

Chapter 1

A Tour of the World

1. True/False/Uncertain

- a. True.
- b. True.
- c. True – at least in the sense that if one country is growing faster than another, it will eventually catch up and pass the country that started ahead.

2. Economic Growth in Canada and the United States

- a. most recent period

Canada	2.9%	for Canada 2005-2007
US	2.56%	for the US 2005-2007

Both the US and Canada have had slower growth in the 2005-2007 period than in the 1962-1993 period.

- b. In all three geographic areas, Canada, America and the Euro area the unemployment rate is expected to rise from 2008 to 2009 as output growth is expected to become negative. Negative output growth is clearly associated with higher unemployment

3. Correct the politicians

- a. Low unemployment might lead to an increase in inflation.
- b. Although measurement error may contribute to the measured slowdown in growth, there is quite substantial evidence of some type of reduction in the normal rate of growth of output per person after 1970.
- c. Although labor market rigidities may be important, it is also important to consider that these rigidities may not be excessive, and that high unemployment may arise from flawed macroeconomic policies.
- d. At least in China, a large portion of the economy of East Asia, output growth was in fact very high. Thus it makes no sense to blame Japan's slow economic growth on slow economic growth in the region.
- e. Although the Euro will remove obstacles to free trade between European countries, each country will be forced to give up its own monetary policy.

4. When will China catch up?

- a. Figure 1-7 shows China's level of output in 2006 as \$7.5trillion
Figure 1-1 shows U.S. level of output in 2007 equal to \$11.46 trillion

To calculate the catch-up point we need to back up U.S. real output to 2006. We can do this since Table 1-2 tells us U.S. output grew by 2% from 2006 to 2007. Thus output in 2006 in the United States was $11.46/1.02 = 11.23$ trillion

Now to calculate when China will catch the United States you must solve

$$11.23(1.03)^t = 7.5(1.09)^t$$

$$1.497 = (1.058)^t$$

$$t = \ln(1.497)/\ln(1.058) \approx 7.1 \text{ yrs}$$

- b. This exercise starts from the data in Table 1-4 which tells you that in 2004 per capita income in Japan was \$26657.8 and in China was \$5771.7.

To calculate the crossing point, equate, as in part (a)

$$(1.01)^t 26657.8 = (1.06)^t 5771.7 \text{ and solve for } t.$$

The answer takes logarithms of both sides of $4.61 = (1.0495)^t$

$$\text{So } t = \ln(4.61)/\ln(1.0495) = 31.6 \text{ years}$$

Even a very rapid growth rate it will take China some time to match Japan in average output per person.