Chapter 15: Economic Growth
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The purpose of this topic is to identify the sources of economic growth and look at the experience of the United States.

ECONOMIC GROWTH

Economic growth can be measured by the rate of growth of GNP. Or, the rate of income per capita can be used to better assess the increase in the standard of living.

> The annual real growth rate of GNP has been approximately 3.5% for the United States over the past half century. The annual rate of growth of GNP per capita has been about 2.0% for the same period.

PRODUCTIVITY GROWTH DECLINE

Productivity growth in the United States has declined from an average of over 3% per year in the 1980's to less than 1% in the early 1990's. This decline appears to be attributable to lower saving rates, less technological progress, aging capital and a decrease in labor quality (associated with declining educational standards). In the late 1990's, productivity growth rebounded to well over 3% per year.

> In the 1990's, productivity growth of Japan has been about 8%, and it has permitted a rate of growth of GNP of over 6% per year. But, in the 2000's, Japan has been plagued by no growth in either.

SOURCES OF GROWTH

A study by Edward Dennison showed that economic growth can be attributable to either growth in factors of production (or resources) or productivity gain. Dennison showed that in the United States, close to 68% of economic growth is attributable to productivity gain. This, in turn, is caused by improvement in skills, economies of scale and improved technology.

> The U.S. annual GNP growth rate of 3.5% can be decomposed into the rate of productivity growth of 2.8% and increase in labor force of 0.7%. This shows that productivity gain is a more important source of growth than growth in factors of production themselves.

SAVINGS RATE

Economic growth and capital formation require a high rate of savings. (Saving is current consumption that is foregone to permit production of means of production for future increase of overall output). The savings rate has fallen in the 1990's to under 6% in the United States, while it exceeded 17% in Japan.

> Several recent studies have been critical of the emphasis on short term profit by American business and the emphasis on consumption by American households. Both of these are claimed to have contributed to decreasing investment and saving in the United States.

LAW OF DIMINISHING RETURNS

The feasibility of economic growth has been put into question by the existence of the law of diminishing returns. Since improvements in output are not possible beyond a certain point when a resource is fixed, and land on earth is definitely fixed, then continuous improvements cannot be expected.

> The effects of the law of diminishing returns is especially felt if the rate of population growth exceeds the rate of productivity growth. Many developing nations are afflicted by extremely high population growth, some in excess of 20% per year.

MALTHUS

Malthus showed that population grows at a geometric rate (1,2,4,8,16..) while increases in resources (land in particular) can only attain an arithmetic growth rate at best (1,2,3,4...), and concluded that famine and wars can be predicted with certainty. However, the predictions do not seem to have been fully borne out (in part because of improvements in technology).

> Many industrialized countries have gone through a demographic transition (where families tend to be smaller as income increases). Their annual rate of population growth has dropped to less than 2% per year, and in some cases has turned negative. In these conditions, and as more countries complete their demographic transition, Malthus' dismal predictions become less valid.

ECONOMIC GROWTH DESIRABILITY

Economic growth has been put into question by various authors calling to our attention the deterioration of our environment and our cultural values.

Recent concerns with global ecology have shown that the quality of life may be undermined by the deterioration of the quality of our air and water. Proponents of economic growth at all cost have pointed out however that U.S. Environmental Protection Agency regulations are costly to businesses and jeopardize economic growth.