

Asian Tigers Growth Analysis

Reading Notes

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1 Project Plan

1.1 Main Question

Did the Asian Tigers (Hong Kong, Singapore, South Korea, Taiwan) experience drastic economic growth from improved productivity (TFP) or increased investment in capital and labor?

1.2 What I Will Work On

- Download Penn World Table data
- Calculate TFP using growth accounting
- Compare the Tigers with other countries
- Make graphs and run regressions
- Write up findings

2 Key Background Concepts

2.1 Growth Accounting

What it is: Investigating what determines the growth of income per capita in a society. Total output is produced by combining *factors of production*. The economy transforms these inputs into outputs.

The basic formula: $\text{GDP Growth} = \text{TFP growth} + \text{Capital growth}^*(\text{weight of K contribution}) + \text{Labor growth}^*(\text{weight of L contribution})$

2.2 Capital Accumulation

What it is: A method of expanding the *inputs* of a modern economy by growing and improving physical and human capital. This and TFP are generally the two ways to grow economies, since increasing land relative to # of workers is unrealistic in modern economies.

2.3 Total Factor Productivity (TFP)

What it is: The efficiency of an economy's allocation of resources. Efficiency gains can come from better production *technology*, economies of scale, and stronger institutions.

Why it matters: TFP measures the portion of output growth not explained by growth in traditionally measured inputs of labor and capital (human & physical).

How to calculate it: TFP is calculated by dividing output by the weighted geometric average of labor and capital input, with the standard weighting of 0.7 for labor and 0.3 for capital. A traditional Cobb-Douglas output function looks like:

$$Y = z * K^\alpha * L^\beta$$

2.4 Understanding the Main Debate

Some economists believe that the Tigers grew through high TFP. Others think they just invested a lot (capital accumulation). I am looking to find which view the data supports.

3 Paper Reading Notes

3.1 Title: The Myth of Asia's Miracle

Author: Paul Krugman

Year: 1994

Main argument in one sentence: Though the leadership and institutions of Asian countries do not resemble those of the 1950s Soviet Union, the reasons for their spectacular economic rise are surprisingly similar in their improvement of capital accumulation rather than TFP.

Main points:

- 1950-60s Soviet economic growth should not be attributed to the communist system's superior efficiency. Rather, extensive growth in employment, education levels, and capital investment explains the rapid output growth.
- Growth accounting analysis using Soviet data, though difficult, found little evidence of efficiency growth in the U.S.S.R. during that period.
- Singaporean data shows a similar radical improvement in employment share, educational standards, and physical capital improvements.

- However, Singapore's economy started with higher efficiency than the U.S.S.R., and therefore has come much closer to Western prosperity.
- Input-reliant growth is certain to slow down by design, and this is happening in Japan.
- There is an absence of convergence in technology, despite greater intellectual border-crossing.
- Therefore, the West shouldn't look towards Asia for the secrets to TFP.

How they did their research: Primarily based on studies conducted by Alwyn Young, Jong-Il Kim, and Lawrence Lau.

Questions I still have: Krugman cites Singapore as the strongest example supporting his conclusion. I'm curious about the other Tigers. Also, this analysis seems to benefit greatly from a larger time perspective, so I am interested in more recent research.

3.2 Paper: The Tyranny of Numbers

Author: Alwyn Young

Year: 1995

Main argument in one sentence:

Main findings:

-
-
-

How they did their research:

Important numbers/facts:

How this helps my project:

Questions I still have:

3.3 Paper: The East Asian Miracle (World Bank Report)

Author: World Bank

Year: 1993

Main argument in one sentence:

Main findings:

-
-
-

How they did their research:

Important numbers/facts:

How this helps my project:

Questions I still have:

3.4 Paper: [Next Paper Title]

Author:

Year:

Main argument in one sentence:

Main findings:

-
-
-

How they did their research:

Important numbers/facts:

How this helps my project:

Questions I still have:

4 Making Connections

4.1 What Many Agree On

-

-

4.2 Where They Disagree

-
-
-
-

4.3 Why Do They Disagree?

(Different data? Different methods? Different time periods?)

5 My Analysis Results

5.1 Growth Accounting Results

When I calculated TFP, here's what I found:

Hong Kong:

- Total growth:
- From capital:
- From labor:
- From TFP:

Singapore:

- Total growth:
- From capital:
- From labor:
- From TFP:

South Korea:

- Total growth:
- From capital:
- From labor:
- From TFP:

Taiwan:

- Total growth:
- From capital:
- From labor:
- From TFP:

5.2 Comparison to Literature

5.3 Other Interesting Findings

6 Ideas and Questions

6.1 Ideas for My Analysis

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6.2 Questions I Want to Answer

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7 References

Krugman, P. (1994). The Myth of Asia's Miracle. *Foreign Affairs*, 73(6), 62-78. from jstor

<https://faculty.econ.ucdavis.edu/faculty/gclark/ecn110a/readings/chapter%208a%20-%20growth%20accounting.pdf>