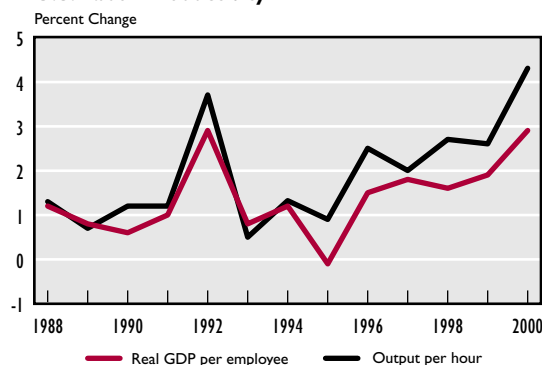


Special Topic: Productivity

A lively debate.

The debate over productivity and the new economy heated up at the annual meeting of the American Economic Association. Most economists shared the view that information-based technologies (e.g., computers and the internet) have improved our prospects for long-term growth. But Robert Gordon of Northwestern University disagreed.

U.S. Labor Productivity



As *The Wall Street Journal* noted, Gordon argues that “e-mail and the Internet pale beside other technological gains such as railroads and electricity...(N)early all of the productivity gains of the past five years are the result of higher capital spending and harder work by employees—decidedly Old Economy mechanisms.”

This debate is not an idle exercise, since productivity growth will determine our future welfare. Just a one percentage point increase in the annual productivity growth rate would add \$8 trillion to the U.S. economy over the next ten years. This would be enough to pay off the national debt, fix Social Security and Medicare, and still have money left over for a tax cut.

Can we count on this? Yes, if the recent productivity advances have been widespread, indicating that a technological revolution is indeed underway. No, if the gains have been confined to the technol-

ogy-producing industries (e.g., computer and software manufacturers) or have stemmed from a cyclical upturn in the economy, as Gordon contends.

An analysis of the change in real Gross Domestic Product per employee for 87 industrial groups sheds some light on this issue. Clearly, there has been a surge in aggregate productivity since 1995. The productivity growth rate jumped from 1.1 percent per year between 1987 and 1995 to 1.7 percent between 1995 and 1999.

But just two industrial groups—electrical and nonelectrical machinery (including computers and components) and wholesale and retail trade—were largely responsible for the improvement. Excluding them, the economy’s aggregate productivity growth rate actually dropped from 0.7 percent to 0.0 percent. This latter rate meant that three-quarters of the economy experienced *no change in productivity* between 1995 and 1999. This is hardly the stuff of a technological revolution.

Since a consumer buying spree helped power the U.S. expansion,

the upturn in the productivity growth rate for trade was no surprise. The magnitude of the increase (from 1.6 percent to 6.2 percent), however, suggests that it was more than a cyclical phenomenon.

One industry that certainly saw cyclical gains in productivity was air transportation, as airline load factors rose from 67 percent in 1995 to 72 percent in 1999.

The improvement in business services productivity is probably due to software companies. A back-of-the-envelope calculation indicates that, rather remarkably, Microsoft alone accounted for 0.3 of the 1.2 percentage point increase in the industry’s productivity growth rate.

As a consequence of the stock market boom, the industry that enjoyed one of the biggest increases in productivity growth was security and commodity brokers. But in the rest of finance, insurance, and real estate productivity growth slowed from 1.6 percent per year to 1.2 percent over the two periods. If the new economy is not evident here, then where is it?

The debate would appear to be far from over.

U.S. Labor Productivity by Industry*

Average Annual Percent Change

	1987-95	1995-99
All industries	1.06	1.71
Nondurable manufacturing	1.31	1.07
Electrical and nonelectrical machinery	9.39	17.39
Other durable manufacturing	1.95	-0.40
Wholesale and retail trade	1.60	6.19
Other industries and government	0.45	-0.05
Selected industries		
Transportation by air	0.83	4.52
Business services	0.46	1.69
Security and commodity brokers	5.68	20.49

*Real GDP per full-time equivalent employee.