

# **Economic Geography, Globalization, and New Zealand's Productivity Paradox**

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*New Zealand Economic Papers*, 43.3, December 2009, 279-314

# Structure of Talk

- 1: Why Productivity?
- 2: New Zealand's Productivity Paradox
- 3: Globalisation
- 4: New Zealand and Globalisation
- 5: Policy Issues

# 1: Why Productivity?

- Why is productivity important?
- “Productivity isn’t everything, but in the long run, it is almost everything. A country’s ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker.”  
(Krugman 1997)

# 1: Why Productivity?

- Firms do not aim to increase productivity but to increase profitability.
- Opportunities for profitability come from the existence of market opportunities, plus the ability to act on those opportunities.
- The ability to act on those opportunities requires the: information, knowledge, skills, technology, and the appropriate institutional and social environment.

# 1: Why Productivity?

- Deregulation + institutional reform drives competition which promotes growth and productivity increases
- Deregulation + institutional reform → new possibilities for competition and profits → entrepreneurship → innovation → profitability → investment → economic growth

# 1: Why Productivity?

- Growth and investment come from the increase in profitability, which in turn drives increases in wages and land prices
- Economic growth → higher productivity
- Labour productivity – defined in terms of output per worker - is the best index of standard of living

# 1: Why Productivity?

- There are some counter arguments to the assumed beneficial impacts of deregulation and competition
- These all relate to issues of 'market failure': externalities; public goods; 'bad' Nash equilibria; lack of a 'core'; private monopolies; corner solutions
- Small country problems

# 1: Why Productivity?

- The level of output per worker is a result of previous economic growth and an index of current living standards
- The growth in output per worker is a measure of the improvement in living standards over time
- Other indicators of the standard of living include - wellbeing, and - quality of life

# 1: Why Productivity?

- Many different measures of productivity
- Labour Productivity = total output per worker and is defined as the sum of the factor payments to { labour  $L$  (wages) + capital  $K$  (profits) + land  $R$  (rents)}  $\div L$

# 1: Why Productivity?

- Simplest and broadest measures in terms of overall living standards are GDP (Gross Domestic Product) per capita or GNP (Gross National Product) per capita
- GDP profits domestically generated by repatriated overseas
- GNP profits generated overseas but repatriated domestically

## 2: New Zealand's Productivity Paradox

- “The mystery is why a country that seems so close to best practice in most of the policies that are regarded as the key drivers of growth is nevertheless just an average performer”. (OECD 2003)

## 2: New Zealand's Productivity Paradox

- In 1914 New Zealand was the richest country in the world in terms of GDP per capita (Madison 2006)
- In 1960 New Zealand was the third richest country in the world in terms of GDP per capita (Madison 2006)
- Difference between pre and post-war indices
- Downward slide 1960s to 1980s

## 2: New Zealand's Productivity Paradox

- NZ reasons for the downward slide?
  - Trade protectionism
  - Monopoly systems
  - Economic structure
- External reasons for NZ's downward slide?
  - European reconstruction and integration
  - Growth of Japan

## 2: New Zealand's Productivity Paradox

- 1984 – 1996 free market reforms and deregulation
- Macroeconomic stability
- Low inflation
- Low unemployment
- Excellent institutional environment

# 2: New Zealand's Productivity Paradox

- OECD
- World Bank
- Heritage Foundation
- The Fraser Institute
- Forbes Rankings
- World Economic Forum
- Global Entrepreneurship Monitor

## **2: New Zealand's Productivity Paradox**

- World rank 1 in terms of investor protection
- World rank 3 in terms of strength of property rights
- Amongst the world's most transparent and least corrupt business environments
- World rank 9 for overall institutions

## 2: New Zealand's Productivity Paradox

- Relatively small public sector
- Total tax revenue as a % of GDP is ranked only 15<sup>th</sup> in OECD
- Second lowest for a small country
- Social expenditure as a % of GDP is ranked only 21<sup>st</sup> in OECD
- Very light levels of regulation by OECD standards

## 2: New Zealand's Productivity Paradox

- Amongst the world's lowest trade barriers
- World rank 1 for lowest labour firing costs
- World rank 7 for labour market flexibility
- World rank 1 in terms of the lowest number of procedures to start a business
- Consistently ranked as one of the world's most liberalised economies
- High firm competition and turnover

## 2: New Zealand's Productivity Paradox

- Ranked 2<sup>nd</sup> best country in the world for doing business
- One of the world's best locations for capital investment
- World's most entrepreneurial society
- **BUT** in terms of Competitiveness – NZ is ranked only 24<sup>th</sup> in the world



## 2: New Zealand's Productivity Paradox

- Start of the reform period in 1984
- In 1984 NZ GDP per capita was close to those of Australia, Canada and most western European economies including UK
- From 1985 onwards NZ falls behind not just Australia, but all other advanced OECD countries

## 2: New Zealand's Productivity Paradox

- NZ GDP per capita is 73% of Australia, 82.3% of the OECD average, and 82.3% of the western EU-15 average
- The income GNP per capita gap is even greater than the GDP per capita gap
- NZ has been overtaken by Spain and Greece
- NZ is being overtaken by Slovenia, and about to be overtaken by Israel, Korea and Taiwan

## 2: New Zealand's Productivity Paradox

- Optimistic scenario: at current growth rates it will take two to three decades just to catch up to the OECD average.
- It will take three to four decades to catch up the other small advanced OECD economies – Denmark, Finland, Sweden, Ireland, Netherlands

## 2: New Zealand's Productivity Paradox

- Institutions and deregulation → NZ increasing structural diversification and entrepreneurship
- Other countries with poorer institutions, more regulation and higher taxes, appear to have adjusted much better
- No real evidence of any general long run NZ catching up process and much evidence to suggest the opposite

## 2: New Zealand's Productivity Paradox

- Why is NZ so different when it is a textbook example of institutional restructuring?
- *“Finland is the most competitive economy in the world, despite its rigid labour markets, powerful trade unions, and high tax rates, according to the Global Competitiveness Report from the World Economic Forum”*,

*The Economist*, 19.10.01

## 2: New Zealand's Productivity Paradox

- In terms of GDP per capita or GNP per capita is New Zealand's growth performance post 1984 *L* – shaped rather than *U*-shaped?
- Is it a question of pattern or time?
- Fifty years or more from 1984 onwards to catch up is not what the reformers envisaged!

## 2: New Zealand's Productivity Paradox

- Existing NZ debates tend to focus too much on issues of regulation, deregulation and institutions – internal explanations
- Overemphasis on policy minutiae of NZ -v- Australia rather than all OECD (bunching)
- NZ overemphasis on Ricardian thinking
- Need to account for both NZ's internal changes and external changes in a world of ever-increasing *factor mobility*

# **2: New Zealand's Productivity Paradox**

## **Paradox or Conundrum? Some Clues**

- Technology
- R&D
- Migration
- Foreign Direct Investment FDI
- Trade
- Innovation

## 2: New Zealand's Productivity Paradox

- **Technology** – very high labour utilisation with only little technical progress
- **R&D** – just under 50% of total business R&D is by firms < 50 employees and 80% by firms < 250 employees
  - for USA - <10% and <20%
  - for firms < 250 employees in Austria, Netherlands, Sweden, Finland, Denmark – 20% to 30%

## 2: New Zealand's Productivity Paradox

- **Migration** – NZ increasing out-migration of high skilled and young – highest in the world
- **FDI** - Inward FDI 8<sup>th</sup> highest in OECD but only 22<sup>nd</sup> in OECD in terms of outward FDI and lowest of any small country
- **Trade** – NZ lowest export diversity of any advanced economy and lowest growth of trade/GDP in OECD

## 2: New Zealand's Productivity Paradox

- **Innovation capacity** – Entrepreneurship scores are very high by international standards
  - but only ranked 27th in the world for overall innovation capacity
  - per capita innovation scores are very low
  - fourth lowest of any advanced economy, and consistent with NZ's multifactor productivity growth ranking

## 2: New Zealand's Productivity Paradox

- The argument here is that in the current era of globalisation the NZ productivity 'paradox' is primarily about economic geography and not about institutions, regulation or competition
- Need to move away from emphasis on institutions
- Need to move away from Ricardian thinking regarding trade

## 2: New Zealand's Productivity Paradox

- Need to think about economic distance rather than cartographical distance – transactions costs and geography
- Economic growth based on principles of a spatial price equilibrium – equalisation of returns on capital – when factors are freely mobile inter-regionally and internationally
- Convergence or divergence

## 2: New Zealand's Productivity Paradox

- But NZ has always been where it is!
- The idea that economic geography can explain New Zealand's productivity paradox is a “*..view that can quickly be dismissed and that the excuse of isolation and small size is not credible; the record suggests that it is the quality of institutions which societies adopts that matters for long-term growth*” (Kasper 2002)

# 3: Globalization Perceptions

- O'Brien (1992) – the 'end of geography'
- Cairncross (1997) – the 'death of distance'
- Thomas Friedman (2005) – the 'World is Flat'
- The world is becoming a global 'village'

# 3: 20<sup>th</sup> Century Globalization

- 1929-1950 decline in global trade/GDP ratio
- 1914-1980 decline in global foreign assets/GDP ratio
- Post-WWII Bretton-Woods system
- 1960s -1970s global financial restructuring
- 1980s – emergence of ICTs and JIT/TQM
- 1990s – rise of the internet, e-mail, mobile phones, GPS systems

### **3: Late 20<sup>th</sup> – Early 21<sup>st</sup> Century Globalization (1989 onwards)**

- ***Technological Changes*** – transportation improvements (RO-RO), and ICTs
- ***Institutional Changes*** – EU, NAFTA, BITs, DTTs
- ***Organizational Changes*** – out-sourcing, off-shoring, global expansion of multinationals

# Globalization: Outcomes

- BRIICS countries – Brazil, Russia, India, Indonesia, China and South Africa – one third of the global population enter the global economy between 1989 and 1993
- 1991 invention of the internet; 1992 EU single market; 1994 NAFTA
- Increasing international and interregional factor mobility

# Globalization: Outcomes

- ***Globalization*** and ***Localization*** are both increasing in tandem
- Slow ***international convergence*** (except Africa)
- Increasing intra-national ***inter-regional divergence***
- Changing architecture of global trade
- The world is not shrinking but economic activity is dispersing (Leamer 2007)

# 3: Late 20<sup>th</sup> – Early 21<sup>st</sup> Century Globalization

- Growth in ‘Global Cities’
- Key role of multinationals
- Growth in super-regions: EU, NAFTA, SEA South and East-Asia on all indicators
- Knowledge connectivity - sociological concept – accessibility, monetary power and decision-making discretion

# 3: The Economic Role of City-Regions

- Importance of agglomeration appears to have increased globally since early 1990s
- More than half the world now live in cities
- In advanced economies cities are increasingly associated with knowledge activities
- Importance of ***scale and diversity***
- Premium for Face-To-Face Contact

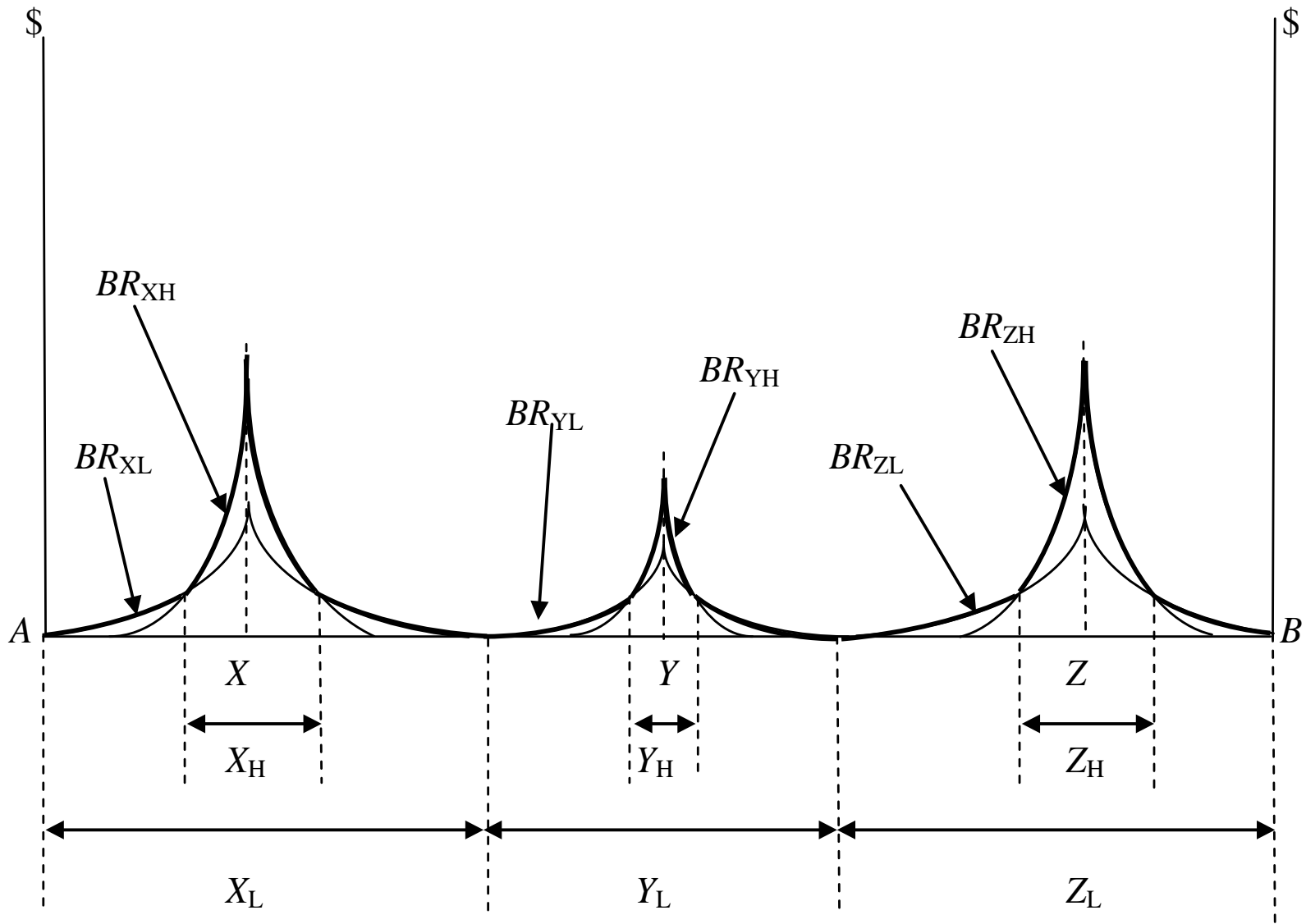
# 3: The Economic Role of City-Regions

- Cities have higher productivity
- Cities have higher competition
- Cities generate more knowledge outcomes (patents, innovations, copyrights, licenses)
- Cities have higher human capital – both stocks and inflows
- Cities and ‘creativity’
- Cities and Entrepreneurship

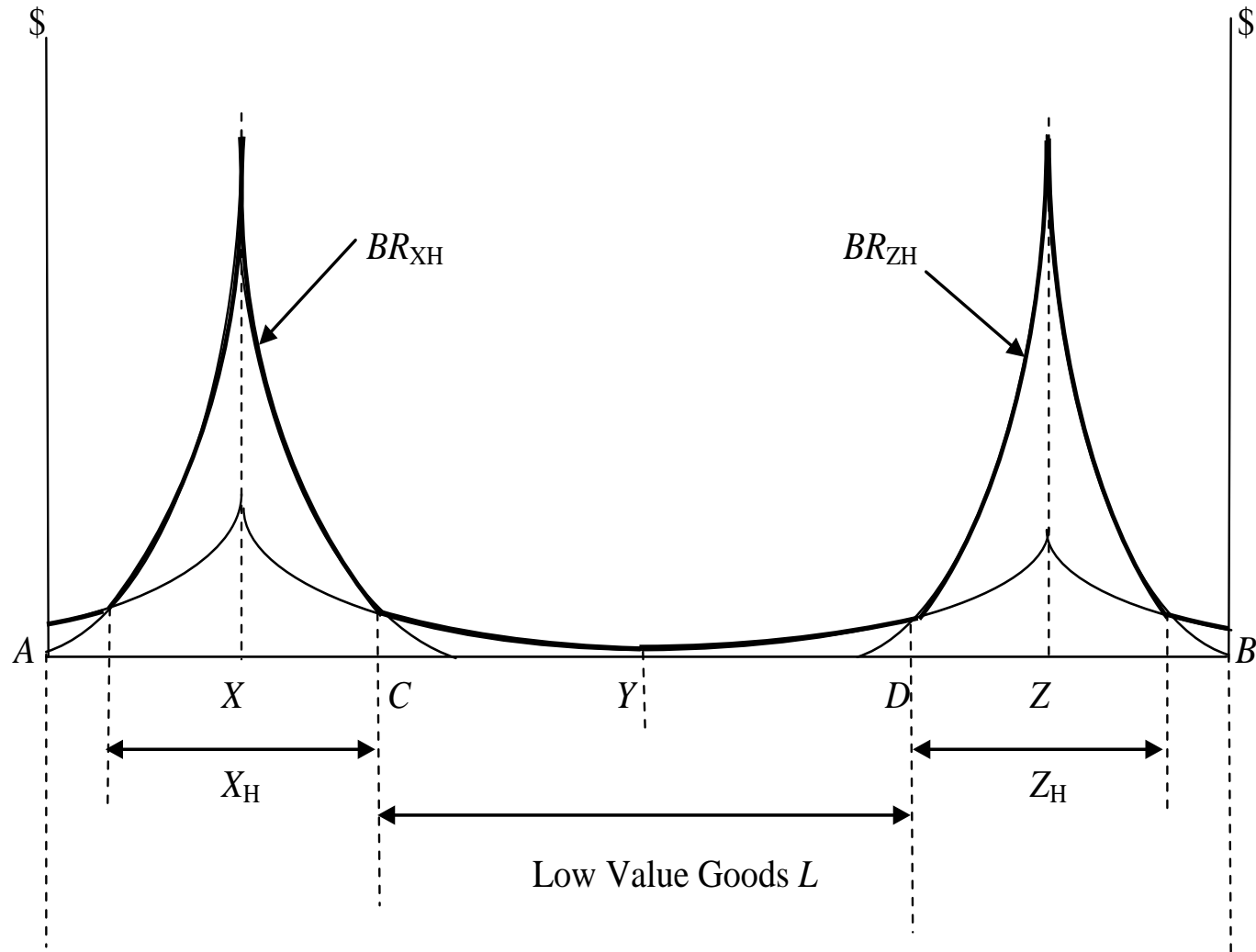
# 3: Geography and Knowledge

Spatial transactions costs for routine, standardized and non-knowledge intensive activities have *fallen*

Spatial transactions costs for non-routine, non-standardized and knowledge-intensive activities have *risen*



**Fig. 1** A Three City One-Dimensional Economic Geography



**Fig. 2** Globalization, Localization and Economic Geography

# 3: Geography and Knowledge

- Spatial price equilibrium – transactions costs and market potential
- For equal capital returns (profits) globalisation implies increasing spatial differences in labour prices (wages) + land prices (rents)
- For equal capital returns (profits) globalisation implies increasing spatial differences in productivity

# 3: Globalization and FDI

- Which peaks and spikes? Critical role of multinational enterprises
- Over half of China's exports are internal trade within foreign-owned multinational firms
- Two-thirds of India's ICTs exports are controlled by foreign-owned multinationals
- Income of East Asia is less than GDP

# 3: Globalization and FDI

- 78,000 multinationals with 780,000 overseas affiliates
- Growth of 1000-2000 multinationals per annum and 10,000-20,000 overseas affiliates per annum
- All multinational economic indicators are growing faster than the domestic equivalents

### 3: Globalization and FDI

- Multinational affiliate outputs are 2.25 times the size of global exports – ***globalisation is about FDI not international trade***
- 700 largest R&D MNEs account for 46% of global R&D and 69% of private sector R&D
- 500 multinationals account for 90% of FDI and 50% of global trade

# 3: Globalization and FDI

- Advanced economies account for 85% of global FDI outflows and two-thirds of global FDI inflows
- Service FDI accounts for two-thirds of global FDI
- Infrastructure investment is both the largest and fastest growing element of service sector FDI

# 3: Location of FDI and Economic Geography

- *Globalisation* - National and regional growth and trade performance depends crucially on the investment and location decisions of multinational firms
- Multinationals locate control functions in global knowledge centres - cities
- FDI location decisions are nowadays with respect to city-regions within groups of countries

# 3: Location of FDI and Economic Geography

- Multinational firms are better able to coordinate global activities
- Tighter integration of global supply chains
- Longer distance trading relationships
- Increased inter-connectedness of economies
- Knowledge internalization
- Not a tautology

# 3: Global City-Regions

- The rise of *global cities* in super-regions
- Global cities as *knowledge hubs* in global networks of transportation and communication
- Global cities dominate human capital
- Global *city-regions* at both the sub-national and trans-national levels – global regionalism

# 3: Global City-Regions

- Core city growth is generally associated with a contraction of the periphery
- Increased interregional and international migration
- 25-40 year old 'knowledge' workers are most migratory
- Increasing spatial 'reach' of global cities

# 3: Global City-Regions

- The performance of global cities depends on the performance of the multinational firms located in these cities and regions
- Global regionalism – 70% of multinational activity
- The relationship between cities, nations and multinational investment is increasingly associated with proximity and cross-border investment linkages within the **same** super-region.

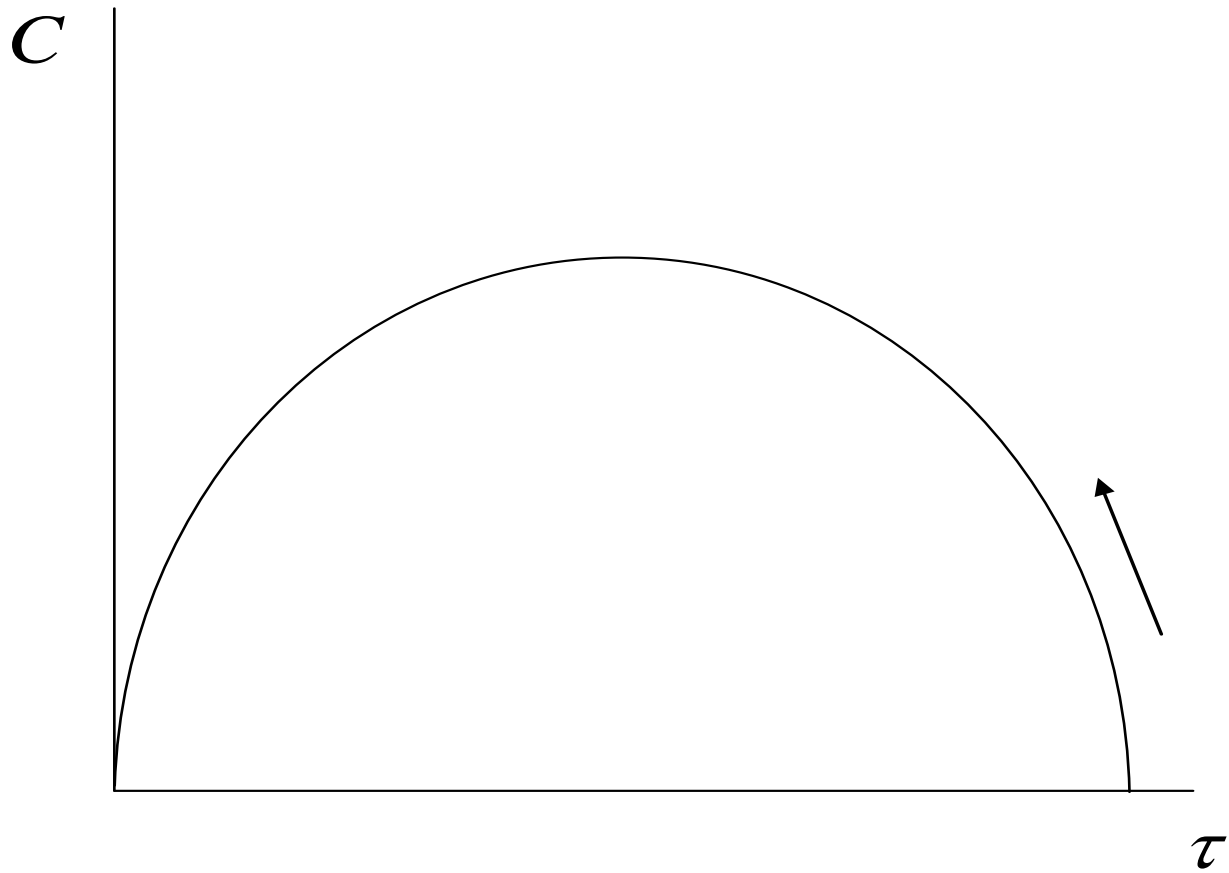
# 3: Global City-Regions

- ***Global Connectivity*** between regions is critical
- Transfer of goods, people and knowledge
- Transportation and communications infrastructure is essential
- Air transportation facilities are the most important infrastructure assets

# 4: New Zealand and Globalisation

- NZ: small market, small cities, isolated
- NZ is the world's most geographically isolated advanced economy with the world's lowest *market potential*
- OECD and IMF estimates – isolation accounts for 10 % points of productivity gap and the small domestic NZ market for another 4 % points
- Krugman and Venables 1995 QJE

# 4: New Zealand and Globalisation



**Figure 3.** Home Market Effect of Australia and NZ

## 4: New Zealand and Globalisation

- In 1965 only 4.7% of NZ exports went to Australia – closed economies
- Today it is over 20% of exports,
- Today Australia accounts for over 50% of NZ outward FDI stocks, and tripled 2001-2005
- Aus accounts for over 50% of NZ inward FDI stocks, and doubled 2001-2005

# 4: New Zealand and Globalisation

- People and firms are moving to Australia
- Higher wages and capital returns – agglomeration effects
- Multinationals are leaving NZ
- Two NZ cities actually fell out of the top 50 global city rankings – only OECD country
- Global city rankings: Sydney 7 Melbourne 18

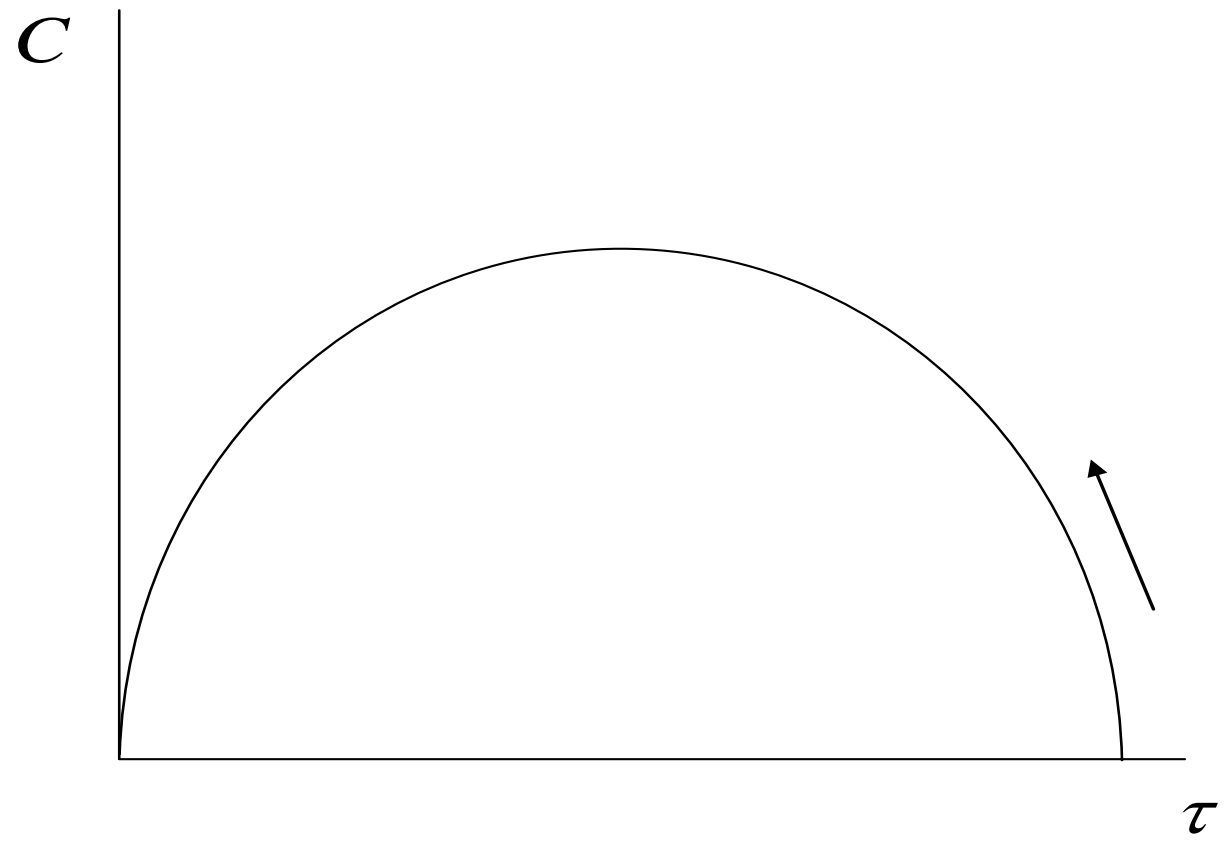
## 4: New Zealand and Globalisation

- Out-migration correlated with productivity gap implies a cumulative process
- Age distribution of migrants NZ → Aus is similar to Tasmania → Rest of Australia
- Migration is correlated with human capital – highly selective
- Capital moves faster than people – increasing capital labour stocks

# 4: New Zealand and Globalisation

- Australia – 80% of ‘complex problem solvers’ are aged 25-40
- “Kiwi entrepreneurship” – yes, “kiwi innovation” – no
- Controlling for city sizes, firm size, and distance, per capita innovation rates in NZ are similar to other countries

# 4: New Zealand and Globalisation



**Figure 4.** Home Market Effect of Auckland and Rest of New Zealand

# 4: New Zealand and Globalisation

- Growth of greater Auckland region
- Multinationals moving from Wellington to Auckland
- Auckland is outside of the 70 largest cities in OECD – super city?
- Rank 46<sup>th</sup> GDP per capita city in OECD, 24<sup>th</sup> in relative terms, and 4<sup>th</sup> outside US and transition and developing OECD countries

# 4: New Zealand and Globalisation

- Auckland agglomeration effects and also connectivity effects vis a vis Australia
- From functional to urban specialisation
- Rural → urban migration. Australia, USA, Canada, EU: spatial restructuring, and growth in spatial productivity differences
- Characteristics of NZ as a state of Australasia – increasing integration
- Auckland–NZ; Adelaide-SA: Perth-WA

# 4: New Zealand and Globalisation

- Global cities – Sydney and Melbourne
- Second tier cities – Brisbane, Adelaide, Perth and Auckland
- Third tier cities – Wellington, Christchurch, Canberra
- Zipf's Law for Australasia
- Auckland – same size as Adelaide but 15% GDP per capita lower

## 4: New Zealand and Globalisation

- In the current era of globalisation, New Zealand's combined ***lack*** of any major ***home market effect***, the lack of major ***agglomeration*** effects, and the ***extreme geographical isolation***, breaks the usual link between entrepreneurship, innovation and growth which is evident in other countries

# Policy Issues

- Most radical institutional change is federation - Jan Tinbergen
- Single Australasian market, single currency, single stock market, single regulator
- Increase NZ agglomeration – Auckland and the ‘super city’
- Reduce spatial transactions costs as fast as possible
- Science and agriculture – 16<sup>th</sup> in OECD

# Policy Issues

- NZ agglomeration: Auckland, Hamilton, Tauranga – infrastructure, land use planning, governance
- Air transportation is critical. Structure of Air New Zealand – both domestic monopoly and monopsony
- Auckland International Airport - monopoly
- Broadband
- Science focus on agriculture to increase export value added – GM/GE issues