Lessons for New Zealand from spatial economics

NZ productivity hub symposium: Unpicking New Zealand’s productivity paradox

July 2, 2013
Te Papa, Wellington
Scale

Coordination & Interaction

Specialisation  Diversification
Is NZ special? No

Increasing urbanisation

Urban peaks in density, rents, wages & productivity
- Stillman & Lewis – high wage and high returns to skills
- Maré & Graham – high productivity in dense areas

Urban sorting
- Knowledge industries & skilled workers
  - Grimes & Le Vaillant-Coates
Is NZ special? Yes

– “no other OECD member has such a striking combination of small size and remoteness” (Guillemette, 2009)

High urbanisation and primacy

– “Prosperous countries tend to be built around large affluent agglomerations, but New Zealand has only one large agglomeration, Auckland, and by international standards even it is not very large” (ibid)

Mid-ranked (5th) in Australasian system of cities

High rates of mobility

– Internal and external migration
Spatial economics and New Zealand's productivity paradox

• “If we adopt an economic geography perspective, there is nothing really paradoxical about New Zealand’s productivity performance.”
  
  • McCann, P (2009) “Economic geography, globalisation and New Zealand's productivity paradox” *NZEP*

Costs of distance have declined for:
  
  – Transport
  – Transmitting codified knowledge

Rewards to proximity have grown
  
  – For non-codified knowledge
  – Communication technology is complementary with face-to-face contact
Proximity

Spatial nearness is only one dimension of proximity
- Similarity of science base
- Similarity of industry
- Similarity of products
- Similarity of culture

Networks reflect proximity, and can operate across space

How isolated is NZ? How is NZ isolated?
Our connections to the world

Trade flows
- NZ is a small open economy, but our trade is slightly less than expected for our size (*Stevens, 2010*)
  - but maybe not for our distance from major markets

Migration flows
- High immigrant share (especially in Auckland)

Capital flows
- Relatively low levels of foreign direct investment in NZ
  - Auckland gets the lion’s share (over 600 international companies)
  - Even lower levels of NZ investment overseas

How much integration accompanies these flows?
- Knowledge Matrix Asia Pacific (2009) refers to ‘Predatory acquisition’
Shipping trade routes

Map 6.1 Busy seafaring in the North, little landfall in the South
Intensity of shipping routes during one year beginning October 2004

Sources: Data from the World Meteorological Organization (WMO) Voluntary Observing Ships’ (VOS) scheme, processed by Halpern and others 2008. Note: Container ports shown are the 20 largest by TEU of total containers handled in 2005 (Heideloff and Zachcial 2006).
Fonterra’s trade flows

Source: Fonterra 2006
The participation index is calculated as the sum of:

i) the share of foreign inputs in overall exports; and

ii) the share of gross exports that are used as inputs in other countries’ exports

Source: OECD Economic Surveys: NZ 2013
Measuring network connectedness

Globalization and World Cities (GaWC) research network

– Examines locations of 175 professional service firms across 525 cities
  • 75 Financial Services;
  • 25 each from Accountancy Services, Advertising, Legal Services, Management Consultancy
The strength of a city’s connectivity is measured as a function of the connectedness of the professional service firms in the city

- How many multinational professional service firms in the city?
- Where else do they operate?
- Strength of links is weighted by the size of local presence

Focus on network links

- Correlated with city performance and attractiveness, as measured by various other ranking indices
## Connectivity of Australasian cities

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<th>Overall</th>
<th>Fin. Serv</th>
<th>Acc</th>
<th>Advert</th>
<th>Legal Serv</th>
<th>Mgmt Cons</th>
<th>Local*</th>
<th>Eur*</th>
<th>Nth Amer*</th>
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Notes: All measures relative to London’s connectivity (London=100); * = regional concentration

Proximity and innovation

• Hendy & Callaghan (2013-forthcoming)

*Get off the grass: Kickstarting New Zealand's Innovation Economy*

  – Emphasise the need for knowledge interactions within NZ
  – Can New Zealand learn to innovate like a city of four million people?
    • cf: McCann: NZ cannot maintain a broadly-based research agenda
  – start exporting knowledge rather than nature
Proximity in innovation networks

• Bigger cities produce more patents per capita
  – Reflects density of networks

• Innovation networks strengthen as related fields connect

• More connections emerge between similar products


NZ is isolated in product space too

discovery of new areas of comparative advantage and diversification versus retaining the focus on areas of historic comparative advantage,

Far away, so close!

• New Zealand needs to strengthen its *proximity* to other economies, to promote productivity-enhancing interactions and innovation

• The ‘death of distance’ helps us ship goods internationally; but

• We need to develop/ enhance ‘proximity’
  • Within NZ – to overcome low scale and density
  • Internationally – to be embedded in rich networks
  • Diversify into dense areas of product space
  • Linked *into*, not just linked *to*
SYMPOSIUM:
UNPICKING NEW ZEALAND’S PRODUCTIVITY PARADOX

2 July 2013, Oceania, Te Papa Tongarewa