more in line with the policy experience of many high-performing small advanced economies.

Looking across New Zealand's export structure, there are only a few broad areas in which New Zealand has some critical mass and a measure of competitive advantage in global markets (Exhibit 8). These are: the primary sector (broadly defined, from dairy and red meat to wine, horticulture, as well as adjacent sectors in agritech); people flow industries (tourism, including export education); and weightless activities (creative, digital, professional and financial services, etc). Of New Zealand's $86 billion in exports in the year to December 2019, around $32.5 billion came from dairy, red meat, forestry, and fruit; around $30 billion came from travel and transport (including a $4.6b contribution from export education); and $7.6 billion came from weightless services (very broadly defined to include all exports of services excluding transport and travel; the major categories of these exports can be seen in Exhibit 8).

Exhibit 8: The primary sector and tourism dominate New Zealand's export structure

Top 30 export categories, NZD billion, year to December 2019



Source: Macrobond, Statistics NZ, Landfall Strategy Group calculations

Cross-border people flows are likely to be deeply challenged in the post-Covid19 environment; and the tourism sector also tend to have low productivity levels and growth rates. So as a starting point, the focus should be on supporting the development of competitive advantage and productivity performance in the primary sector; and the 'weightless economy', which includes activities such as digital, creative, professional and knowledge-based services.

In the near-term, improvements in the primary sector are most likely to make a material contribution to national productivity performance. The primary sector (dairy, red meat, forestry, horticulture, wine, and so on) is the dominant part of New Zealand's export structure (ex tourism) and has several at-scale international firms. Indeed, unleashing the performance of this sector is critical, given New Zealand's economic structure: if it is not performing at full potential, it will act as a drag on New Zealand's overall productivity performance. Further prioritisation within the primary sector will be necessary to guide policy – not every activity has the same potential – but it is clear that improved productivity performance in this sector is central to a material improvement in national productivity performance.

The weightless economy encompasses a wide range of activities, brought together by similarities in the delivery model (using digital technologies), which reduce the constraints on expansion into global markets from a physically remote New Zealand base. Parts of the weightless sector are growing quickly but it remains a relatively small part of the export structure and overall economy: exports of these activities have approximately tracked exports from the meat sector over the past 20 years. But this sector holds significant potential for New Zealand, as it is less sensitive to location and has strong global growth prospects. Firms like Xero and Datacom show what is possible in knowledge-based activities.

However, the flipside of the ability to locate weightless economic activity anywhere in the world is that New Zealand also needs to be a compelling location: there needs to be strong external scale economies in the key clusters so that this activity is sticky in New Zealand, allowing for economic value to be captured. Without the stickiness of talent, capital, and knowledge, these weightless firms will often be drawn to other locations. But the success cases to date have tended to be idiosyncratic rather than systematic in nature. The policy priority is to create the conditions in which at scale commercial success become much more frequent and mutually-supporting, building a dynamic and resilient cluster.

Organising policy around strategic clusters, even when defined as broadly as in this paper, is a marked departure from the economic policy approach in New Zealand over the past few decades. But this should not be caricatured as picking winners; rather it is a structured approach to strategic prioritisation of policy and resource investment – organised around 'backing winners' in areas where New Zealand has demonstrated global competitive strength or potential. There are only a handful of areas in which this is the case, and the decision-making process should be a practical one.

Small economies are 'doomed to choose' if they want to be successful. And New Zealand's current choices have not delivered the outcomes we want. The risk of a level playing field approach that 'lets a thousand flowers bloom' is that it yields a thousand dead flowers, because firms do not have the topsoil of a surrounding cluster in which to grow to become frontier firms. Too much diversification increases the risk of an absence of economic dynamism and resilience, with sub-par productivity performance. Some 'thickening up' of the economy around key areas of competitive strength is necessary for productivity performance and the development of frontier firms. Of course, it is important to put commercial disciplines and structures around these policies both in terms of the process for backing winners as well as withdrawing support from ('killing') the losers that do not work out.

The bigger risk in New Zealand is of the 'sub-therapeutic dose' to industry policy, in which resources are allocated to sub-scale initiatives that do not deliver meaningful or sustained impact. There have been many initiatives over the past 20 years to support various parts of the economy, from forestry to film-making. And there are currently industry transformation plans being developed for various sectors. But these often lack a focus on building the critical mass in key clusters that New Zealand needs to develop frontier firms. To make progress, the right materiality of ambition is required (percentage points of GDP, not a few extra million dollars of exports); a focus is required on the cluster as opposed to very specific activities; and a structural, whole of government policy agenda is needed (skill, infrastructure, research, FDI attraction, and so on) rather than some financial support. This should be done properly or not at all. And importantly, choices will need to be made in terms of what not to do.

Policy instruments

Once these choices are made, determined, aggressive policy is required. This is particularly the case because there are some material challenges and opportunities confronting New Zealand's primary sector, such as the growing consumer focus on emissions intensity. The urgency of these competitive dynamics is reinforced by the severe economic shock of Coronavirus. New Zealand's priority areas of activity need to be upgraded to respond to emerging competitive pressures, from new alternatives to red meat and dairy to intense competition from everywhere across the weightless economy. If New Zealand cannot capture opportunities and manage risks in these important clusters, the ability to strengthen New Zealand's aggregate productivity performance and to develop frontier firms will be weakened in a material way – and significant downside risks will emerge.

There are two categories of policy instrument that are discussed below. The current set of policy foundations in New Zealand, which – broadly speaking – provide support for productivity growth, are taken as a given.

- *Strategic policy*

Strategic policy instruments are measures that strengthen the competitive positioning of the cluster in the global economy. The international small advanced economy experience shows clearly that economic transformation – and particularly the transformation of internationally oriented sectors – rests on the investment made in skills and innovation. Frontier firms are generally heavily knowledge based. There are very few examples of small advanced economies approaching the productivity frontier without high levels of investment in skills and innovation.

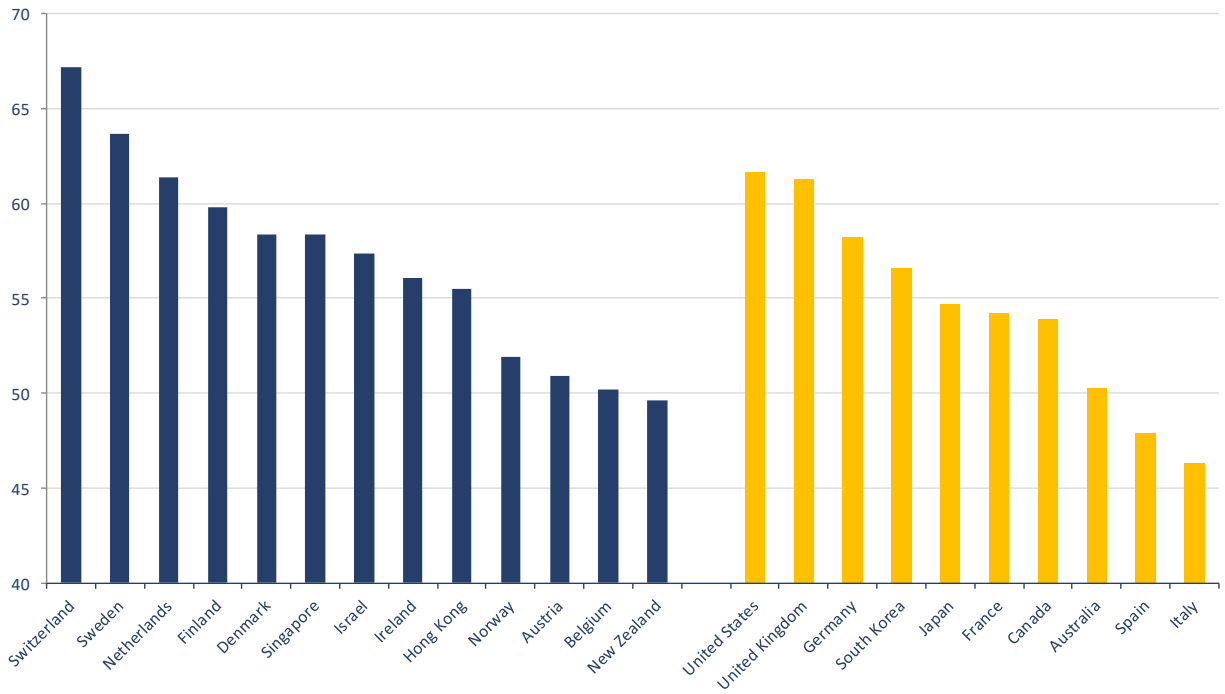
Most small advanced economies see skills and innovation policy as central aspects of their economic strategy. And looking forward, the increasing pace and intensity of global competition, disruptive technologies, and increasingly skill-biased technical change create an imperative for further upgrading strategic investment in skills and innovation. My assessment is that skills and innovation capability will increasingly shape national economic performance. The relationship between skills, innovation, and economic outcomes is even sharper for small advanced economies given their deep exposure to the global economy.

A deep pool of human capital is increasingly central to productivity and income growth, and to making a small economy location 'sticky' for mobile labour and capital. These investments in skills and innovation should be integrated into a broader economic strategy that embeds specific skills and innovation capability into distinctive clusters in order to guard against small economy exposure to the international mobility of this skilled labour. Otherwise investing in a country's most mobile factors of production (skilled people, innovative firms) may simply lead to a greater risk of exit from New Zealand.

This commitment to skills and innovation is a key missing element from the support of New Zealand's clusters. New Zealand's overall level of R&D spending (1.4% of GDP), and particularly business R&D spending (0.6% of GDP), is low relative to other high-performing small advanced economies (Exhibit 5). R&D spending is only a proxy for this investment, but it is difficult to deliver innovation without investing in R&D. Indeed, New Zealand ranks poorly on several broader measures of innovation performance (Exhibit 9).

Exhibit 9: Small advanced economies dominate the top 10 of the global innovation index; New Zealand is towards the bottom

Global innovation index score, 2019



Source: Global Innovation Index 2019

Despite the wealth of expertise across the primary sector, the extent of innovation is relatively low. R&D spending in the sector is low, for example. The New Zealand experience contrasts with the Dutch agricultural system, the second largest agricultural exporter by value – despite a small land mass – with deep linkages to universities and research institutions, and the development of a strong cluster. There

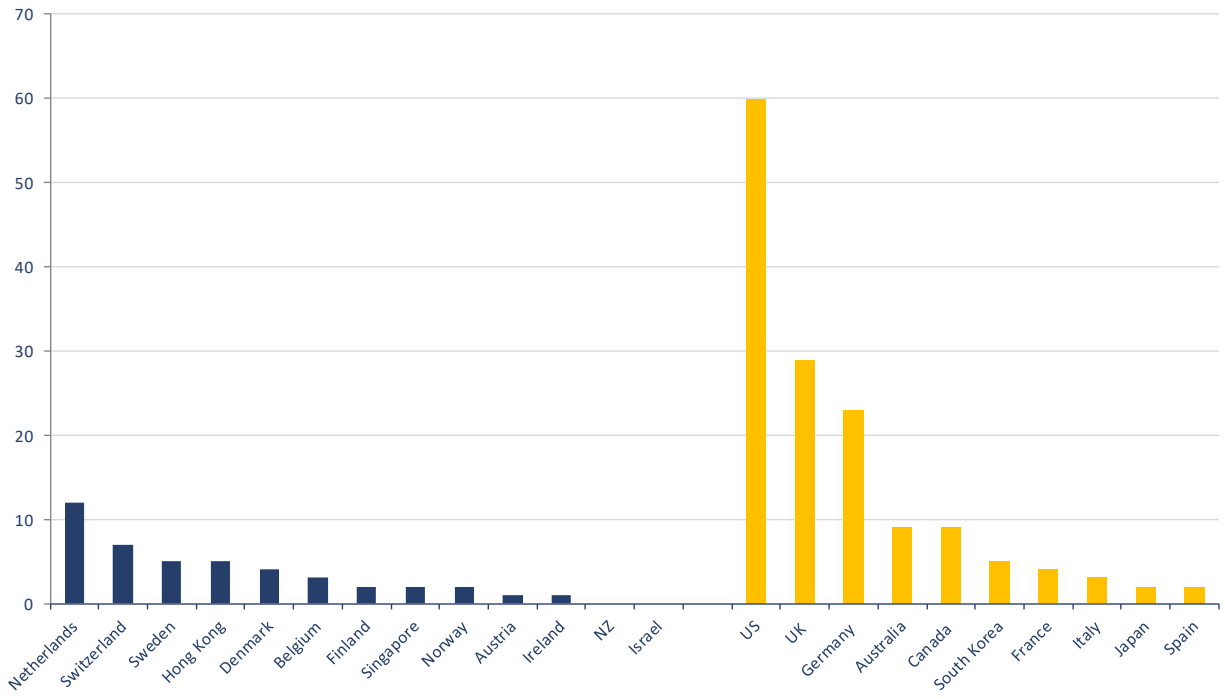
should be opportunity to significantly enhance the knowledge and innovation intensity of New Zealand's primary sector, as well as to grow technology-intensive activities in adjacent spaces.

There is a need for a substantially stepped up investment in skills and innovation, with a particularly focus on these priority clusters. New Zealand's R&D investment (public and private sector) should be increased to the levels seen in other high-performing small advanced economies (~3% of GDP v New Zealand's current 1.4%). This can be done through direct investments (e.g. mission-led research), sustained investments in research institutions and universities so that they are in a position to undertake world-leading research and education particularly in areas that relate to New Zealand's strengths, as well as financial support to firms (tax credits, direct grants).

Research universities are an important part of this process. Successful small economies are notable for the number of world-class universities they have, as measured by the admittedly imperfect international rankings (Exhibit 10). And there is frequently a strong relationship between universities and the key clusters (e.g. Switzerland, the Netherlands). The quality of the research sector, and its linkage to these priority areas, should be stepped up very considerably in New Zealand – particularly given that it is currently lagging on many of these measures.

Exhibit 10: Several small advanced economies perform strongly in university rankings, notably the Netherlands (12) and Switzerland (7)

Number of universities in Top 200 World University Rankings, 2019



Source: Times Higher Education World University Rankings

These investments should also be a priority for firms as well. Much research and innovation in small advanced economies is business-financed, taking place in large firms. That is not currently the case in New Zealand, where business financed R&D spending is very low.

There are major competitive challenges and opportunities facing New Zealand's sector, as global consumers increasingly focus on lower emissions substitutes for dairy and red meat. Demand for alternative sources of protein is growing rapidly, and the New Zealand agriculture sector will need to respond: moving more rapidly into the premium end of the sector, reducing emissions intensity of production, developing new products that meet consumer demand. Innovation and technology will become a significant part of the solution for the New Zealand industry. An analogy is the response of the Swiss watchmaking industry in the 1970s when confronted with quartz technology; firms in the cluster invested heavily, drawing on surrounding capabilities in precision engineering, and built a position of stronger competitive advantage.

- *Sector-specific policy*

Policy should also address the binding constraints on growth in these clusters in order to create a platform for productivity growth and the development of frontier firms.

There seem to be binding constraints on firm growth in significant parts of the agricultural sector. For example, in the dairy sector, the ownership, capital structure, and governance arrangements act as a constraint on international expansion. Farmer owners are often risk averse on international expansion, there is a lack of clarity between the commodity business and the consumer branded businesses (induced partly by DIRA), capital is not available to support international expansion, and there are ongoing issues regarding capability. The Fonterra model, intended to create a national champion for New Zealand, has not yet fully achieved the desired results. But there are some positive signs in the broader cluster: A2 Milk has become one of the largest listed companies on the NZX.

For the weightless sectors, there have also been issues around industry structure in the supply of infrastructure. For example, the arguments I made for government investment in fibre to the home (now UFB) – and structural separation of Telecom – from 2007 were to support the development of a weightless economy in New Zealand.[11] The argument was that having world-leading fibre infrastructure was an important element of allowing digital and other businesses to be productive and competitive from a New Zealand base. New Zealand now has world-class fibre infrastructure, and this is a source of competitive advantage for firms in the weightless cluster as well as more generally through the economy (as seen with the experience through the Coronavirus lockdown, when remote working models were readily adopted).

In addition to the investment made in fibre, the weightless economy also needs significantly increased research and innovation funding in specific areas where New Zealand is developing competitive advantage. And consideration should be given to the roll out of the 5G network (industry structure,

[11] http://www.stuff.co.nz/technology/312511/NZ-on-wrong-broadband-path;

geographic reach, and so on), to ensure that the deployment model for this new technology learns the lessons from the deployment of fibre.

Firm-level capability & incentives

Lastly, it is important to note that some constraints on the growth of frontier firms in New Zealand are due to the characteristics and behaviours of the private sector. These constraints can be only indirectly shaped by policy; meaningful progress on these dimensions will require changes in private sector behaviours. There are several private sector characteristics of the private sector that are important.

First, a key reason for the absence of business investment in expansion into international markets is that there are weak financial incentives. The returns available to domestic firms (utilities, retail) tend to be higher than in international markets, partly due to the lower levels of competitive intensity in New Zealand. And the record of New Zealand firms expanding into global markets is not good, with numerous high-profile examples of shareholder value destruction. It is seen as easier to generate good risk-adjusted margins (and dividend yields) by staying in New Zealand. As a consequence, boards and management teams tend to be cautious about international expansion – and capital markets tend not to be supportive of financing international expansion.

Combined with the absence of domestic competitive pressure to expand, this means that New Zealand firms do not expand into international markets to acquire the scale and growth opportunities necessary to become a frontier firm. Without an incentive to develop competitive positions in global markets, the incentive to invest in capital, technology, and R&D is constrained by the size of New Zealand's domestic market.

Second, to capture value from strong firm growth, ownership is important. Although there is much more capital available in New Zealand (due to policy initiatives such as KiwiSaver, the NZSF, NZVIF, and so on), prospective frontier firms are often 'lost' to New Zealand – being bought out by foreign firms, and subsequently relocating to bigger markets, as they successfully expand. These firms will often contribute to the productivity performance of another country.

Third, there are issues relating to management capabilities in New Zealand firms. International expansion is challenging in general, which is why only a small proportion of firms in any economy undertake sustained exporting or overseas direct investment. It is particularly challenging from a geographically remote location like New Zealand, where the cost and risk profile is higher again. And because there is not a large community of experienced managers and directors that have been engaged in running or growing an international business out of New Zealand, there are relatively few ways in which to receive on the job training. Firms need to be investing more in building the capabilities that will support innovation and international growth.

Lastly, aspiration. There is not a culture of building global companies from New Zealand to scale. This argument is hard to pin down precisely, and is likely less true than it used to be.

These four constraints were initially identified in research I undertook at The New Zealand Institute in 2006, on the basis of a series of interviews with management and directors of New Zealand listed firms, as well as investors.[12] Some progress has been made: there are larger pools of domestic capital; stronger management capability, and some evidence of increased aspiration around expansion into international markets. However, there is a long way to go.

In particular, issues remain with respect to the incentives to invest to strengthen productivity. Few large firms face competitive pressure to invest heavily in research, new technology, or expansion into international markets. If anything, this pressure has intensified; New Zealand firms are retrenching from offshore investments (such as Fonterra) and there have been strong returns in the domestic market.

In sum, private sector behaviours are an important reason for the relative absence of frontier firms in New Zealand. The various policy initiatives outlined above, such as focused investment in skills and innovation and resolving sector-specific constraints, will contribute to changing incentives by raising the potential returns in offshore markets. Government policy can also contribute to addressing firm-level incentive and capability issues through measures such as further strengthening capital markets, supporting business education, enterprise policy, and so on. But the nature of decision-making by firm leadership and capital markets also needs to respond, from changing the risk tolerances and time horizon of investment decision-making to strengthening capability around international expansion.

5. Concluding remarks

The international small advanced economy experience provides insight and guidance for New Zealand with respect to the drivers of productivity growth and the development of frontier firms. There are several clear differences in the economic structure and policy approaches between New Zealand and high-performing small advanced economies that are instructive for a productivity policy agenda.

Given New Zealand's existing economic structure and policy settings, the resulting context and incentives will likely continue to result in weak productivity outcomes with relatively low levels of international engagement, investment, and innovation – and few frontier firms. Without deliberate policy change, it is likely that New Zealand will have another two decades of debate about economic transformation, and some further policy initiatives, but without achieving impact.

A structural policy change is required, and this firm-based approach to developing a policy agenda is a high potential way to proceed. Linking the policy agenda to the micro-structure of the New Zealand economy in terms of clusters and firms will improve the transmission mechanism between policy choices and outcomes in the real economy.

My assessment is that deliberate choices need to be made on a policy approach that will be distinct from the current policy approach on some key dimensions. In particular, moving from an economy-wide approach to a disproportionate focus on internationally oriented sectors; from an agnostic sector-based

[12] *David Skilling & Danielle Boven, New Zealand Institute, 'The Flight of the Kiwi', July 2006 [available at https://nzinitiative.org.nz/reports-and-media/reports/the-flight-of-the-kiwi-going-global-from-the-end-of-the-world/] along with the other reports in the 'Creating a global New Zealand economy' series.*

approach to a focus on a limited number of high potential clusters; and from policy foundations to a focus on building competitive advantage through deep investment in skills, knowledge, and innovation.

The intensity of global competition, disruptive technological change, climate change, as well as the immediate and long-term effects of Covid-19 on the global economy, all create significant challenges ahead for small advanced economies. Strengthening New Zealand's productivity performance is imperative given likely reduced labour supply, a hard stop to tourism, structural challenges to red meat and dairy, and so on.

But the international small economy experience is also an optimistic one. Small advanced economies can produce frontier firms, which compete successfully in global markets, and leading levels of productivity performance. It is not the case that small economies need to accept more modest outcomes in terms of frontier firms because of their small domestic market size. There is no need for fatalism in New Zealand: it is possible to produce a meaningful number of frontier firms that are expanding into international markets from New Zealand.

About the author

Dr David Skilling is the founding Director of Landfall Strategy Group, which was established in 2011. David advises governments, companies, and financial institutions in several small countries, and writes regularly on global economic and political trends from a small country perspective. Previously, David was an Associate Principal with McKinsey & Company in Singapore, as well as being a Senior Fellow with the McKinsey Global Institute. Before joining McKinsey, David was the founding Chief Executive of the New Zealand Institute, a privately-funded, non-partisan think-tank. Until 2003, David was a Principal Advisor at the New Zealand Treasury. David has a Ph.D. in Public Policy, and a Master in Public Policy degree, from Harvard University, as well as a Master of Commerce degree in Economics from the University of Auckland. David was named as a Young Global Leader by the World Economic Forum in 2008.

About Landfall Strategy Group

Landfall Strategy Group is a research and advisory firm that provides advice on strategic economic and policy issues to governments, firms, and financial institutions, particularly in small advanced economies. We provide distinctive perspectives on emerging global trends, working with decision-makers to understand key global changes and how governments, firms, and institutions should respond and position themselves in the emerging global economic and political environment.

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