

Research Department  
Federal Reserve  
Bank of  
San Francisco

July 2, 1976

---

## Happy Birthday

What better time is there than the nation's 200th birthday to measure the growth of this now thoroughly adult society? Americans may lag by some standards, but by the economic measuring rod, they have put together an exceedingly impressive achievement. Surely they've done something right over the past two centuries to develop this \$1.6-trillion economy.

The beginnings provided few hints of the final achievement. There were of course some noteworthy developments before the Revolution, marked by a rise in the colonial population from about 300,000 in 1700 to more than 3 million in the early days of the Republic. Substantial settlements arose along the Atlantic coast, and even a few in the interior, as a modest agriculture- and shipping-based economy began to develop. But overall, in today's terms, the U.S. was strictly a Third World type of country when it gained its independence.

The new nation utilized 80 percent of its labor force in agriculture, but it also exported raw materials and some processed foodstuffs in exchange for imported manufactured goods. The U.S. in the late 18th century had as many farmers as England, despite a much smaller population, but only one-fourteenth as many nonfarm workers. In fact, a British consul reported back to London in 1789 that many centuries would elapse before the Americans got into large-scale manufacturing. Like many other contemporary British views of the

U.S., this forecast turned out to be somewhat wide of the mark.

### How we've grown

Indeed, a number of pronounced changes have occurred with the passage of time. The very size of the country has increased dramatically, with the population rising more than 50-fold since the first census in 1790. Heavy migration and an even larger natural increase have contributed to this population growth, aided by a persistent drop in the death rate, which led to a 75-percent increase in life expectancy within the last century alone.

There have been equally dramatic changes in the location, type and quantity of work. Over the nation's history, Americans have moved from rural to urban areas, and then on to suburbia. They have shifted from farming to manufacturing, and then increasingly to trade and professional services. Moreover, they have accepted ever-larger shares of their compensation in the form of leisure time, with the average workweek declining from 67 hours to 38 hours within the past hundred years.

Above all, American development has been characterized by a massive increase in the nation's total output, in both aggregate and per capita terms. Population growth has slowed down over time, leading to a slower growth of total output, but output per capita has risen at a relatively steady pace since the beginnings of industrialization. This persistent per capita increase—

# Research Department Federal Reserve Bank of San Francisco

Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, nor of the Board of Governors of the Federal Reserve System.

---

averaging 1.7 percent annually—has brought Americans the highest standard of living ever recorded. The annual increase may appear small, but over a century's time it translates into a five-fold increase in per capita output.

## **Why we've grown**

Several major factors help account for this unprecedented record of growth:

- A vast amount of capital accumulation—at first primarily from abroad, but then increasingly from domestic sources—which resulted in a persistent increase in the amount of capital per worker;
- The growth of a continent-size market, aided by a transportation network which unified the country and initiated regional development on a major scale;
- The development of a nationwide banking system, which mobilized resources and allocated them to a series of rising industries;
- The process of technological change, which stemmed initially from the English Industrial Revolution but developed later on the basis of heavy investment in research and worker education.

With the persistent growth in output, GNP today has reached \$1.6 trillion a year. Indeed, more than three-fourths of the entire increase in the nation's annual output has

been achieved in the relatively brief period since 1929. Edward Denison, in the study *Accounting for United States Economic Growth*, provides a measure of the major sources of this generation's growth.

The most important was the advance in technological, managerial and organizational knowledge, accounting for 31 percent of the nation's growth over the 1929-69 period. Next was the increase in the number of workers, accounting for almost 29 percent of total growth. Increasing capital inputs—in the form of plant, equipment, inventory and housing—accounted for nearly 16 percent of growth, while the increased level of education of the workers employed in the business sector contributed 14 percent more. Finally, improved resource allocation, mostly from shifts of farm labor to nonfarm pursuits, accounted for 10 percent of the growth rate over this remarkable period.

## **Stability along growth path**

In the present generation, continued growth has been accompanied by an increasing stability along the growth path. (The record of the past few years might seem to contradict that thesis, but in historical perspective, the recent recession was mild.) In business-cycle downswings, disposable personal income has remained high in the face of sometimes severe produc-

tion cutbacks, reflecting the impact of such stabilizers as a graduated tax structure and rising unemployment compensation. Moreover, the greatest increase in employment has occurred in services and state-local government, which generally provide more stability of employment than such blue-collar occupations as manufacturing and construction.

With incomes increasingly stable, consumption has become less sensitive to cyclical changes and, over time, an increasingly larger part of aggregate income. This development has helped to retard recessions and to hasten recoveries. In addition, financial institutions have become less susceptible to liquidity crises in the past generation, especially with the Federal Reserve serving as the economy's lender of last resort. For public and private sectors alike, stability is now an ever more important goal of policy.

Yet above all, growth has been the hallmark of the American experience throughout the recent past and, indeed, throughout the past two centuries. Given the strength of the factors measured by Denison, there is no reason why growth should not continue at a relatively strong pace for some time to come. But this gives rise to the question whether we can live with the costs of growth, in the form of pollution, resource depletion, and other evils.

### Growth vs. no-growth

Economists' views on growth may be predictable; they have been labelled the gurus of growth, since their frame of reference involves promoting growth and guiding it in profitable directions. Still, their contributions to the growth/no-growth controversy can be very useful, because they help us analyze the costs and benefits—as well as the causes—of economic growth.

Writing in the Fall 1973 issue of *Daedalus*, Kenneth Boulding compares some of the consequences of growth and no-growth societies. "In a no-growth state, there is no escape from the rigors of scarcity, and exploitation becomes the norm of society." In the extreme case, the government acts primarily as an institution for redistributing income towards the powerful and away from the weak. But in a growth economy, social conflicts are diminished; the poor can become richer without the rich becoming poorer. Exploitation is unnecessary in such societies, since increases in productivity almost always pay better than attempts to force redistribution. "One can get ten dollars out of nature for every dollar one can squeeze out of your fellow man." In these terms, then, growth is a useful objective for the nation's future as well as an enviable record of past achievement.

William Burke