Alwyn Young

"The Tyranny of Numbers"
QJE 1995

Newly Industrialising Countries (NICs)
→ Hong Kong   → South Korea
→ Singapore   → Taiwan

saw 6 to 7 percent growth $\frac{GDP}{N}$
between 1966 and 1990/1991

→ was this high g? (strong
     productivity growth)

→ Or was this high $\frac{k}{n}$ & $\frac{h}{n}$?
     (high physical + human capital accumulation)

→ if the latter, then simply transitory
     growth on path to higher y_{ss}

→ all four saw large increase
in share of working population
with at least secondary education

→ Ratio of $\frac{I}{GDP}$ (rough ~~measure~~ equivalent
of the saving rate $\frac{s}{y}$ in Solow Model)
also grew over the period

→ implies that the East Asian tigers
↑ s_K and ↑ s_H

→ Young also states that ↓ n

Total Factor Productivity growth
→ corresponds to g in Solow Model

$$Y = K^{\alpha} (AL)^{1-\alpha}$$

$$\ln Y = \alpha \ln K + (1-\alpha) \ln L + (1-\alpha) \ln A$$

$$\frac{d \ln X}{dt} = \frac{d \ln X}{dX} \cdot \frac{dX}{dt}$$

$$= \frac{1}{X} \cdot \dot{X} = \frac{\dot{X}}{X}$$

$$\frac{\dot{Y}}{Y} = \alpha \frac{\dot{K}}{K} + (1-\alpha) \frac{\dot{L}}{L} + (1-\alpha) \frac{\dot{A}}{A}$$

Output growth rate

one minus labor's share

Growth rate of capital

labor's share

labor force growth rate

TFP growth rate

TFP growth

Hong Kong	1966-91		2.3%
Singapore econ	1966-90		0.2%
manuf	1970-90		-1.0%
S. Korea non-ag econ	1966-90		1.7%
Taiwan non-ag econ	1966-90		2.6% *

* only 2.1% when you ~~include~~ adjust for public sector output

→ For comparison, Young presents a table of TFP growth in other developing economies + developed economies

Canada	0,5	Brasil	1,6
Fr	1,5	Chile	0,8
DE	1,6	Mexico	1,2
Italy	2,0	Brasil*	1,0
Japan	2,0	Chile*	0,7
UK	1,3	Mexico*	1,3
US	0,4	Venezuela*	2,6

* Manufacturing alone

→ Those TFP growth rates make the TFP growth rates of the East Asian Tigers look average