New Zealand’s productivity growth: prescriptions for lifting performance

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Key messages

NZ has been in a **low-productivity growth trap** for decades

- Reform resulted in a levels shift in productivity in the 1990s
- But overall performance has been surprisingly disappointing

**Why?:** Weak international connection; small insular domestic markets; weak investment (including in KBC)

- Small markets restrict scale, competition and knowledge diffusion
- Firms face weak incentives to invest, especially in KBC

**Concerted policy action is needed**

- Risks and opportunities in a changing global trading environment
- Build competitive advantage through services sector reform
- Improve the contribution of KBC and skills to productivity growth
- Make the macro more conducive to productivity growth
Outline

1. Productivity dynamics across NZ firms

2. Why NZ firms underperform

3. Policy considerations and research agenda

Access to the data presented was managed by Statistics New Zealand under strict micro-data access protocols and in accordance with the security and confidentiality provisions of the Statistic Act 1975. These findings are not Official Statistics. The opinions, findings, recommendations, and conclusions expressed are those of the author/researcher, not Statistics New Zealand or the New Zealand Productivity Commission.
Productivity dynamics across NZ firms
The firm level framework

Two key productivity drivers:
Technology diffusion: international frontier → domestic frontier → laggards
Resource reallocation: from low to high-productivity firms

A. Frontier economy – the US

B. Lagging economy

C. Advanced/low competition economy – NZ?
NZ’s leading firms underperform

Preliminary evidence suggests firms at the NZ productivity frontier are much less productive than firms at the international frontier in the same industry, especially in services.

Labour productivity of leading NZ firms compared to leading international firms

- Goods industries
- Service industries
- Weighted average - goods
- Weighted average - services

The international productivity frontier

- Air transport
- Manufacture of pulp, paper and paper products
- Sale, maintenance and repair of motor vehicles
- Computer & related activities
- Food and beverage
- Retail
- Hotels and restaurants
- Construction
- W’sale
- Other business activities
- Real estate
NZ’s leading firms underperform

Productivity growth is strong at the international frontier but much weaker at the NZ frontier...

... indicating that NZs leading firms are slow to adopt new frontier technologies

LP growth: NZ frontier firms vs international frontier firms
NZ’s lagging firms underperform by more

Productivity growth is faster in high-productivity frontier firms than in laggards, indicating limited technology diffusion within NZ.

MFP growth of leading and lagging firms (index), 2000-2012
Why NZ firms underperform

- Limited international connection and small insular domestic markets
- Low investment and a capital shallow economy
- Weak investment in knowledge based capital (innovation and management quality)
International openness and productivity
NZ firms are not well connected internationally

Trade intensity is very weak for a small economy and GVC participation is among the lowest in the OECD

FDI is around the OECD median. ODI is very weak (reflecting a lack of domestic savings?)

International internet bandwidth per user is low (but growing strongly)

Migration inflows are very high and NZ’s diaspora is extremely large

Source: McKinsey Global Institute
Economic size and trade intensity

Goods trade

Services trade
Trade intensity in New Zealand

Goods trade

Services trade

[Graph showing trade intensity in New Zealand from 1972 to 2017 for goods and services trade, with lines indicating goods import/goods GDP, goods export/goods GDP, services imports/services GDP, and services exports/services GDP.]
FDI and ODI

Foreign direct investment

Outward direct investment
Exporting and foreign-owned firms – firm and employment share
International internet bandwidth

2013

Average annual growth rate 2006-2013 (RHS)
Many domestic markets are small and insular

Many NZ firms are focused on their local market, especially in the services sector.

Firms with a local focus are small, face limited competition and have lower productivity than firms with a national presence.
NZ firms are born small and don’t grow much

Weak international connection and small insular domestic markets result in a predominance of small firms and a lack of “up or out” dynamics

Investment is weak, including in KBC

New Zealand is a **capital-shallow economy**

- Private investment is low as a share of GDP and lower still relative to employment growth

Low investment reflects a range of factors, some **not well understood**

- Firms face a high cost of capital and low wages
- Savings are less than investment and (private) foreign debt is high
- Balassa-Samuelson doesn’t hold and the current account is in persistent deficit despite weak productivity and fiscal surpluses

Investment in aspects of **KBC is weak**, including innovation and management capability

- Business R&D and management capability are critical for catching up
- Small insular markets also restrict investment
Business investment is low and NZ is a capital shallow economy

Total investment is about average. But public and housing investment are high and private non-residential investment is low.
A high cost of capital and low wages encourages low capital intensity.

Real 10-year bond rates

Labour compensation per employee (US$ PPP)
High interest and exchange rates reflect low savings and high foreign debt

New Zealand’s savings-investment gap

Net international investment position 2009-2013
NZ firms invest very little in R&D...

R&D is necessary for technology adoption. But investment by NZ firms is very weak.

R&D and MFP growth across OECD countries

\[ y = 0.4675x - 0.5783 \]
\[ R^2 = 0.3522 \]
Small markets restrict innovation

New Zealand’s internationally exposed firms do more innovation and are more likely to lift productivity growth as a result

Innovation rates by firm type

<table>
<thead>
<tr>
<th>Innovation type</th>
<th>Exporting</th>
<th>Foreign owned</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Product innovation</td>
<td>31.6</td>
<td>16.7</td>
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<tr>
<td>Process innovation</td>
<td>24.7</td>
<td>16.0</td>
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<tr>
<td>Organisational innovation</td>
<td>28.2</td>
<td>21.6</td>
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<tr>
<td>Sales from new products</td>
<td>4.67</td>
<td>2.37</td>
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<tr>
<td>Registered a trademark</td>
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<td>2.1</td>
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<tr>
<td>Filed a patent</td>
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<td>0.1</td>
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<tr>
<td>Engaged in R&amp;D</td>
<td>18.9</td>
<td>0.5</td>
</tr>
<tr>
<td>R&amp;D intensity</td>
<td>60.1</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Productivity growth improvement from innovation by firm type

-NZ-owned domestic
-foreign-owned domestic
-international level of internationalisation

R&D activity
Product innovation
Process innovation
Organisational innovation
Marketing innovation
Poorly managed firms survive in NZ

Technological adoption is a major managerial challenge. But low competitive intensity means poorly managed firms survive in NZ.

Distribution of management quality scores across firms

- Poorly-managed NZ firms that wouldn’t survive in the US
- Well-managed US firms that don’t exist in NZ
Policy considerations
NZ is caught in a low-productivity/weak-investment trap

- Weak international connection & investment
- Small insular markets
- Elevated interest and exchange rates
- Poor productivity growth
- Low savings, low wages, high debt
- Small scale, capital shallow firms facing weak competition
- Weak markets & investment
Size and distance amplify the impact of bad policy

OECD modelling estimates that NZ policy settings are consistent with GDP per capita 20% above average. But it is actually 20% below average.

Actual gap in GDP per capita versus the gap predicted from structural policies, 2009
Regulatory governance

Aims

• What are the objectives of the regulatory system?
• Do these objectives reflect the broader environmental context (i.e., the productivity narrative)?

Evidence-based policy

• RISs still suffer from a lack of evidence
• How do we know if regulatory objectives are being achieved or not?
Risks and opportunities in a changing global environment

At the border
• Improve trade facilitation
• Clarify the FDI regime
• Sharpen focus on skilled migration

Behind the border
• Greater international policy coherence
• Leverage off CER/SEM into ASEAN
• Build NZ presence in international fora
Build comparative advantage through services reform

• **Context:**
  – The services sector is large, growing and has important spill-over effects.
  – Services are the epicentre of NZs poor productivity performance
  – Trade in services is an opportunity

• **Policy considerations:**
  – Aspects of services regulation are challenging and leave much to be desired: competition, occupational licensing, digitisation....
Improving the contribution of KBC

• Context:
  – R&D is low, impinging on catch up
  – Management capability is weak

• Policy considerations:
  – Contribution of R&D support could possibly be improved
  – Difficult financing and regulatory issues
  – Focused thematic platforms in areas of strength with high potential global visibility
Make the macro more conducive to productivity growth

• Context:
  – Low domestic savings is an important reason for high interest rates

• Policy considerations:
  – Non-natural tax treatment of different assets
  – Lifting private savings?
    • Tax, retirement income policies, lower house price inflation...
Thank you for your attention

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