



# Choosing the right basket of eggs for growth

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# Agenda

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- Reasoning behind analysis
- What I did
- Results
- What it means
- What can be done



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# Thesis

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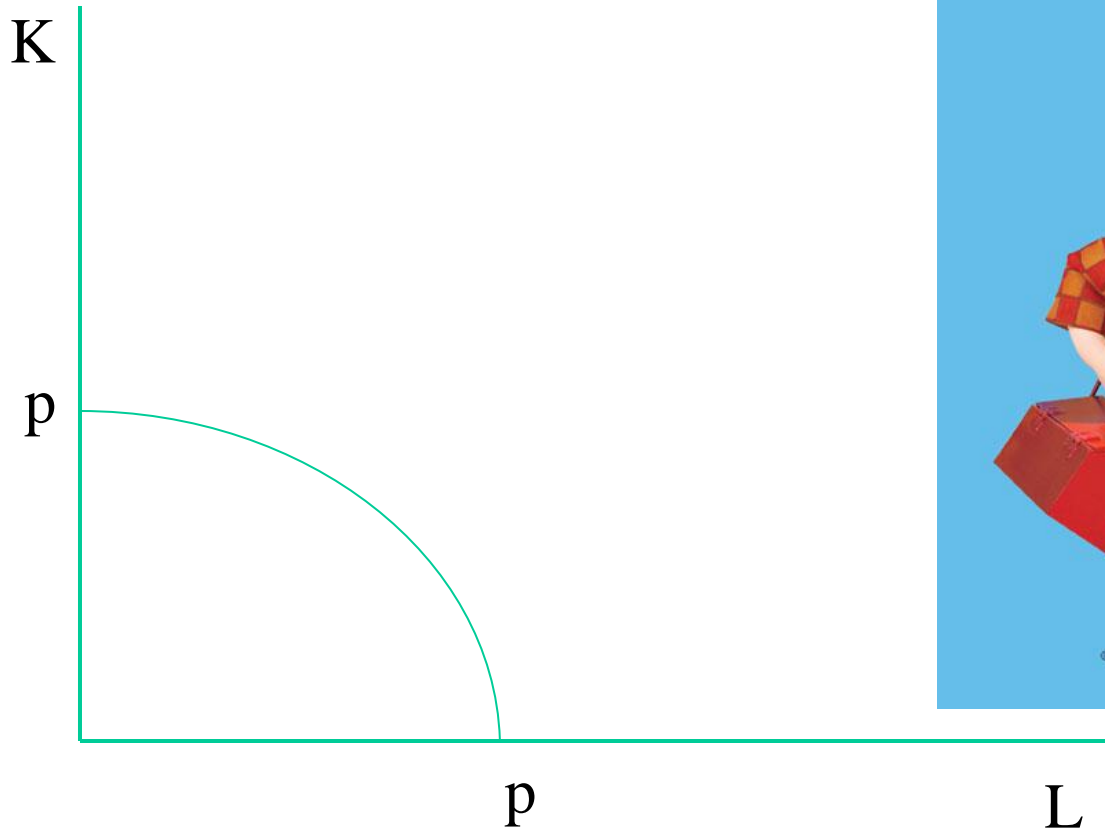
- What you do is as important as how well you do it
- Society's rules matter, they influence
  - the amount of effort people are willing to make
  - the extent that society benefits from the effort of individuals

**YOUR THESIS  
IN 3 MINUTES!**



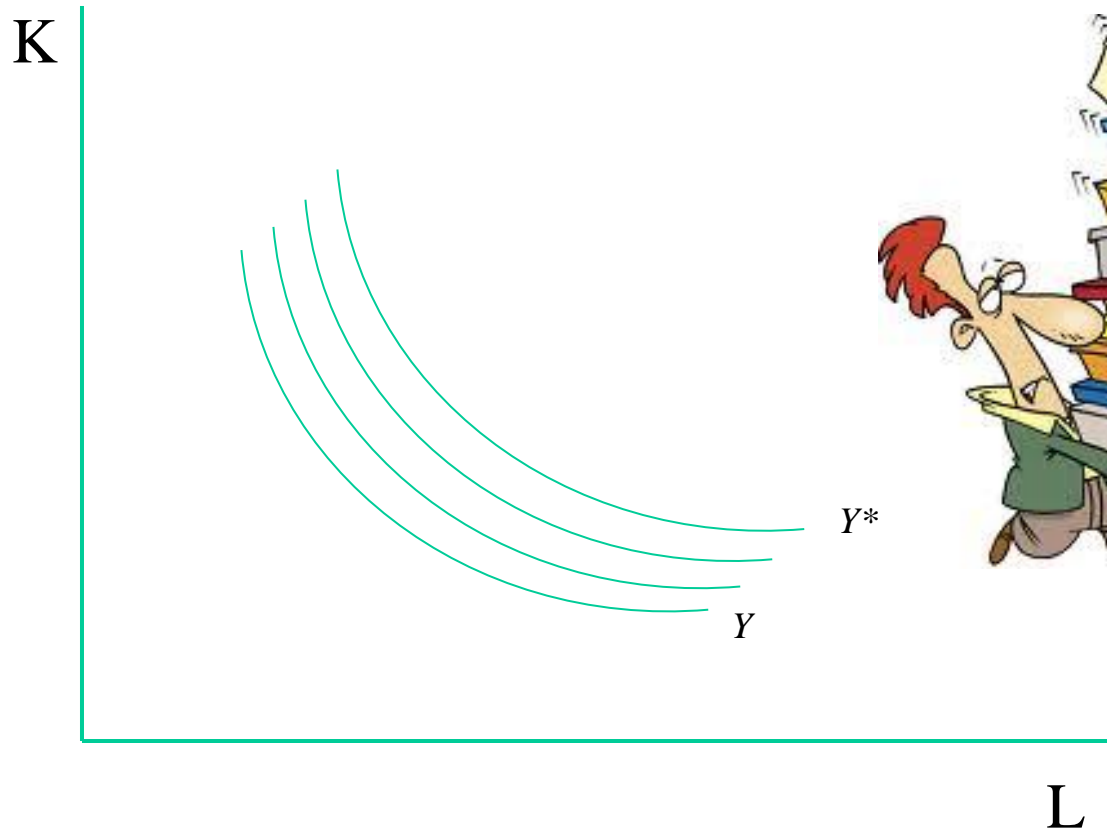
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# Production possibilities



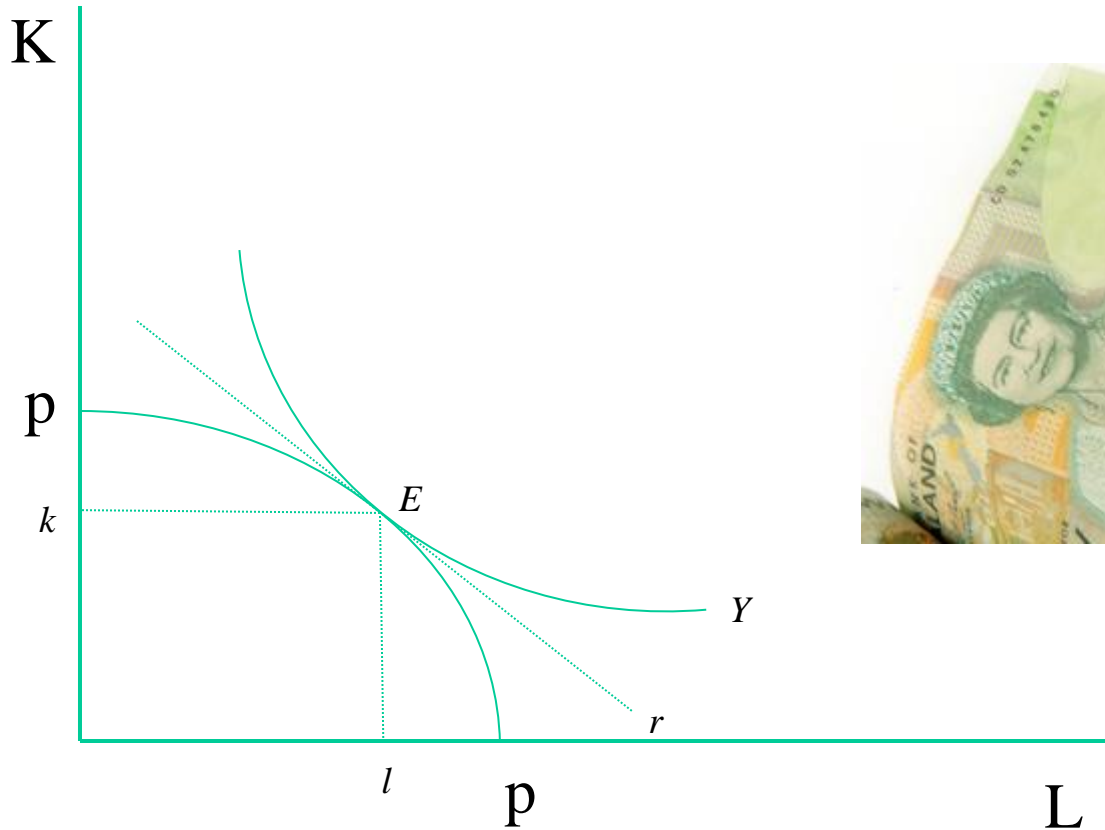
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# Consumption choices



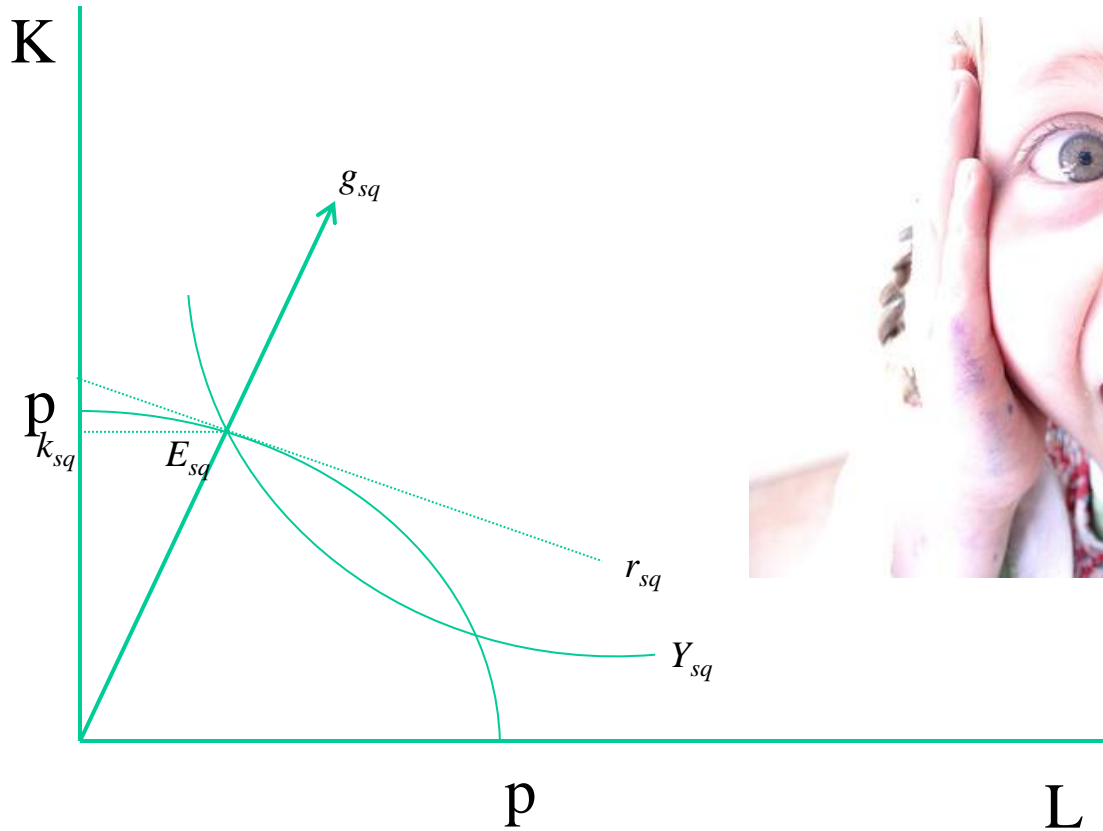
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# The role of prices



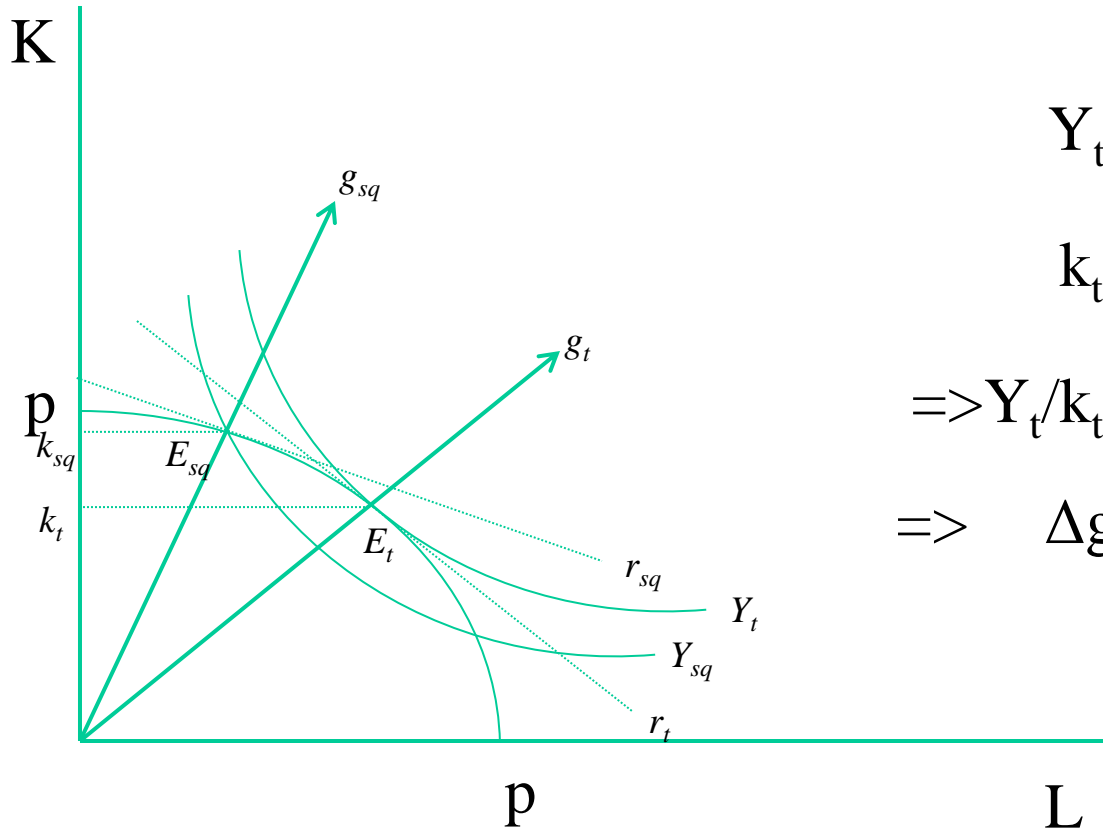
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# But life is not perfect



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# But does it matter?



$$Y_t > Y_{sq}$$

$$k_t < k_{sq}$$

$$\Rightarrow Y_t/k_t \gg Y_{sq}/k_{sq}$$

$$\Rightarrow \Delta g_t > \Delta g_{sq}$$





# How important has this been for New Zealand?

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- Examine the industry growth performance 1993-2009

- Interested in: 
$$\ln(Q_t) = \beta_0 + \sum_{i=1}^n \beta_i \ln(q_{i,t}) + \mu$$

- $\beta_i$  indicates sensitivity of economy to performance of specific industries
- Use principal components to cluster industry co-movements



# Example of results

Industry	Elasticity	% of GDP (2008/09)	Implicit growth dividend
Agriculture	6.2%	4.8%	1.30
Fishing	-2.0%	0.1%	-13.44
Forestry and logging	6.6%	1.1%	6.19
Mining	-1.1%	1.0%	-1.11
Food, beverage and tobacco manufacturing	3.3%	4.5%	0.72
Textile and apparel manufacturing	-0.4%	0.5%	-0.95
Wood and paper product manufacturing	2.2%	1.6%	1.37
Printing, publishing and recorded media	0.1%	1.0%	0.10
Petroleum, chemical, plastic and rubber products	-3.6%	1.1%	-3.25
Non-metallic mineral products manufacturing	5.1%	0.7%	7.68
Metal product manufacturing	0.0%	1.4%	0.02
Machinery and equipment manufacturing	-2.1%	1.9%	-1.11
Furniture and other manufacturing	1.1%	0.4%	3.15
Electricity, gas and water supply	-1.0%	1.9%	-0.52
Construction	3.7%	4.4%	0.82
Wholesale trade	4.0%	7.5%	0.53
Retail trade	5.4%	6.1%	0.88
Accommodation, restaurants and bars	4.9%	1.5%	3.24
Transport and storage	4.4%	4.7%	0.95
Communication services	7.2%	6.4%	1.12
Finance and insurance	5.7%	7.2%	0.79
Property services	2.2%	5.4%	0.41
Ownership of owner-occupied dwellings	0.9%	6.0%	0.16
Business services	3.7%	8.6%	0.42
Central government admin and defence	3.8%	3.7%	1.02
Local government administration	3.6%	1.3%	2.70
Education	-0.7%	3.3%	-0.21
Health and community services	3.8%	5.4%	0.69
Cultural and recreational services	1.3%	1.8%	0.73
Personal and other community services	5.1%	1.5%	3.36
Unallocated	3.6%	2.9%	1.25

Elasticity for forestry and logging is 6.6%

Implies a doubling in the size of the industry would be associated with a 6.6% increase in national GDP

But forestry and logging comprises just 1.1% of New Zealand economy

Forestry output stimulates activity in the rest of the economy

## Australia

### Potential lost growth due to under-investment in:

Rental, hiring and real estate services	2.7%
Health care and social assistance	2.5%
Transport, postal and warehousing	1.8%
Accommodation and food services	1.6%
Metal products	1.0%
Education and training	0.9%
Textile, clothing and other manufacturing	0.8%
Public administration and safety	0.8%
Mining	0.5%
Financial and insurance services	0.5%
Business services	0.2%
Wood and paper products	0.2%
Arts and recreation services	0.1%
Non-metallic mineral products	0.1%
Agriculture	0.1%
Other services	0.0%
<i>Total loss due to under-investment</i>	<i>14.2%</i>

### Potential lost growth due to over-investment in:

Food, beverage and tobacco products	0.0%
Printing and recorded media	0.1%
Forestry and fishing	0.3%
Machinery and equipment	0.4%
Petroleum, coal, chemical and rubber products	0.7%
Information media and telecommunications	0.8%
Ownership of dwellings	1.0%
Professional, scientific and technical services	1.6%
Electricity, gas, water and waste services	2.1%
Retail trade	2.4%
Construction	2.4%
Wholesale trade	3.2%

*Total loss due to over-investment* 15.0%

*Total potential loss due to misdirected investment* 29.2%

## New Zealand

### Potential lost growth due to underinvestment in:

Forestry and logging	5.6%
Non-metallic mineral products manufacturing	4.5%
Personal and other community services	3.6%
Accommodation, restaurants and bars	3.4%
Local government administration	2.3%
Agriculture	1.4%
Furniture and other manufacturing	0.8%
Communication services	0.8%
Wood and paper product manufacturing	0.6%
Central government admin and defence	0.1%
<i>Total loss due to under-investment</i>	<i>22.9%</i>

### Potential lost growth due to over-investment in:

Transport and storage	0.2%
Cultural and recreational services	0.5%
Retail trade	0.7%
Construction	0.8%
Printing, publishing and recorded media	0.9%
Textile and apparel manufacturing	0.9%
Food, beverage and tobacco manufacturing	1.2%
Metal product manufacturing	1.4%
Finance and insurance	1.5%
Health and community services	1.7%
Fishing	2.1%
Mining	2.2%
Electricity, gas and water supply	2.9%
Petroleum, chemical, plastic and rubber products	3.2%
Wholesale trade	3.6%
Education	4.0%
Machinery and equipment manufacturing	4.1%
Petroleum, chemical, plastic and rubber products	4.7%
Business services	5.0%
Ownership of owner-occupied dwellings	5.0%

*Total loss due to over-investment* 46.7%

*Total potential loss due to misdirected investment* 69.5%

More evidence of misdirected investment in New Zealand than Australia

Problem in New Zealand seems to be more of over-investment in the wrong industries rather than underinvestment in the right industries

But wood based industries (forestry, furniture, wood and paper manufacturing) are all areas that appear to have suffered from underinvestment

# Reasons for misdirected investment

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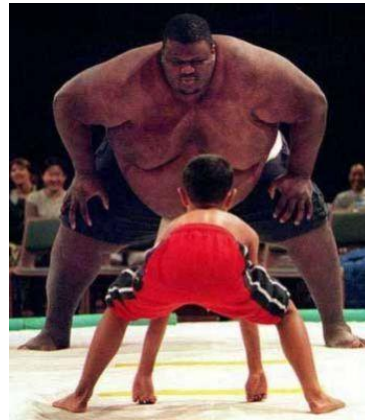
Natural constraints



Distance from market



Too small to be competitive



National policies



Spillovers



# Implications

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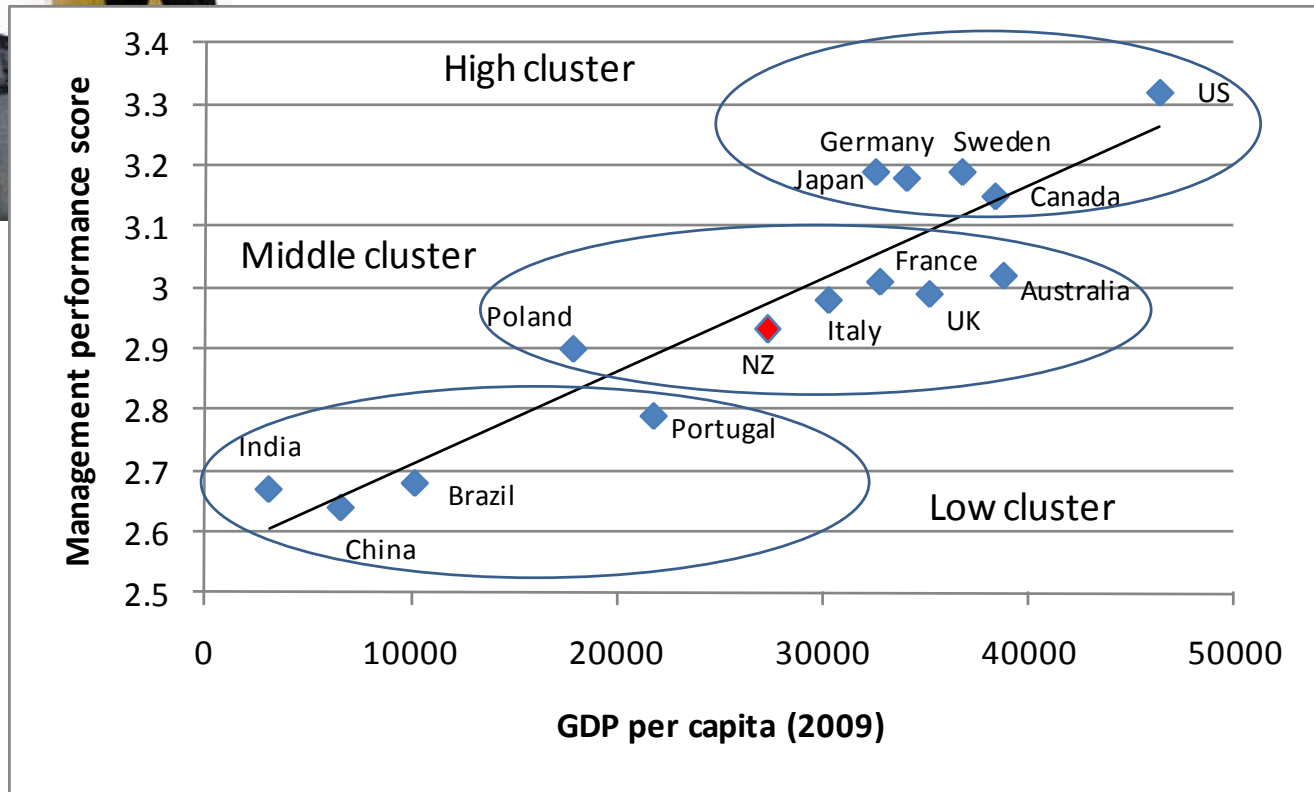
- Path dependency is important
  - Production today is influenced by investment decisions made decades ago; decisions made today will influence future opportunities
- Policy matters
  - We can do little about our size and our location, but we have a free hand on policy; only the best should do - OK policy is not good enough!
- Privilege hurts
  - Economies are highly interactive; helping one group restricts opportunities for others
- Management matters



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# Quality of management matters



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# The End

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## Closing Credits

Visual installation for music performance Runtime: 93 min

Closing credits of  
Avalon  
Tzameti  
Man on Wire  
4 Months 3 Weeks and 2 Days  
Man Bites Dog: It Happened in Your Neighborhood  
I'm a Cyborg, But That's OK  
The Beat That My Heart Skipped  
Cloverfield  
Paranoid Park  
The Piano Tuner Of Earthquakes  
Khrustalyov, mashinul  
La Antena  
Let the Right One In  
TaxiGermia  
The Machine Girl  
The Wrestler  
Dark City  
Rabatville  
99 francs  
The Five Obstructions  
Phone Booth  
Mars Attacks!  
American Beauty  
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Tetsuo: The Iran Man  
were used.

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