

Accelerating the Globalization of America: The Role for Information Technology

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Information technology (IT) is accelerating globalization at an unprecedented pace. It is not only the fastest growing sector in the world economy, outpacing investment and growth in any other product, but also the most powerful driver pushing extensive globalization of many other industries. Its widespread use by US firms, workplaces, and markets has significantly transformed business practices, processes, and strategies, leading to higher productivity growth and associated faster income growth, lower inflation, and more employment.

IT fuels productivity growth in two ways. First, IT firms' innovations in hardware, software, and IT services accelerate productivity. Second, non-IT firms that buy these products increasingly reorient their activities and processes toward more effective use of both information and technology. As innovation in and production of IT become global, prices of these products fall, making the IT package more affordable to more sectors of the global economy.

IT was key to the superior US macroeconomic performance in the 1990s. Global integration of hardware production slashed prices and promoted deeper integration of IT throughout the US economy, which in turn spurred extensive globalization in other sectors of the US economy and labor market. Globalization of IT, particularly in software and services, can contribute to even more US productivity growth as software and services are becoming more important in making IT work. As leading nontechnology sectors, such as finance, deepen their use of software and services and lagging sectors such as health care start to adopt it, the US economy could witness a second wave of productivity growth.

While the United States leads in the use and diffusion of IT products, other countries are rapidly increasing production, and a growing number are using IT and communications networks to engage in global trade as well as transform domestic business activities. Fast-growing international players, such as India and China, are changing the landscape for innovation and globalized production in ways both positive and threatening to continued US productivity growth. US IT firms are attracted to the growth potential of these countries and see their market needs as business opportunities. As production platforms for the sale of products to the United States or to third markets, these countries are attractive for their geographical location and labor resources and skills.

To maintain its technological leadership, the United States must **stoke the engine of innovation**. Research and development (R&D) is now more global: Good ideas are not constrained by national boundaries, and IT products and applications must often be tailored to national preferences and regulations. US IT firms need sufficient home-grown researchers: software and services are much more research-intensive than other sectors of the US

economy, including hardware. At the same time, companies in non-IT sectors must have skilled workers who can respond to flexible workplace practices and use IT to transform business activities. Critical to meeting the innovation challenge is adequate public and private funding for R&D as well as a solid policy agenda for workforce preparation and participation.

The second policy challenge is to help **transform business activities**. Businesses must be able to change products and production techniques, and workers must have the desire and skills to welcome new job opportunities. But transformation also means business turbulence and job restructurings and losses, even as there is greater growth overall. As more sectors use IT, more labor market adjustment will take place. A larger segment of the economy now faces global competition, which raises the stakes for educating and training the incumbent workforce as well as new workers. For the incumbent workforce, the United States urgently needs to address two types of job loss in the technologically volatile marketplace: permanent job loss and the depreciation of skills. For workers who have permanently lost their jobs, extended unemployment benefits (which provide more time for adjustment), training assistance, wage insurance, and portable social insurance (such as health and pensions) can ease the transition to a new job and career. For skilled workers whose technological skills rapidly depreciate in a globalizing and competitive environment, a human capital investment tax credit can help pay for skill upgrading within an organization and career path.

At the same time, to keep the prices of IT products declining and to facilitate greater adoption of IT at home, the United States must deepen diffusion of IT into large segments of the US economy where productivity growth and IT use have lagged, particularly health care, construction, and “other services” such as engineering, accounting, research, and management services. Bundles of hardware, software, and services that are better, cheaper, and tailored to customers can extend IT to these lagging sectors.

Finally, foreign countries must open their markets and encourage extensive use of IT by firms throughout their economies. Extending the productivity gains to the rest of the world is critical for the United States to enjoy continued productivity gains itself. The United States must therefore **negotiate deeper global engagement**, particularly in newly created international markets for services, such as in India and China. Increased productivity growth partly derives from more liberalized trade in IT services and services that use IT intensively, such as logistics and finance. Many countries still impose tariffs on imported IT products, which reduce use of IT within their economies and limit international trade and investment in services, thus holding back productivity growth generally.

A proactive US policy agenda will promote innovation at home and policy changes abroad. It will also enable US workers and businesses to use IT to make the most of global opportunities in production, sales, and trade in both manufacturing and services. If the United States fails to meet these challenges, it will face both short- and long-term consequences at home. In the short term, a slowdown in productivity growth or poor matching of labor skills to new labor demands implies weak job creation and a US economy operating below potential. In the long term, if innovation flags and training is inadequate, the United States will relinquish technological leadership. Finally, a failure of US policy leadership likely will undermine the will for change in other countries, to the detriment of both US and global economic well-being.

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