Productivity growth—the rate at which we increase production for a given amount of work and resources—is at the heart of economic growth, competitiveness, and sustained improvements in living standards for working Americans. Policy efforts were made to end the Great Recession of 2007–2009 and restore many dimensions of U.S. economic vitality, but a number of long-term trends still raise concerns about future economic competitiveness. And with slowing global economic growth, high oil prices, and resistance from conservatives in Congress and state governments to invest in America’s education, science, and infrastructure, risks for U.S. competitiveness may be rising.

A number of factors affect future U.S. productivity growth, including the pace of business investment, the availability of skilled workers, investments in science and research, and adequate financing for businesses to bring innovative new ideas and products to market. The indicators reviewed in this brief raise serious concerns for future U.S. productivity and, in turn, U.S. economic competitiveness:

• **Productivity growth slipped in early 2012 but has accelerated by nearly 7 percent since the start of the recession.**

• **Business investment remains historically low.** Though profits are ample, businesses are using them—and borrowing, too—to boost their stock prices and executives’ compensation rather than invest.

• **The United States registered its third-largest advanced technology trade deficit on record in February 2012.**

• **Growth of R&D workers in business is slowing.** The growth rate dropped from 4.4 percent in the 1980s to 1.1 percent in the 2000s prior to the recession.
Business investment will only gain and sustain momentum if businesses expect more sales in the future, which can come from stronger demand at home alongside increased exports. In the short term, export demand will face an uphill battle against Europe’s simmering banking crisis and China’s slowing growth. But Congress has the power to keep domestic sales strong by focusing policy on job creation and strengthening middle-class incomes.

But weighing on the minds of business owners and investors is the impending fiscal cliff looming in early 2013. If Congress fails to act, fiscal contractions invoked in current law will shrink the U.S. economy by 4 percent on January 1. Fiscal restraint is already adding an estimated 1 percentage point or more to the U.S. unemployment rate—while productivity-enhancing investments are being cut, workers’ productive skills are withering on the vine. Progress made since the Great Recession in our foundation for productivity is at risk. Policymakers need to act now to ensure the United States makes investments for a competitive economy tomorrow. The numbers here explain why.

Productivity slips but is recovering overall

Worker productivity—the amount of goods and services produced in an hour of work in the nonfarm business economy—actually fell by 0.5 percent in the first quarter of 2012. Productivity in the U.S. economy now stands 6.9 percent larger than at the start of the Great Recession in December 2007.

This growth pace, however, lags behind that of all previous business cycles of at least equal length. At the same point in the business cycle, productivity had increased by 9.3 percent on average for all prior post-World War II expansions and there was no business cycle of at least equal length when labor productivity gains have been as slow as in the current business cycle.

Business investment decelerates, too

Productivity growth in the economy overall tends to follow business investment with a long time lag—investments today lead to productivity growth one or two decades down the road. So low investment today will likely constrain productivity increases in the future.

Even before the Great Recession, U.S. business investment ran at its lowest level relative to gross domestic product, or GDP—the sum of all goods and services produced by workers and equipment in the United States—since the late 1960s. The business cycle expansion from late 2001 through 2007 saw the slowest rate of net business investment—new capital investment less depreciation—in recorded history of the U.S. economy. The recession and financial crisis drove business investment even lower, but since March 2010 business investment has grown faster than overall U.S. GDP.
But business investment in equipment decelerated to an annual growth rate of 1.7 percent in the first quarter of 2012, down from 7.5 percent in the fourth quarter of 2011. The first-quarter expansion in equipment investment was the slowest since the economy began expanding again in June 2009. The acceleration of business investment from the summer of 2009 onward coincided closely with American Reinvestment and Recovery Act spending on public investment and middle-class tax cuts. The Recovery Act propelled demand from private businesses for investment goods, which boosted equipment spending during the economic recovery.

Financial games distract from business investment

The low level of business investment has little to do with business profitability. The corporate profit rate in nonfinancial businesses, which fell to 1.8 percent of total assets in December 2008, has recovered and been consistently at or above 2.6 percent through 2011.4 Rather than hiring productive workers or making substantial new investments, though, businesses are directing resources toward nonproductivity-enhancing uses.

First, businesses are hoarding more than $2.2 trillion in cash, which amounted to 7.5 percent of their total assets as of December 2011—their highest level since December 1956. Second, rather than hiring or investing, corporations are using strong profits and borrowing money to prop up their stock prices—a key factor in executive compensation—by repurchasing their own shares and paying out dividends. In total corporations devoted resources worth 109 percent of after-tax profits to propping up share prices since December 2007.

Together, this means corporations are borrowing money and selling off assets in order to buy back their own shares and pay dividends, rather than putting that money into productivity-enhancing investments or hiring workers.

Venture capital getting less adventurous

Funding by venture capital investors, though recovering strongly through the end of 2011, slowed somewhat in the four quarters through March 2012. On an annual basis, venture capital investors put $28.4 billion into new and young ventures.4 Venture capital funding is up nearly 40 percent from its low point during the recession and is close but still below the levels of investment before the financial turmoil of 2008.

Though venture capital funding overall is recovering, venture investors are showing aversion to helping new and early-stage companies get off the ground. Financing for expansion and late-stage venture capital investments is up 41 percent from its recession nadir. Over the same time, meanwhile, financing for seed-stage companies is down 48 percent.
What this means is that many viable and transformational innovations are potentially not being brought to market because of the private sector’s unwillingness to finance such investments.

**High-tech trade deficit moving in the wrong direction**

The U.S. trade deficit in advanced technology goods—such as aircraft, optical equipment, electronics, and medical devices—improved to just more than $99 billion in the 12 months through February 2012, the last month for which we have data. This is the second consecutive month of an improving high-tech trade deficit.

The recent performance reverses what has been a longer-term trend of a deteriorating high-tech trade position for the United States. Over the past two years, U.S. imports of advanced technology goods grew more than twice as fast as the already-smaller exports of high-tech goods, at 6.4 percent and 2.5 percent, respectively, on an annualized basis. And despite the recent improvement, the 12 months through February 2012 mark the third-largest high-tech trade deficit on record.

But the longer-term deterioration of the high-tech trade deficit is not a result of the overall direction of other U.S. trade. Compared to other U.S. exports, which grew more than 16 percent annually over the past two years, high-tech exports are growing slowly.

This means that even though U.S. exports overall are becoming more competitive in the global marketplace, the U.S. high-tech sector is not keeping pace. Lagging performance of advanced technology trade also weighs on the overall U.S. trade deficit, amounting to 13.4 percent of the overall trade deficit in the year through February 2012.

**American innovation competitiveness hampered by shrinking technological workforce and declining patent grants**

The number of grants for utility patents from the U.S. Patent and Trademark Office grew 22 percent in 2011 to more than 224,000 patents. Utility patents are special property rights awarded to individuals or organizations for the invention of “new and useful” or material improvements of processes, machines, or materials—namely innovations. Not all patents represent productivity-enhancing innovation, however, and the timing of patent grants may not coincide with the timing of invention. Nonetheless, the pace of patent awards provides a metric of the pace of innovation in the U.S. economy.

Even though patents overall were up in 2011, the share of patents awarded to domestic U.S. entities continued to decline. Under U.S. law both Americans and foreigners can apply for patent rights. Of new patent awards in 2011, 52 percent were granted to foreign entities; in 2000 foreign entities earned only 46 percent of all patent awards.
The slowing growth of technological workers is hampering the relative pace of innovation in the U.S. economy, too. In 2003 the United States had 1.43 million people working in research and development. But by 2007, at the last peak of economic expansion, employers in the United States employed only 1.41 million R&D workers. In the private-sector economy, the average annual growth rate of U.S. R&D employment fell from 4.4 percent in the 1980s to 3.1 percent in the 1990s to 1.1 percent in the 2000s prior to the recession.6

Innovations from abroad can still confer substantial benefits on the U.S. economy. By making new technologies or practices available to domestic businesses and consumers, foreign innovations can enhance business productivity and boost living standards for U.S. households. But homegrown innovation remains critical to U.S. global science and technology leadership, and the rising awards of patents to foreign innovators signals an increasingly competitive international landscape for innovation.

Conclusion

The U.S. economy will not regain its competitive edge on its own. Policymakers must refocus their sights on ensuring we make the necessary investments today in education, science, and research and development that play an essential role in driving private-sector innovation and productivity, thus ensuring long-term growth and prosperity for the U.S. economy. Passing President Barack Obama’s budget is the first step toward committing the United States to the economic competition ahead.

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Endnotes

3 Federal Reserve Board of Governors, Flow of Funds Accounts (Federal Reserve), tables F.102, L.102, and B.102.
5 Census Bureau, U.S. International Trade Data (Department of Commerce); Bureau of Labor Statistics, Price indices for nonagricultural commodity exports and imports excluding petroleum (Department of Labor).
6 OECD Stat Extracts, “R-D personnel by sector of employment and occupation,” updated February 2012.