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## **Comments on Kym Anderson's "Australian Agricultural Sector Competitiveness"**

Will Martin

Contributed presentation at the 60th AARES Annual Conference,  
Canberra, ACT, 2-5 February 2016

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# **Comments on Kym Anderson's "Australian Agricultural Sector Competitiveness"**

Will Martin

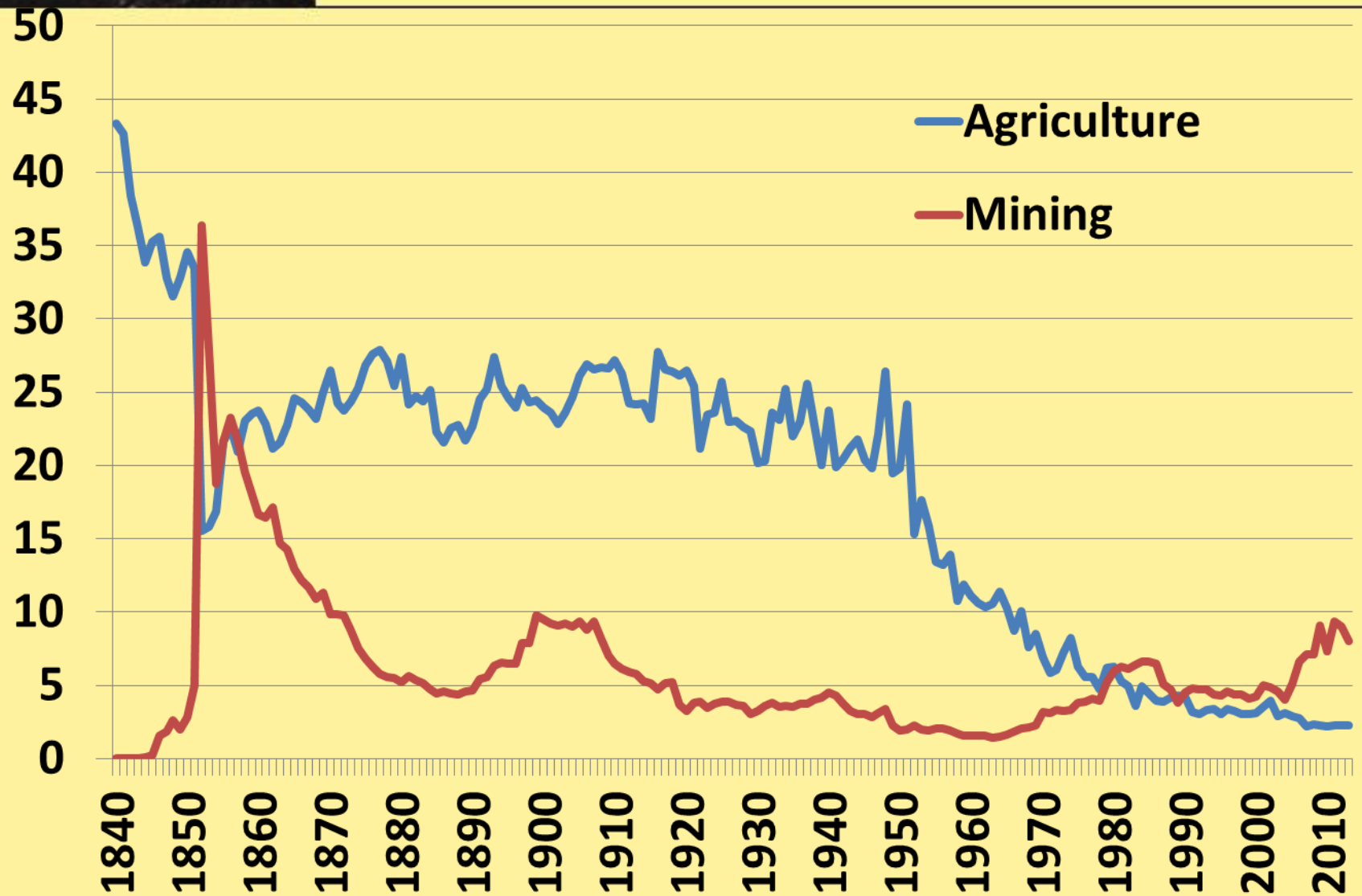
60<sup>th</sup> Anniversary AARES Conference 2016



# Great presentation

- Highlights the tussle between Australia's resource-based sectors since the 1840s
- Highlights the resilience of Australian agriculture through the 20<sup>th</sup> century
- Future prospects depend heavily on Asia

# Sectoral shares of GDP (%)

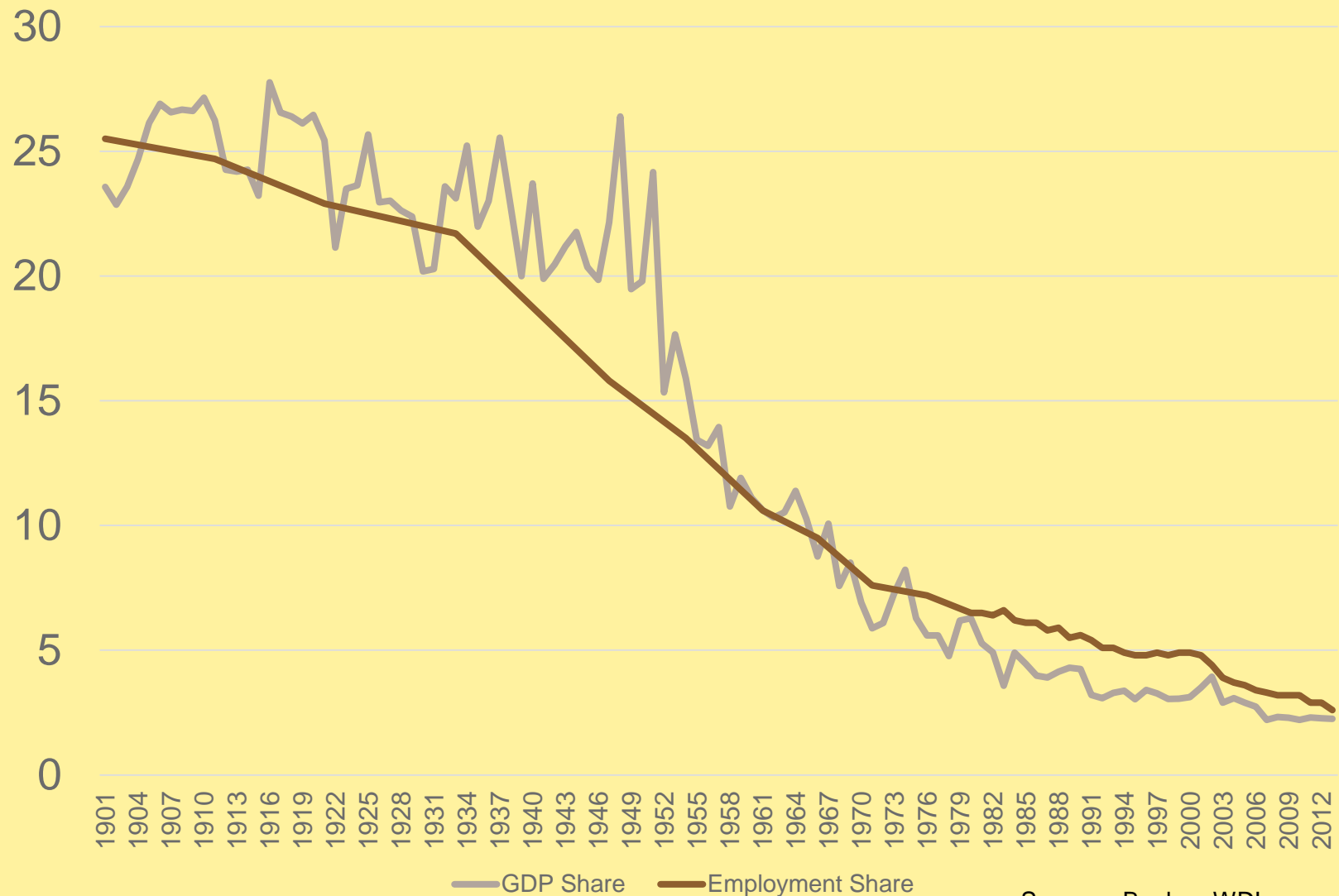




# **20<sup>th</sup> Century Resilience & Adjustment**



# Agriculture in the Australian Economy (%)



Sources: Boehm; WDI



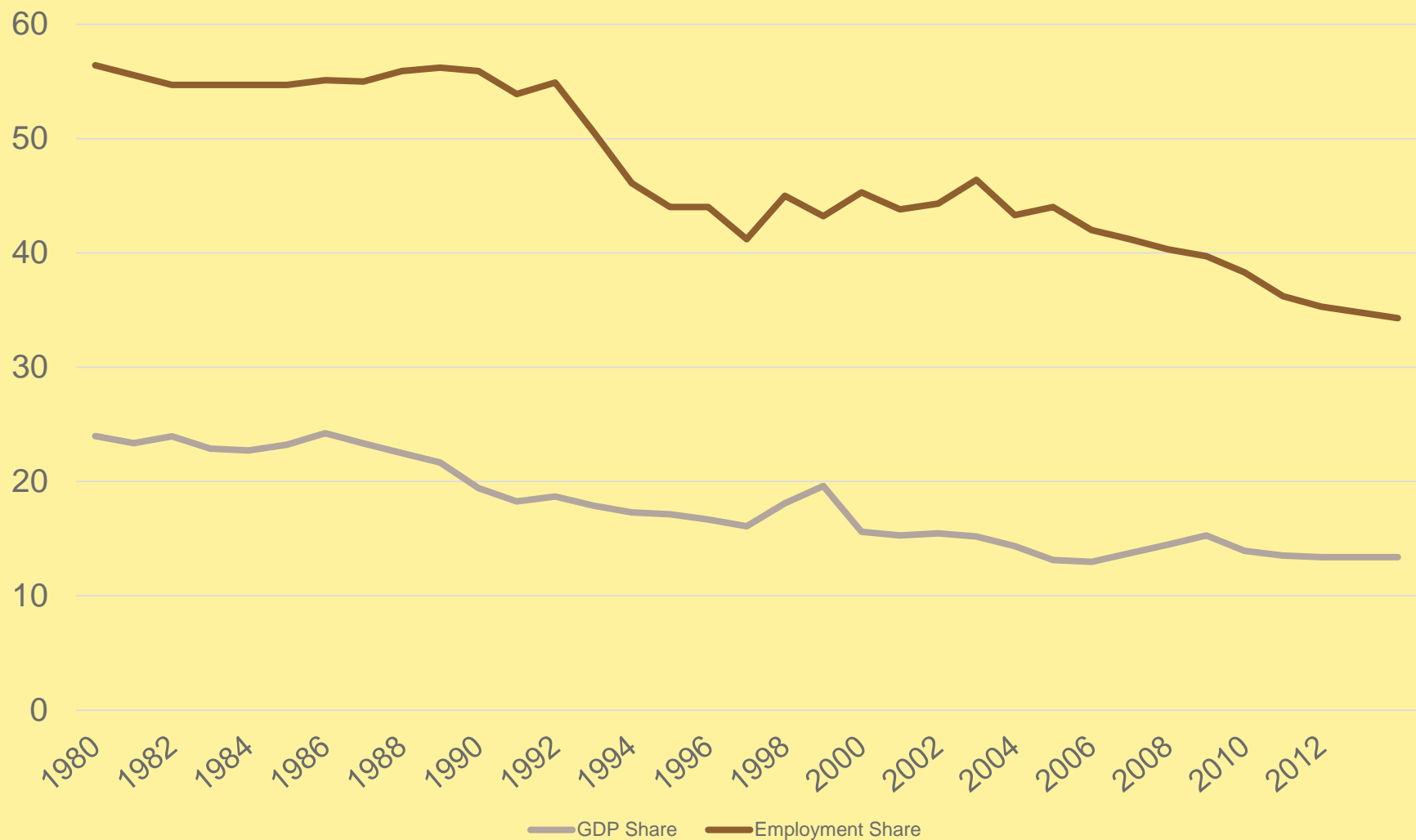
# **Quite different from most countries**

- Typical for agricultural employment to fall much more slowly than agricultural GDP
  - Creating large gaps between agricultural incomes and incomes in other sectors
  - Often identified as “the farm problem” and used to justify support to agriculture





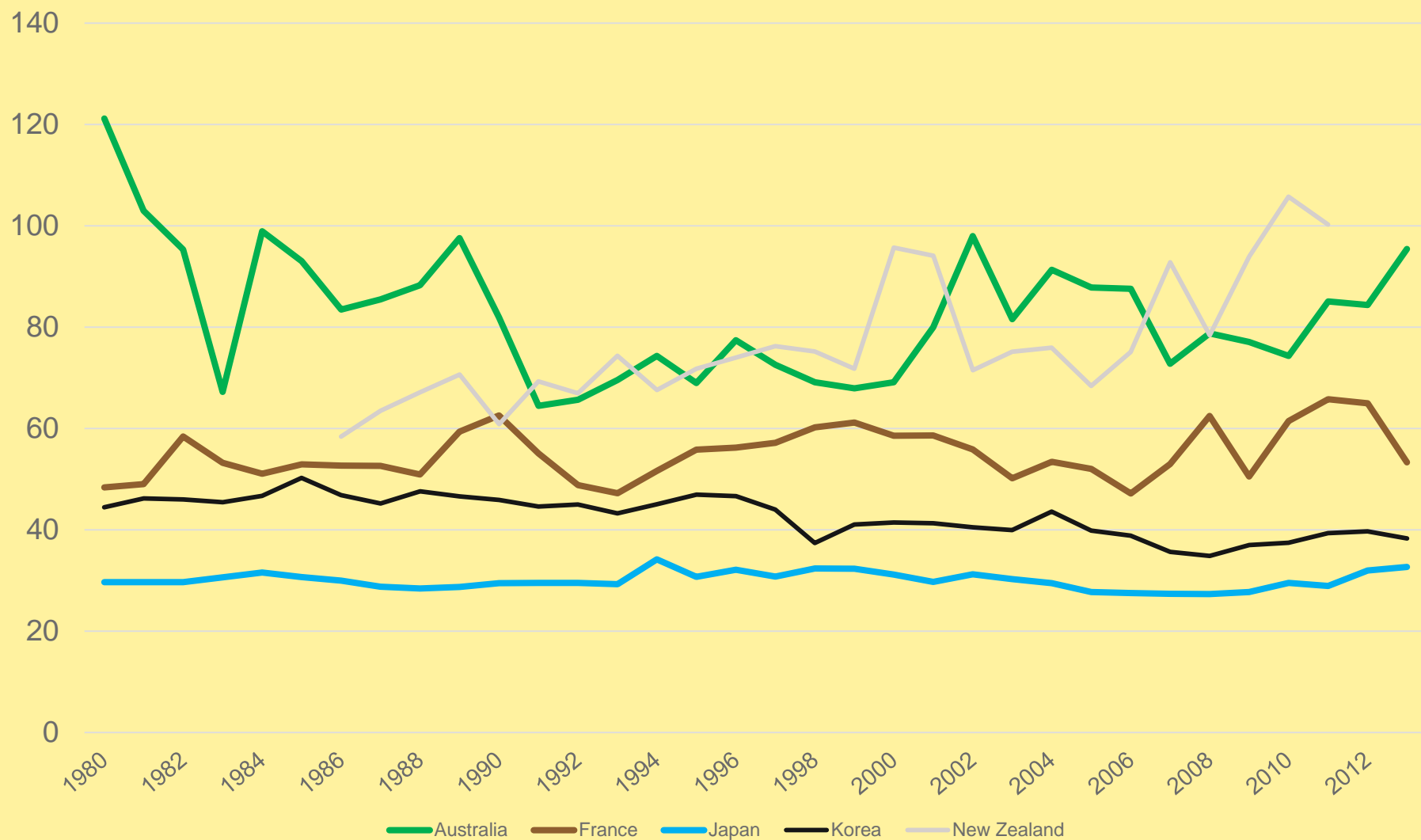
# Indonesia: Agriculture Share %



Source: WDI



# Agric to National Income/worker



Source: WDI



# Income Gaps

- Australia and NZ have relatively small income gaps between agriculture and the economy as a whole
  - Reflect relatively rapid adjustment of resources out of agriculture
- Other countries have much larger gaps
  - Even where agriculture is heavily supported
- What did Australia and New Zealand do right?



# **Growing Food Demand from China?**



# Food demand in China

- Demand growing rapidly, primarily through changes in products consumed
  - Consumption of staples falling rapidly
    - Demand for livestock products increasing
- Can capture this through multi-product simulation models
  - Rising demand for superior products creates demand for inputs such as grain & oilseeds
- A simple, econometric alternative?



# Econometric Approach

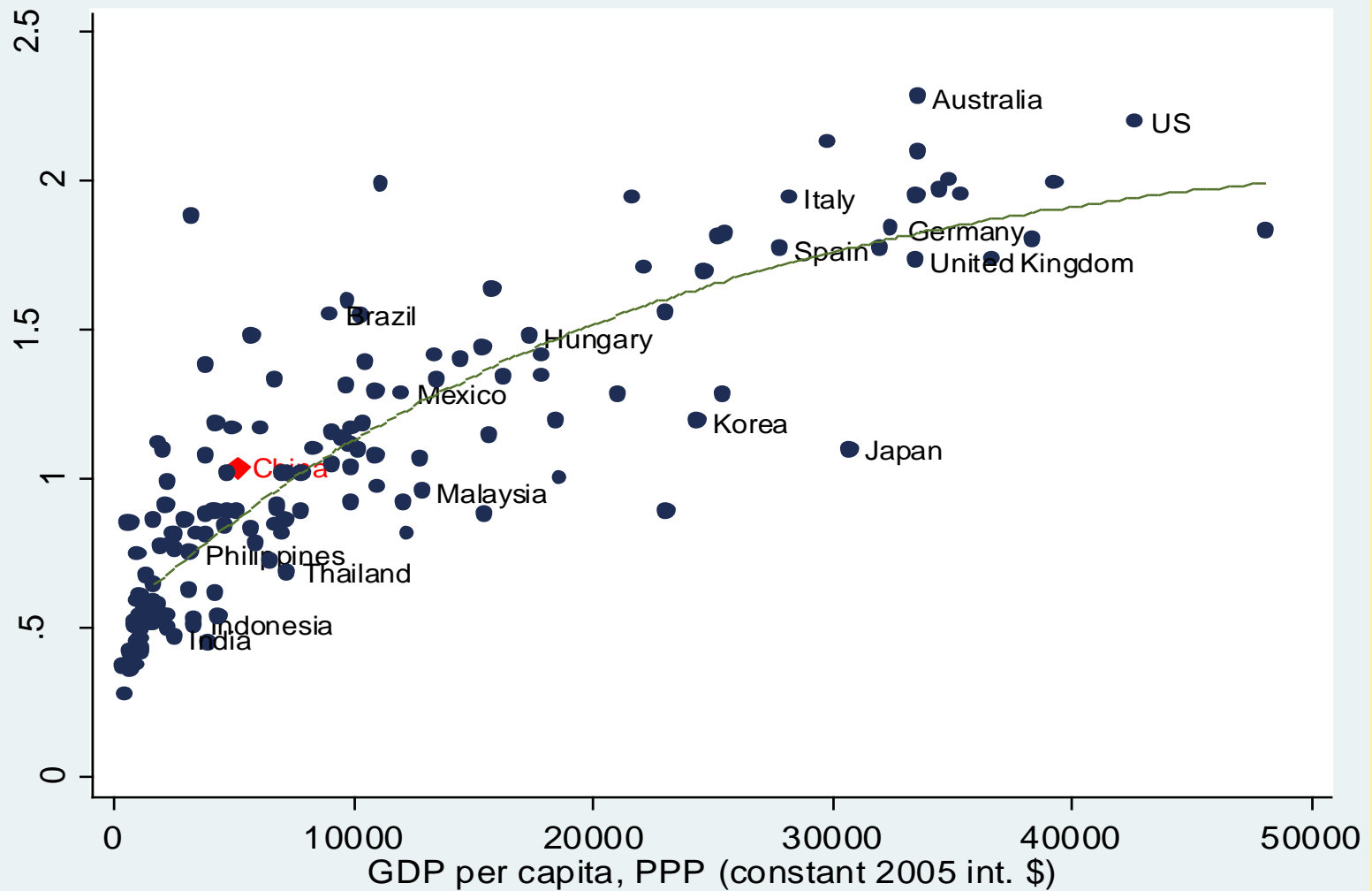
- Draw on work by Yotopoulos & by Rask
  - Based on the experience of 155 countries
- Calculate the cereal equivalents required to produce diets as incomes grow
- Estimate reduced-form relationship between real income & consumption



# Some cereal equivalents

Products	Coefficients
Beef	19.8
Pork	8.5
Poultry	4.7
Fish, Seafood	3.3
Eggs	3.8
Milk	1.2

# Estimated demand







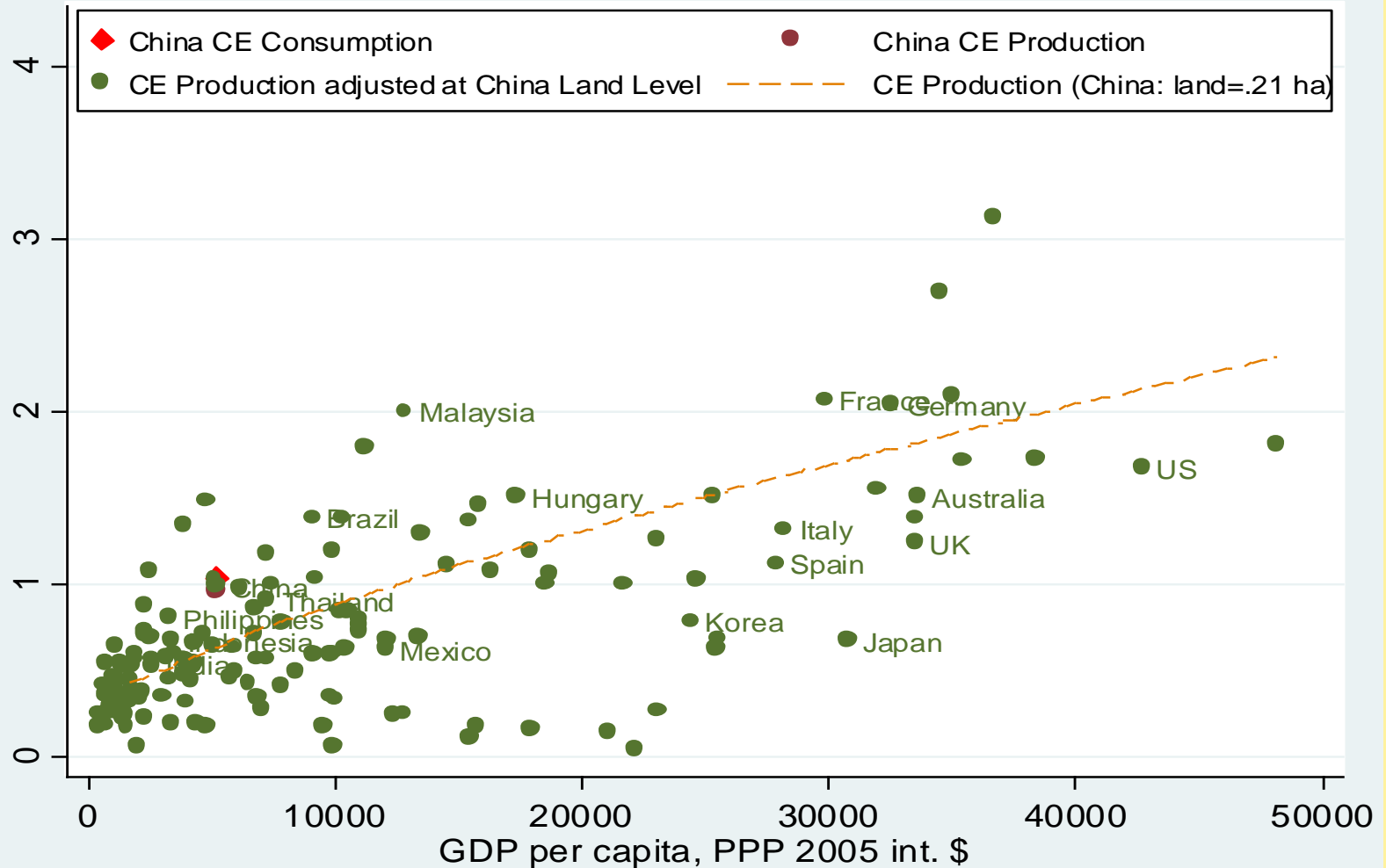
## **But remains concave**

- Eventually, the rate of growth of demand per person begins to slow
  - China's population peaks around 2025
- Key question is how the growth rate changes relative to the growth of output?



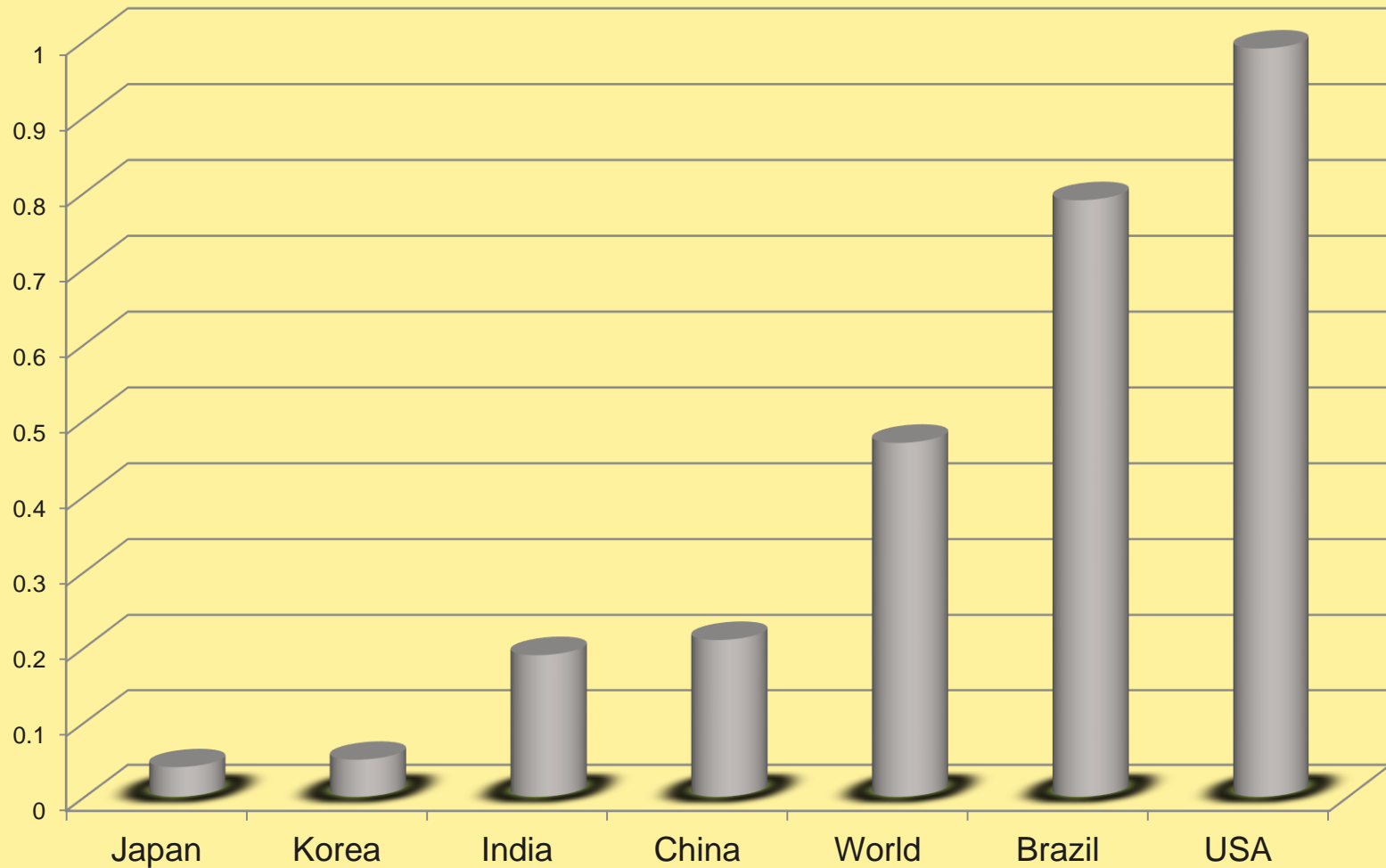
# Supply

# Agric CE prodn vs income

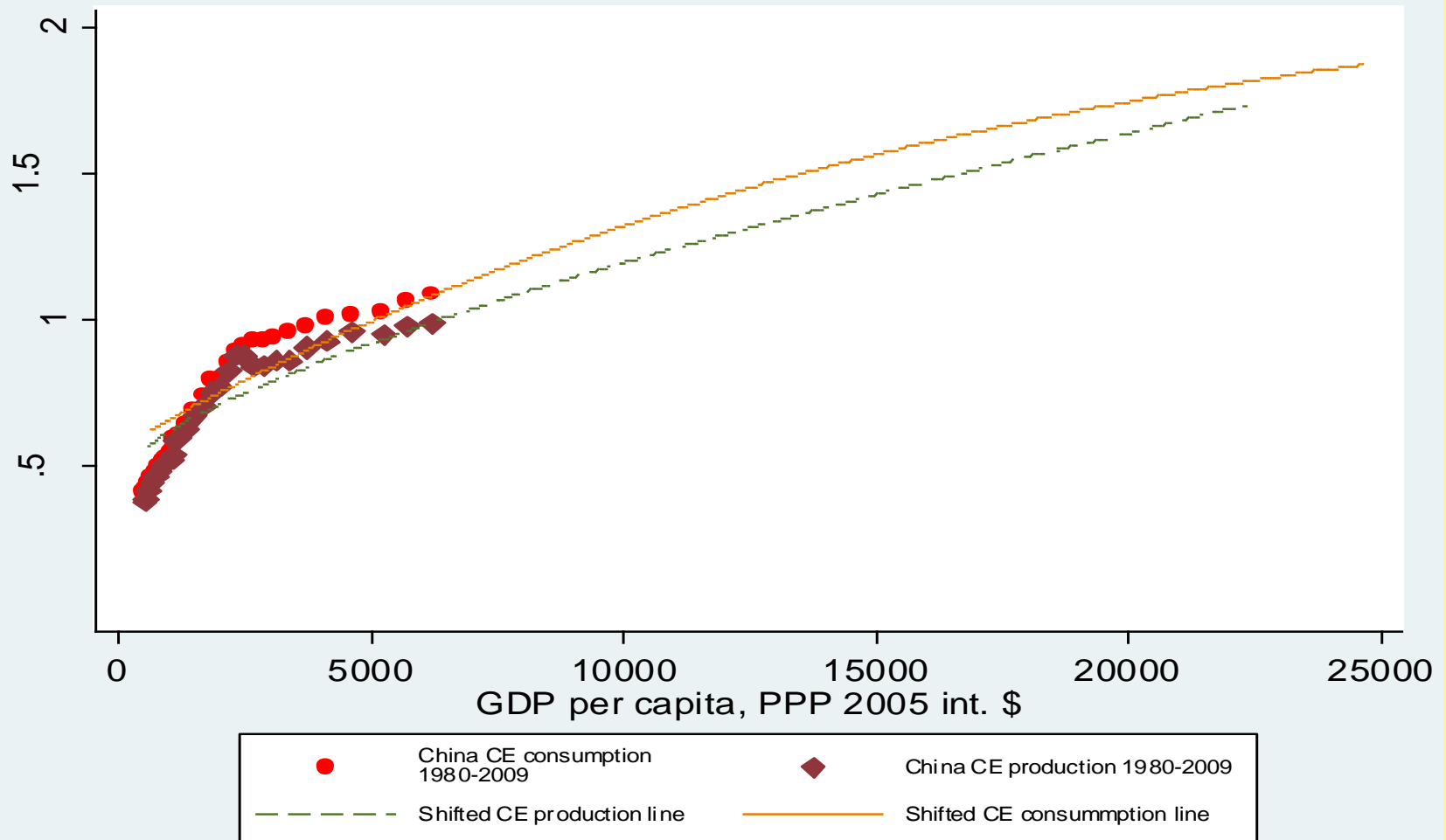




# Agricultural land per capita

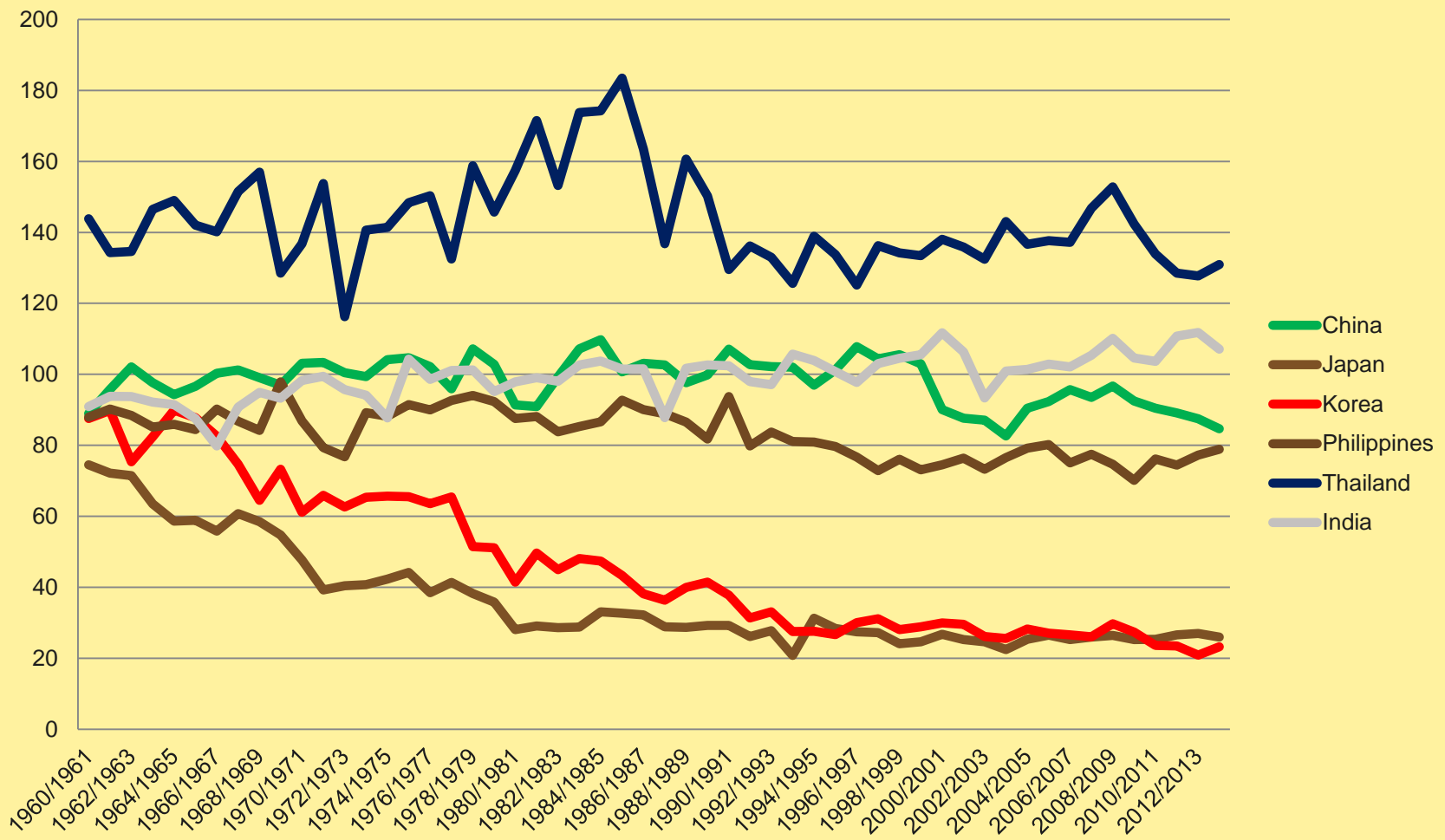


# China- net imports





# E Asia grain self-sufficiency





# Conclusions

- Extraordinary mobility of labor out of agriculture in Australia (and NZ) helped avoid large income gaps
  - What did we do right?
- China & India much less land-scarce than Korea and Japan
  - Income growth unlikely to raise imports as much as the Japan/Korea case– may even decline
    - Protection shifts imports to animal feeds so reducing protection on finished products important for Australia



# References

Boehm, E. (1993) *Twentieth Century Economic Development in Australia*, 3rd. ed. Longman Cheshire, Melbourne.

Fukase, E. & Martin, W. (2016), 'Who Will Feed China in the 21st Century? Income Growth and Food Demand and Supply in China' *Journal of Agricultural Economics* 67(1):3–23. Open access.