AroundTheFed

The IT Revolution

BY CHARLES GERENA

"Is the Information Technology Revolution Over?" David M. Byrne, Stephen D. Oliner, and Daniel E. Sichel, Board of Governors of the Federal Reserve System, Finance and Economics Discussion Series Working Paper No. 2013-36, March 2013.

Labor productivity is an important indicator of economic growth. If workers can produce more output within a given time, there is room for expansion without sparking higher prices. That's one reason economists have been trying to figure out why growth in labor productivity has slowed since the mid-2000s.

Researchers from the Board of Governors of the Federal Reserve System, the American Enterprise Institute, and Wellesley College look at this complex question in a working paper published last spring. They focus on whether advances in computer hardware, software, and communication equipment continue to boost labor productivity. Their conclusion: The use of information technology (IT) and efficiency gains in the production of IT still contribute to productivity growth, but less so than during the tech boom of the late 1990s and early 2000s. At the same time, semiconductor technology has continued to advance rapidly, promising to return productivity growth to its long-run average.

There are other possible explanations for the slower growth in labor productivity in recent years. "The economy has taken a long time to recover from the financial crisis and Great Recession," the authors note, "as the repair of balance sheets has proceeded slowly and as uncertainty about the pace of the recovery has held back investment." Another explanation is that the economy "has entered a long period of stagnation as the easy innovations largely have been exploited already."

"Big Banks in Small Places: Are Community Banks Being Driven Out of Rural Markets?" R. Alton Gilbert and David C. Wheelock, Federal Reserve Bank of St. Louis *Review*, May/June 2013, pp. 199-218.

One economic sector that has been transformed by the IT revolution is financial services. Community banks traditionally have had the upper hand over large banks in rural markets thanks to knowledge of their local customer base. Technological advances increasingly have enabled the nation's largest banks to serve those markets effectively. Still, according to a recent paper from the Federal Reserve Bank of St. Louis, community banks remain competitive.

In addition to government policies that have allowed the consolidation of banking assets and deposits into the vaults of fewer institutions, advances in information-processing technology may have favored larger banks. "Such advances have lowered the costs of obtaining 'hard' information about potential borrowers, such as audited financial statements and standardized credit reports," note the researchers. "At the same time, these changes have also lowered the cost to banks of monitoring deposit and loan accounts and managing large branch networks."

Indeed, the smallest banks with less than $1 billion in assets saw their share of deposits in rural counties and small towns shrink during the 1980s and 1990s, according to Federal Deposit Insurance Corporation data. Their share of rural county deposits changed little between 2001 and 2012, however, as did the share held by the largest banks with more than $50 billion in assets.

Why? Rural counties may be less profitable for large banks, explain the paper's authors. "[They] have generally experienced slower population and economic growth than urban areas in recent years, and large banks may have chosen to focus their operations in urban markets and cede business to smaller banks in slower-growing and less-profitable rural markets."

"Urban Decline in Rust-Belt Cities." Daniel Hartley, Federal Reserve Bank of Cleveland, Economic Commentary 2013-06, May 2013.

Imagine a city losing more than 40 percent of its population, going from a thriving metropolis to a shell of its former self. Buffalo, Cleveland, Detroit, and Pittsburgh endured such population losses between 1970 and 2006.

Some neighborhoods in these Rust-Belt cities emptied at a slower rate than others, according to research published by the Federal Reserve Bank of Cleveland. Economist Daniel Hartley finds that the areas with the lowest house prices had the steepest population declines.

Hartley also finds that in Cleveland and Detroit the steepest drops in income occurred in communities in the middle range of home prices, likely the result of lower-income families moving into these areas to take advantage of lower overall prices for housing. In contrast, the neighborhoods with the highest priced homes in Pittsburgh and Buffalo saw their average incomes surge between 1970 and 2006, something that did not happen in the highest priced communities in Cleveland or Detroit.

"This reflects the fact that these [Pittsburgh and Buffalo] neighborhoods are situated near centers of higher education, which have attracted highly skilled residents," surmises Hartley. "By contrast, some of the neighborhoods closest to Cleveland's major higher education institutions are outside the city limits." **EF**