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OPINION

The Fourth Major Era of Computing Kicks In

With mobile users now outnumbering desktop users, a new economic cycle has begun.

By ANDY KESSLER
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Early in my career on Wall Street in the mid-1980s, a well-known strategist yelled at me for recommending a tech stock. “What are you stupid?” he said. “Don’t you know we are in the last year of a four-year economic cycle?” I didn’t know, and luckily I ignored him. The economic cycle lasted almost eight years, only to be briefly interrupted in 1990 before beginning another 10-year expansion. The old Wall Street adage “follow the cycles” may still ring true, but the cycles have changed.

Here’s how it used to work: From 1945 to 1982, the average business cycle lasted about 44 months. Lower rates at the Federal Reserve would at first stimulate demand but then ignite inflation, which would cause retailers to build inventory until rates rose to kill inflation. Manufacturers would lay off workers and close factories during the inevitable recession until inventories were depleted. Then the Keynesian pump and dump would start all over again.

Those days are gone. First mainframe computers and then personal computers automated the pipeline of goods. New software and better supply-chain management smoothed out the entire process, ending the traditional inventory cycles of goods. Wal-Mart doesn't order from Procter & Gamble anymore. P&G has a real-time feed of Wal-Mart sales, and supplies the right products at the right time. And you rarely hear of inventory problems at Amazon.

The result has been longer economic cycles, interrupted by big events. It was Saddam Hussein invading Kuwait in 1990 and 9/11 in 2001, both of which damaged global commerce. The 2008-09 recession, on the other hand, was self-inflicted: Too-low rates and exotic financial instruments created an excess inventory of houses and condos. Even that might have been avoided if a database of housing and real-time pricing had been analyzed like supply chains are now. Easy to do, as mobile and cloud innovation have lowered computing costs by a factor of 10 since then.

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Which brings us to today. It has been more than five years since the economy bottomed in 2009, though growth has averaged close to 2%, well under historic postrecession rates. Labor-force participation is stuck at 62.7% because millions of workers have stopped looking for a job and dropped out. Add ObamaCare and other regulatory barnacles and it's no wonder we have too many workers and not enough opportunities. But perhaps it's time to pay attention to the technology cycle, not the Fed cycle. Tech may be what makes job creation vibrant again.

Follow the cycles: We're now on our fourth major era in computing. The original mainframe computer of the 1960s automated back offices and transactions, bringing efficiency and lowering costs. That cycle ended in the early 1990s when the personal computer picked up steam. By the mid-1990s the Web was helping to automate interaction between companies and their customers, allowing people to buy goods and services through the magical Internet.

The mobile era began this summer, as there are now more mobile users than desktop users, with 1.8 billion surfing the Web on their smartphones. Having a personal computer in your pocket is changing the tech world because, unlike a computer, a smartphone is always there when you need it.

New companies invest quickly, but older industries lag. A lot of credit-card processing and health-insurance companies still run on mainframe computers, but even this is changing. Companies are figuring out that they need a mobile and cloud platform to save money and offer a better service. This requires what's known as a "forklift upgrade."

As the phrase suggests, companies lift and remove the existing systems and drop in the new. It takes years of careful planning. And that is precisely what has been going on for the past five years. I know of several of these forklift projects taking place right now—new hardware, software, network systems, tablets, phones, reporting systems—everything.

Such overhauls have caused a lull in capital spending. The change is expensive and too important to mess up. The technology has to be both advanced and proven. Uber, for instance, wasn't viable on the original 2007 iPhone but works great on the iPhone 4 and beyond. These companies can't have any Healthcare.gov technology surprises.

This new cycle—one that's likely to be immune to interest rates—will unfold in several forms. First, once the smartphone and cloud platform is proven to be productive, tech spending will accelerate. You can see this happening if you look in the right places such as software-as-a-service companies Salesforce.com and Workday.

Then corporate profits will start growing faster than expected as lower costs work their way through the enterprise. As profits increase, companies will then reinvest and aggressively use their cheaper and faster technology to hire and gain market share. Witness the announcement of Apple Pay last month. Similar disrupting innovations are on their way. And at several trillion dollars in size and scope, this technology transition to a mobile and cloud world will soon drag the global economy along with it.

Mr. Kessler, a former hedge-fund manager, is the author, most recently, of "Eat People" (Portfolio, 2011).