



Lessons from the US growth resurgence[☆]

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1. Introduction

The unusual combination of more rapid growth and lower inflation in the United States from 1995 to 2000 touched off a strenuous debate among economists about whether improvements in US economic performance could be sustained. Despite the recent slowdown in the economy in general and in information technology (IT) in particular, this debate has given way to a broad consensus that IT is the key to understanding the American growth resurgence and recent research has turned to the future of productivity growth.

In this paper we review the most recent evidence on growth in the United States and present a model for projecting future productivity growth. Our primary conclusion is that, despite downward revisions to the gross domestic product (GDP) and investment in the annual revisions of the US National Income and Product Accounts (NIPA) in July of 2001 and 2002, the US productivity revival remains intact with IT as the predominant source. The story begins with an increase in total factor productivity (TFP) growth in the IT-producing sectors (computer hardware, software, and telecommunications), which led to falling relative prices and induced capital deepening in IT equipment. These two contributions account for a majority of the acceleration in labor productivity growth after 1995.

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We then turn to the future of US productivity growth for the US economy, defined broadly to include business, households, and the government. Our base-case projection of trend labor productivity growth for the next decade is 1.8% per year, below the average of 2.1% per year for the period 1995–2000, but substantially above the 1.3% growth for 1973–1995.¹ Our projection of output growth for the next decade is only 2.8% per year, compared with 4.1% per year for 1995–2000, due to a projected slowdown in the growth in hours worked, changing demographics, and slower productivity. We conclude that the American growth resurgence of the late 1990s was not fully sustainable because it depended in large part on a rate of work force expansion that will not be maintained.

Projecting growth for periods as long as a decade is difficult fraught with uncertainty. Our pessimistic projection of labor productivity growth is only 1.1% per year, while our optimistic projection is 2.4%. This range reflects fundamental uncertainties about future patterns of investment and changes in technology in the production of IT equipment and software.² A number of different analysts, however, have used a range of econometric and structural models to reach conclusions comparable to our base-case and none, to our knowledge, is projecting a return to the slow productivity growth period of the 1970s and 1980s. This suggests 2.0–2.25 is a reasonable estimate of the productivity trend and that the lower end of our range seems unlikely.

Section 2 reviews the historical record, extends the estimates of Jorgenson (2001) to include data for 2000 and 2001 and revises estimates of economic growth for earlier years to incorporate new information. We employ the same methodology and summarize it briefly. Section 3 presents our projections of the trend growth of output and labor productivity in the US for the next decade. Section 4 compares our projection estimates to other recent estimates. Section 5 concludes.

2. Sources of the US productivity revival

Our methodology for analyzing the sources of growth is based on the production possibility frontier introduced by Jorgenson (1996, pp. 27–28). This framework encompasses substitution between investment and consumption goods on the output side and between capital and labor inputs on the input side. Jorgenson and Stiroh (2000), Jorgenson (2001), and Jorgenson, Ho, and Stiroh (2002b) have used this methodology to measure the contributions of IT to US economic growth and the growth of labor productivity.

¹ We focus on the period 1995–2000 to avoid the cyclical effects of the 2001 recession. We discuss estimates for the period 1995–2001 later in the paper. Note also that productivity growth for our broad coverage of the US economy is somewhat slower than the non-farm business sector and also differs from GDP due to our broader definition of the household sector.

² Jorgenson (2001) traced these uncertainties to variations in the product cycle for semiconductors, the most important component of computers and telecommunications equipment

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