

Course Introduction

Basic issue:

What accounts for the enormous variation in *income* and *economic growth* observed across countries?

Income:

GDP – value of goods and services produced within a country in a given year.

To eliminate the impact of inflation, we focus on *real*, or *constant-dollar*, GDP throughout the course.

In making cross-country *welfare* comparisons, we typically focus on *per capita* GDP: output per person, or Y/Pop.

In making cross-country *productivity* comparisons, we typically focus on GDP *per worker*: Y/L

Growth:

Percentage change in the variable in question. E.g., let $y = Y/L$. The growth rate of y in, say, 2009, is calculated as

$$g_y = 100 * \left(\frac{y(2009) - y(2008)}{y(2008)} \right)$$

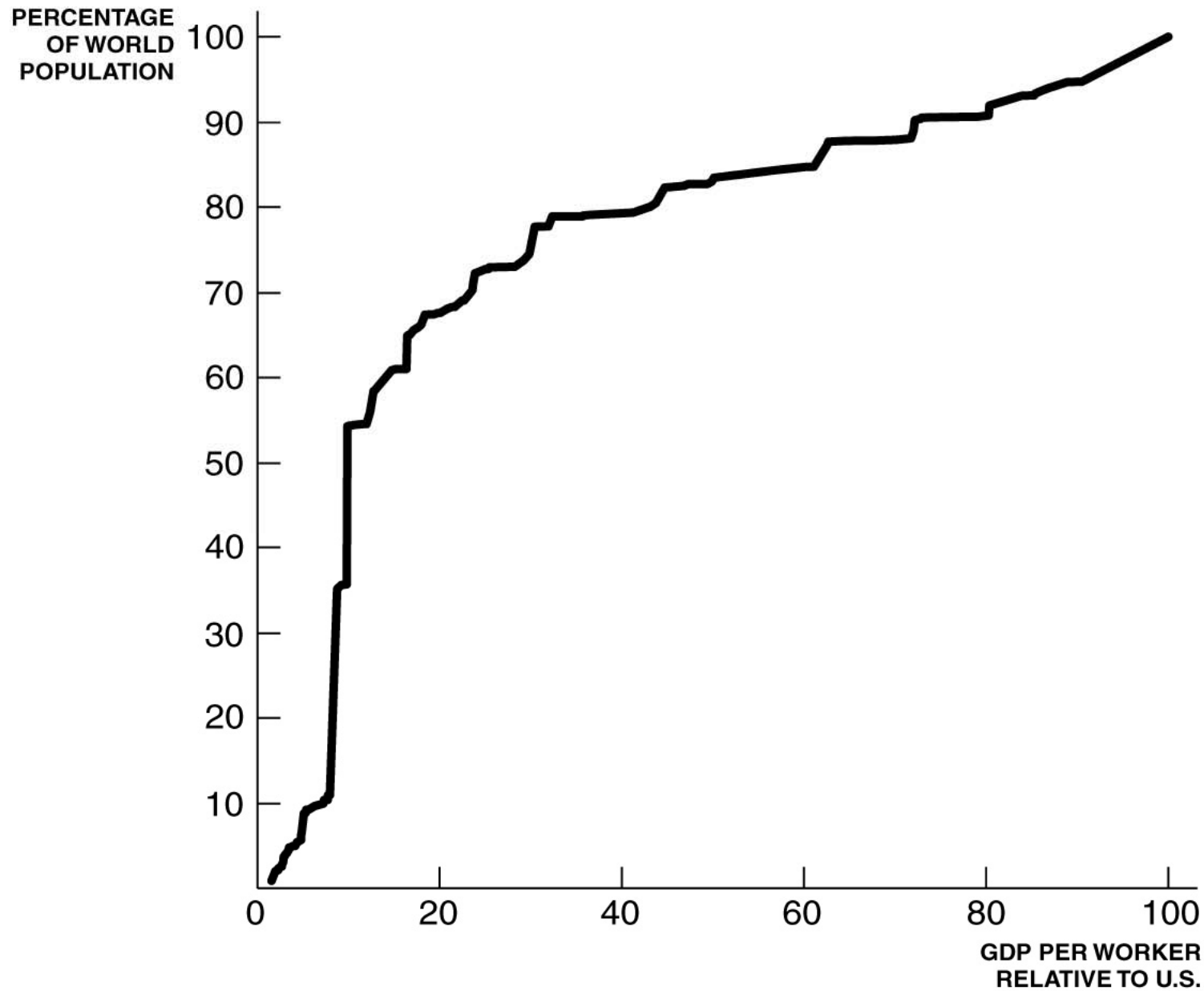


FIGURE 1.1 CUMULATIVE DISTRIBUTION OF WORLD POPULATION BY GDP PER WORKER, 1995

Economic Growth, 2nd Edition
 Copyright © 2004 W. W. Norton & Company

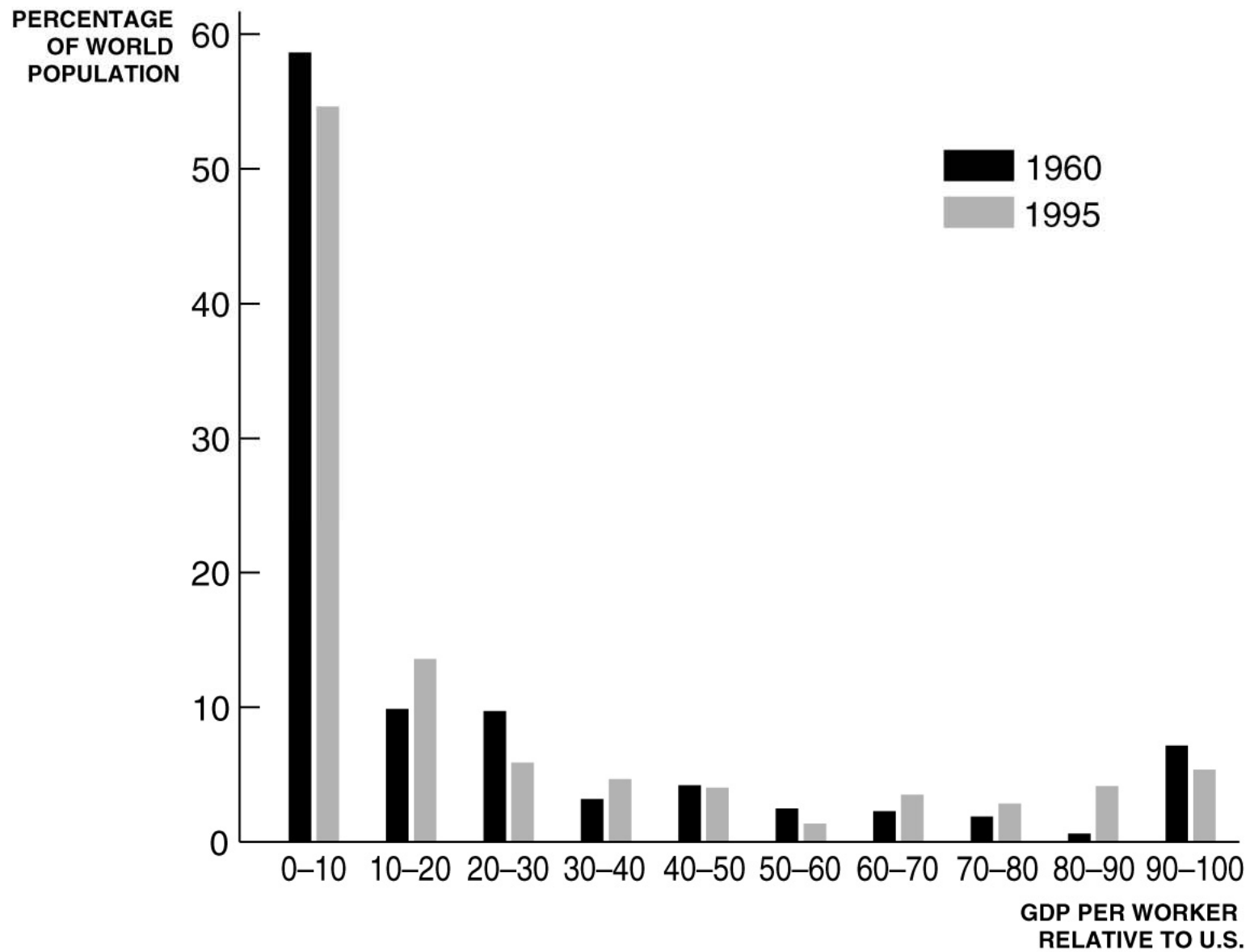


FIGURE 1.2 WORLD POPULATION BY GDP PER WORKER, 1960 AND 1995

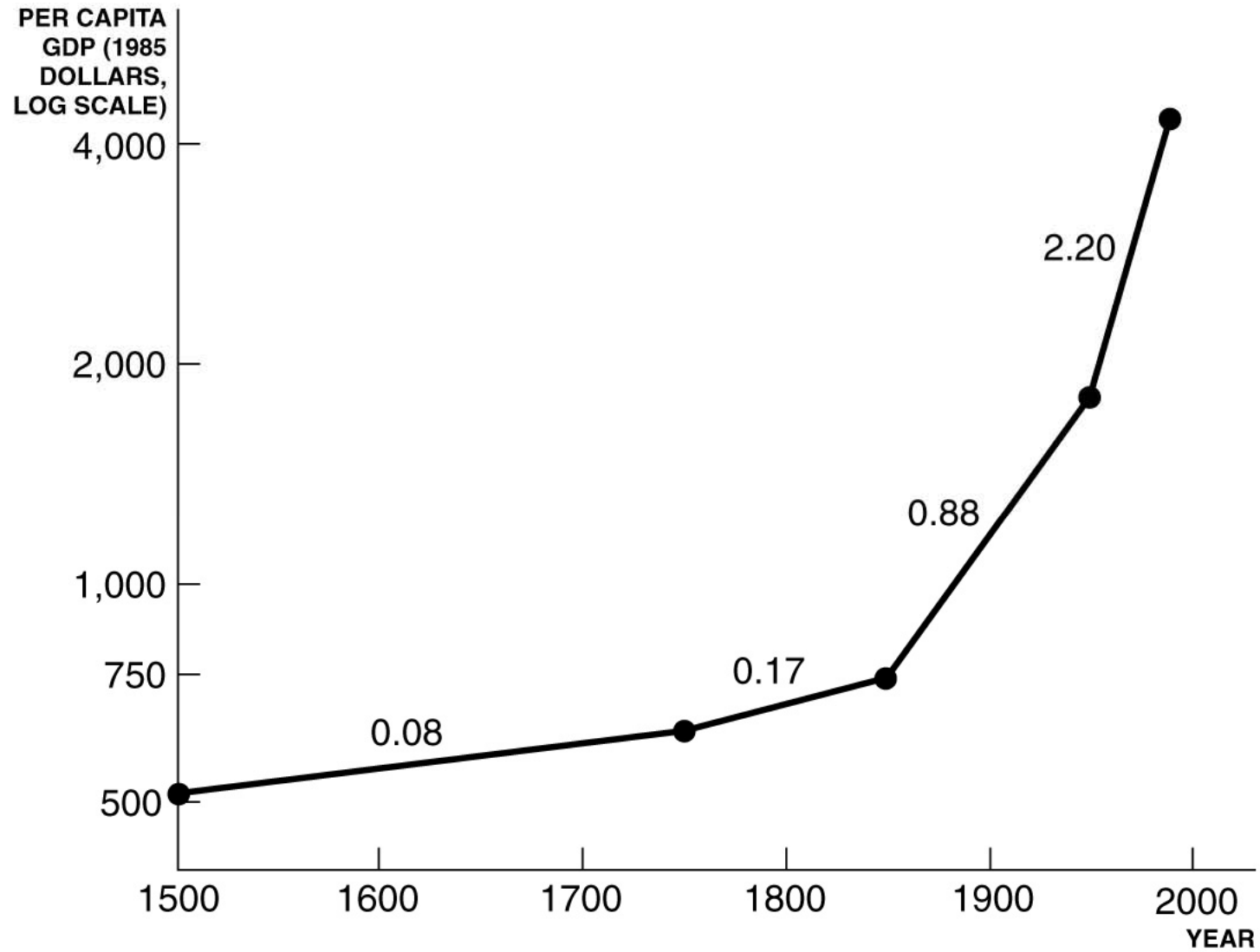
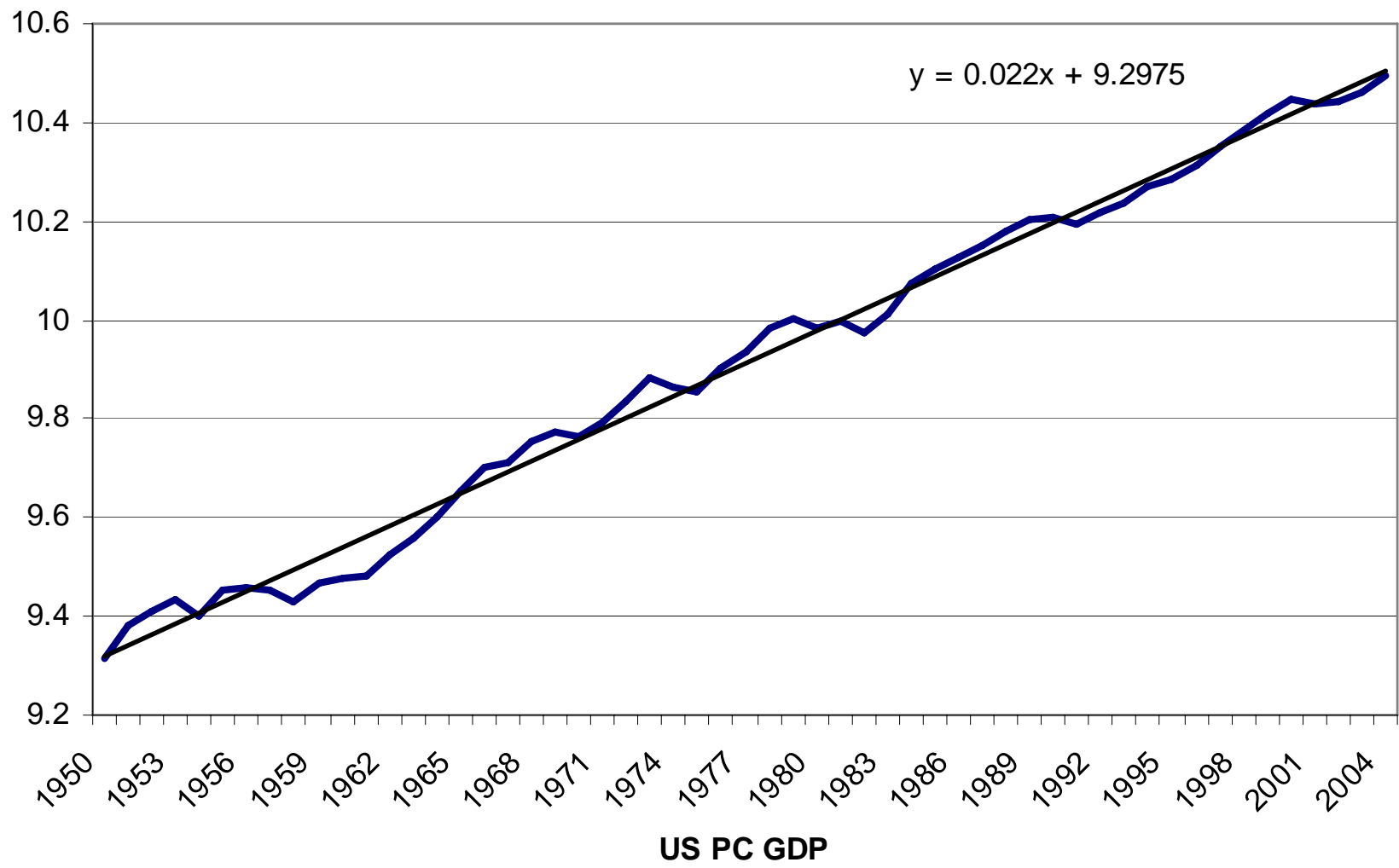


FIGURE 1.3 WORLD PER CAPITA GDP AND GROWTH RATES, 1500–1990



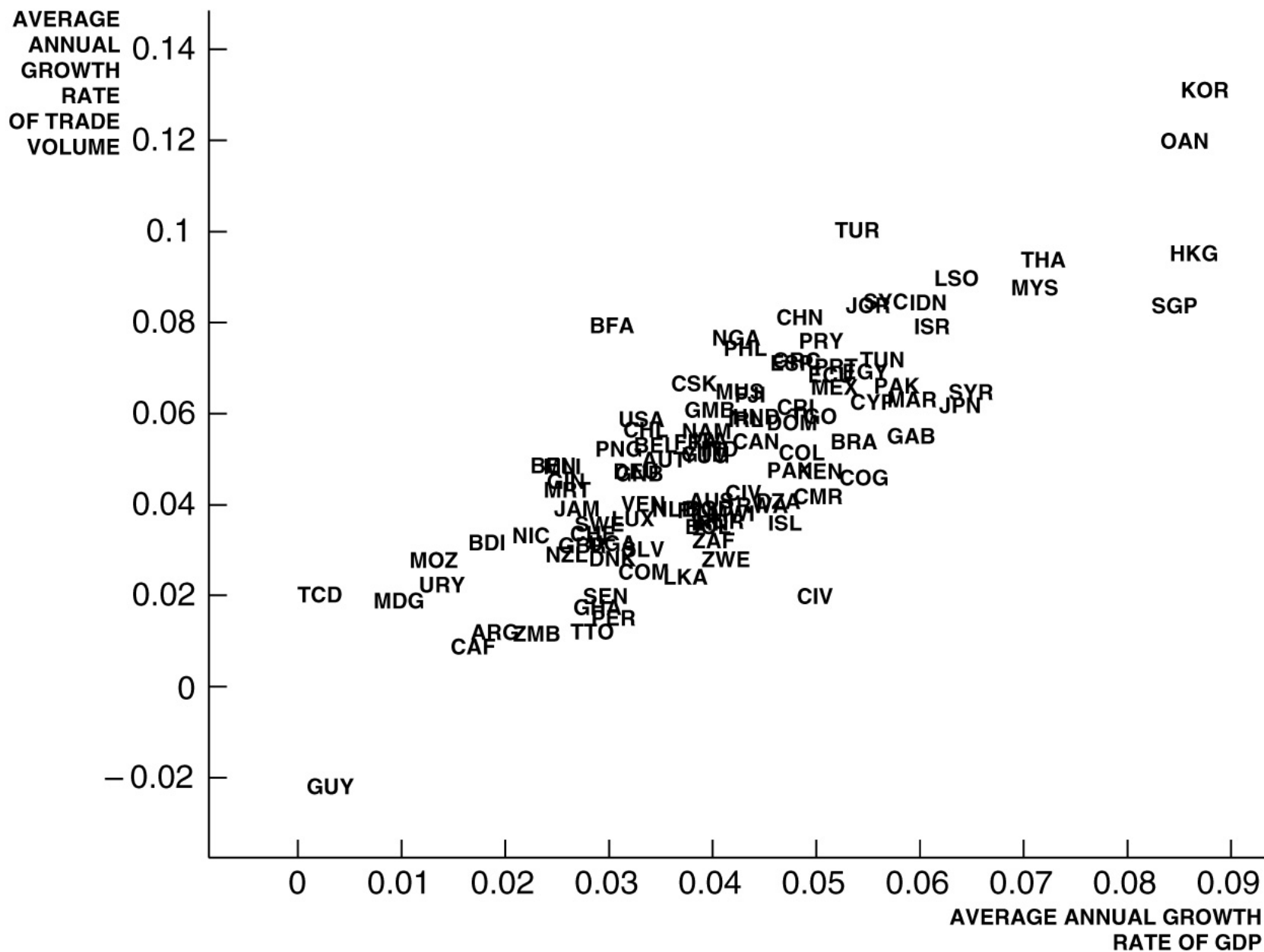


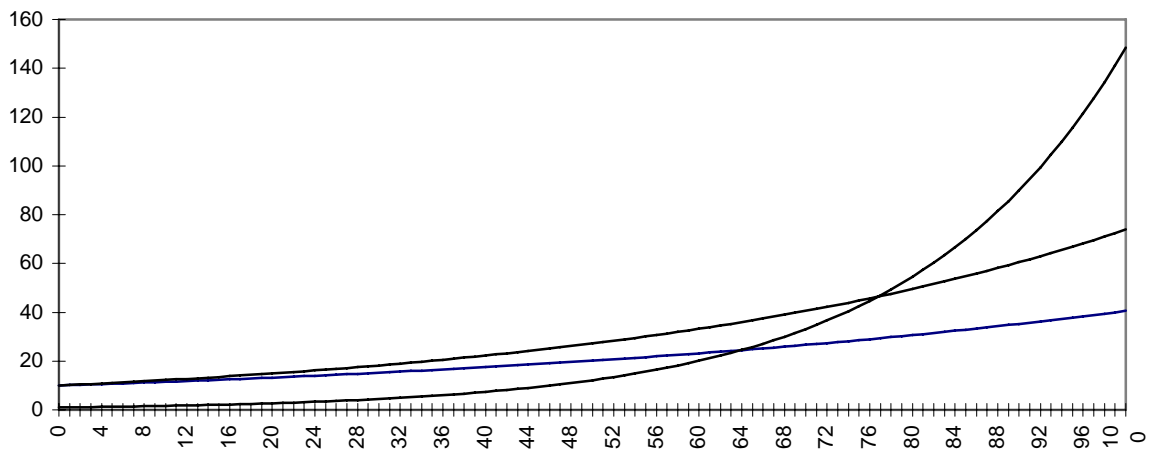
FIGURE 1.5 GROWTH IN TRADE AND GDP, 1960–90

The importance of growth: numerical example

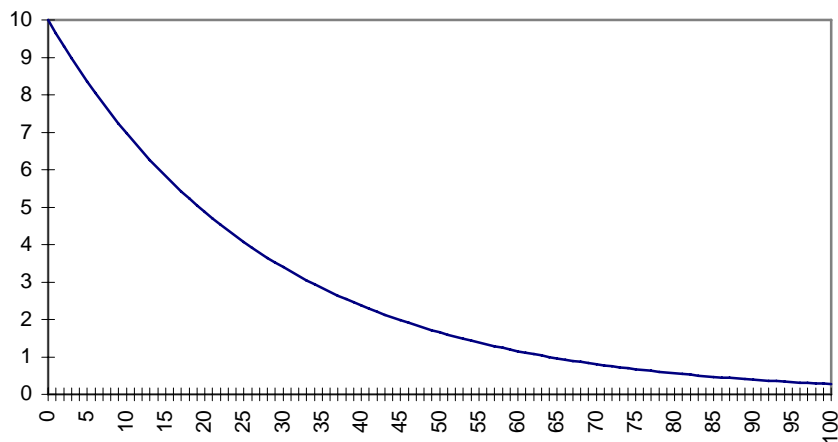
Three series: X, Y, Z.

$$X(0) = Y(0) = 10 * Z(0)$$

$g_x = 1.4\%$ (U.S.); $g_y = 2\%$; $g_z = 5\%$ (Japan)



X/Z:



Lucas (1988 *JME*):

I do not see how one can look at figures like these without seeing them as representing possibilities. Is there some action a government of India could take that would lead the Indian economy to grow like Indonesia's or Egypt's? If so, what exactly? If not, what is it about the "nature of India" that makes it so? The consequences for human welfare involved in questions like these are simply staggering: Once one starts to think about them, it is hard to think about anything else.

Course Overview

Step 1: A simple description of economic growth: the Solow model.

Bottom line: Technological progress is the engine of growth. Savings rates, capital accumulation, etc. have temporary impacts on growth, but not on long-run sustainable growth rates.

Unresolved issue: What determines technological progress?

Step 2: A theoretical description of technological progress.

Bottom line: Investment in R&D activities fuels technological progress, which in turn fuels economic growth.

Unresolved issue: Why are some countries more technologically advanced than others?

Step 3: A theoretical description of development and growth.