



JOINT ECONOMIC COMMITTEE

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A PRODUCTIVITY PRIMER

The Bureau of Labor Statistics announced Thursday that productivity grew at an annual rate of 8.1% in the third quarter. This spectacular growth continues a trend that began in the mid-1990s. Labor productivity is the most important driver of our standard of living, and its continued rapid growth is great news for the long-run prosperity of the American people.

What is productivity?

Productivity measures the amount of goods and services that a typical worker produces each hour.¹ As productivity grows, companies can increase their output, pay higher wages, and increase their profits.

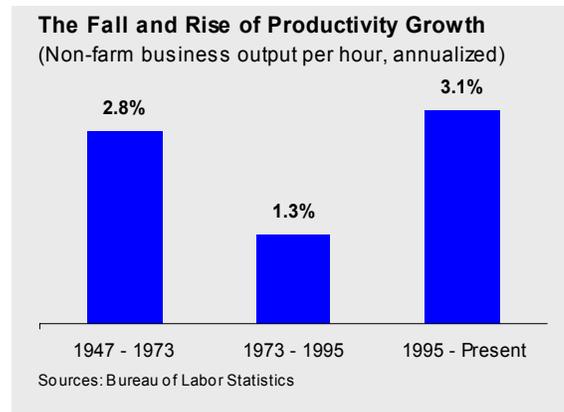
What causes productivity to increase?

Productivity growth is driven by three factors: investment in equipment, buildings, or other productive resources; increasing worker skills; and innovation. For instance, an accounting firm might see productivity increase (measured in terms of the number of financial reports prepared) if it purchases new high-speed computers for its staff, hires workers with better accounting and computer skills, or invents a new system that allows it to access electronically the day-to-day financial information of its customers.

How fast has productivity grown?

From the end of World War II until the early 1970s productivity growth in the United States averaged 2.8% per year. At that rate, our standard of living—output of goods and services per person—doubled every 28 years.

From the early 1970s until the mid-1990s, however, productivity growth slowed to just 1.3% per year, a rate that would take 50 years to double our standard of living. Economists are not certain what caused this productivity slowdown, but energy shocks, increased regulation, and a relatively less-skilled labor force are likely culprits.



In the mid-1990s productivity growth accelerated again, averaging 3.1% per year. Again, no one is certain what caused the increase, but information technology (IT) advances are likely the major factor.

Has productivity growth remained strong in recent years?

Productivity growth has accelerated even further since 2000, averaging 3.8%, despite the 2001 recession. Most economists believe this rapid growth reflects the continuing impact of IT innovations.

Have other factors contributed to growth in measured productivity?

While current productivity growth is undoubtedly strong, the rapid pace of recent years may also reflect measurement difficulties. The numerator of the productivity formula, output, can usually be

measured with a fair degree of reliability. However, the number of workers and average hours worked, which comprise the denominator, tend to be underestimated at the start of an economic expansion. This may happen, for example, if labor surveys miss new businesses or overlook workers who have become self-employed. Similarly, companies often initially increase the hours worked rather than hiring new workers when orders pick up. These additional hours are difficult to count because salaried workers frequently report working a standard 40 hour week even if they work more. For these reasons, economists believe that some—but by no means all—of the recent increase in measured productivity may be overstated.

$$\text{Productivity} = \frac{\text{Output}}{\text{Workers} \times \text{Average Hours}}$$

How does high productivity growth affect wages and jobs?

As workers become more productive, they become more valuable to employers and generate more revenue; companies can thus afford to raise wages and expand their payrolls. In the long run, high productivity growth leads to more rapid increases in wages and employment in the overall economy.

Of course, increased productivity at a single firm or in a single industry can reduce employment in that firm or industry. For example, increased automation has reduced the need for employment in some industries. In the economy as a whole, however, productivity growth creates more jobs than it destroys. Indeed, economic history has repeatedly demonstrated how innovations can increase productivity and create new industries with higher paying, more pleasant jobs.

How are productivity growth, economic growth, and job creation related?

A simple, approximate rule of thumb is that economic growth must exceed productivity growth in order to create new jobs. This rule of thumb helps explain the sometimes surprising economic results of the last two years. The U.S. has been able to enjoy moderate to strong economic growth, despite little recovery in payroll employment, because of the continuing growth of productivity.

What does high productivity growth mean for policymakers?

High productivity is a sign of a healthy, growing economy. Although some observers are concerned that rapid productivity growth makes it harder to create jobs, such challenges are, at most, only short-term. If we are to improve our standard of living and better the lives of low-income households, rapid productivity growth is essential. Consider the cost of the productivity lull of the 1970s and 1980s. During that period, unemployment was consistently *higher* than during the periods of high productivity growth before or after, and real wages were largely stagnant. Not only that, the loss of potential output from that lull was enormous: *had productivity growth not fallen, our standard of living today would be approximately 50% higher*, adding an extra \$5 trillion to the U.S. economy.

Policymakers should favor rapid productivity growth because it leads to higher wages and profits, increased tax revenues, and a more prosperous country. Policymakers can promote productivity growth by encouraging capital formation, promoting education and training, and assisting innovation.

¹ Measuring productivity in the agricultural and government sectors raises special challenges. For that reason, economists usually focus on productivity in the non-farm business sector.