

BY ROSS DEVOL

## Heralded as the

bright star in America's economic future less than two years ago, the very idea that something called The New Economy even exists is now being called into question. And for a good (psychological) reason: few investors want to be reminded about what's happened to the high-flying tech stocks of the late 1990s. And even fewer of the software engineers and MBAs who staked their careers on dot-coms of the month are eager to revisit the scene of the crime.

The subject also has a way of making otherwise sober-minded experts cringe. Could we have really believed that profitability was irrelevant to corporate success? Could anyone have imagined that the Nasdaq was not overvalued in March 2000 when its market capitalization was 245 times earnings? Could serious people have seriously argued that the business cycle was obsolete, or that the sustainable rate of productivity growth had doubled virtually overnight?

But now that it is so fashionable to dance on the grave of The New Economy, perhaps it is time for a more realistic appraisal. Certainly pundits made exaggerated claims for it, but today's skeptics are plainly erring on the other side. Betting against the technology-enabled New Economy in 2001 is similar to dumping auto manufacturers' stocks in 1908 because it was a bad year for car sales. The technology sector is in a consolidation phase, but it is a cyclical slowdown – not a structural one. The business models of many dot-coms may have

borne an embarrassing resemblance to those underpinning 8-year-olds' lemonade stands, but the demise of silly Internet businesses hardly refutes the fact that new technology is changing the rules in many sectors of the economy.

Start by separating New Economy fiction from the facts at the macro level.

**The business cycle revisited.** The notion that the business cycle has been repealed is not a new one. Similar optimism was expressed in the mid- and late-1920s (just before the onset of the Great Depression) and again during the long expansion of the 1960s (just prior to the 1970 downturn and the severe 1974-75 recession).

Of course, forecasts of unending economic expansion have always proven incorrect. Business-cycle peaks are nearly impossible to see in advance – and, indeed, sometimes difficult to recognize in the rearview mirror. Many New Economy proponents espoused the view that information technology would smooth out the business cycle and eliminate recessions. But as this is being written, the economy is once again flirting with recession.

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**Inventories.** A key rationale for believing that business cycles were a thing of the past was the greater capacity to manage inventories made possible by computerized databases and instant communication. Computerized management, the reasoning went, gave business the ability to prevent unwanted buildups in inventory – and thereby the need to cut production to correct mistakes.

Changes in inventory investment do, indeed, represent a large proportion of the variation in total business investment over the business cycle. But that fact does not imply inventory changes cause recessions – in many cases, they may simply be the effect.

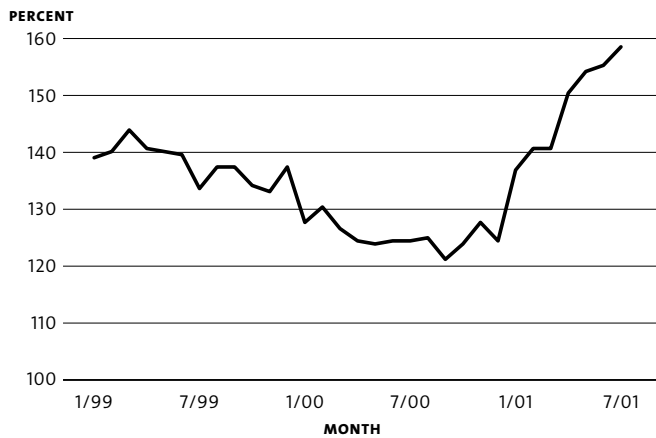
Sophisticated management of inventories can go a long way to reducing the degree to which changes in inventory investment propagates economic shocks.

But a major unanticipated shock can still lead to an inventory accumulation that must be liquidated. The recent dramatic slowing in the economy has led to a buildup in inventories, especially in IT equipment, and manufacturers are slashing production schedules accordingly.

**Investment.** Another misplaced notion was that IT equipment investment is recession-proof. According to the theory, purchases of IT equipment would be unaffected by downturns because businesses subject to rapid technological change couldn't afford to lose their edge. Firms, in both old and new industries, would be compelled to invest continually in the best stuff in order to remain competitive.

But at least some lemmings pause at the edge of the cliff: businesses can and do still trim investment when earnings and forecast demand fall. Firms decided that they didn't need the latest Pentium 4 computers, network servers and e-mail systems. In the first quarter of 2001, investment in IT hardware and soft-

**IT INVENTORIES ARE PILING UP**  
**INVENTORY AS A PERCENTAGE OF SALES FOR**  
**COMPUTER/ELECTRONIC PRODUCTS**



ware declined at an annual rate of 12 percent. The rate of decline accelerated to 19 percent in the second quarter. This is in contrast to 20 percent average annual growth from 1995 to 2000.

**Productivity.** Wasn't The New Economy supposed to boost productivity growth forever? Skeptics point to the 1.2 percentage point drop in productivity growth in the first quarter of 2001 as proof that higher sustainable productivity was a mirage. But their somewhat perverse jubilation was cut short by the 2 percentage point-plus productivity rebound in the second quarter. Forecasts of sustainable productivity growth in excess of 3 percent were plainly too optimistic, but there is every reason to believe that investment in informa-

## **INSTITUTE VIEW**

tion technology will pay off over the long term.

What about the fall in productivity witnessed in the first quarter? This is a red herring; in the early stages of an economic slowdown, productivity always dips because firms are reluctant to cut jobs at first as output contracts. But as it becomes clear that growth has stalled, employers wield their axes. This process commenced in the second quarter. And all told, productivity has held up remarkably well in the current downturn.

The pundits who placed their bets on long-term productivity growth of 3 percent or more will, no doubt, be proven wrong, since much of the post-1995 acceleration in productivity was cyclical. The IT boom will not be repeated. The industries producing IT equipment recorded productivity growth substantially above other sectors, and because they represented such a high share of total output growth, overall productivity growth was temporarily elevated. Look for sustainable productivity gains in the 2 percent range when the current downturn ends.

You really need to drill down to the micro-economic level, though, to understand how information and communication technologies are changing the economy in fundamental ways. Information exchange is at the core of an efficient economy. The most direct impact of new information technology has been to flatten the corporate hierarchy, eliminating the need for layers of middle management and decentralizing decision-making. Paradoxically, IT is causing some industries (financial services, telecommunications, energy and autos) to consolidate to take advantage of economies of scale, while allowing small firms to improve their ability to innovate and compete with large ones.

The New Economy is thus much more

than the accumulation of new technologies. It is changing how we use technology as a tool in every facet of our work and personal lives. Harvard professor Michael Porter perhaps summarized it best: "Today there is no such thing as a low-tech industry. There are only low-tech companies." You either incorporate technology wisely into your business practices or become noncompetitive – and likely exit.

The core value of information technology is in the networks that it facilitates. Metcalfe's Law postulates that as the number of nodes on a network increases arithmetically, the value of a network increases exponentially. Thus the value of adding an incremental user is greater for the network than it is for the new user. This positive externality, making the value of the whole greater than the sum of the parts, is the essential enabler of The New Economy.

At the center of all this is the Internet. Created in the late 1960s as a backup network for the defense establishment, the Internet evolved into an open global network in the 1990s. In only a few years as a public entity, it has changed the way we interact. As Brad DeLong, an economist at the University of California at Berkeley, put it, "IT and the Internet amplify brain power in the same way that the technologies of the industrial revolution amplified muscle power."

**The Internet and the Telegraph.** Despite the generations that separate them, there are similarities linking the Internet to the earliest form of electronic communication: the telegraph. Each technology embraced an understanding of the emerging science of its time – electricity for the telegraph, digital computing and electronic signal processing for the Internet – to revolutionize communication. Each was developed in an effort to save time and expense associated with long-distance

communication.

The telegraph was a breakthrough of immense proportions, but the impact of the Internet is likely to be much greater. As new methods alter communication, our institutions evolve to reflect the new reality. This includes economic markets, which achieve efficiencies from the availability of information in a more timely fashion and at much lower cost. The savings, among other things, expand the geographic size of markets. Such processes occurred over a century ago with the introduction of the telegraph, and are happening again with the Internet.

The real power of the Internet, however, comes from its ability to organize and manage the buying and selling of the most mundane and unglamorous business products and services. Markets for everything from chemicals to office equipment to database management services are expanding to include the entire world. Business-to-business e-commerce accounts for 70-80 percent of all income earned in cyberspace.

The Internet has accelerated communication within and between firms. Like the telegraph, the Internet connects companies to one another and to their suppliers, allowing

organizations to link their computer systems. With this level of integration, coordination costs associated with organizing individuals, materials, production, inventories and transportation are reduced, as orders can now move directly from supplier to customer.

Like the telegraph before it, the Internet unleashes market forces driving efficiency gains in large-scale operations. The Internet allows flatter organization hierarchies, while at the same time facilitating market specialization and market access for smaller firms.

The Internet may represent less of an intellectual leap than the telegraph or the printing press, but it could have a greater economic impact. It has reduced the cost of communications more rapidly and has been disseminated through the economy more rapidly.

Don't give up on The New Economy or the Internet because of the dot-com flameouts. Future productivity gains from the Internet and linking of computers will justify share prices above today's valuations. An increase in sustainable productivity growth of 0.5-1.0 percentage points per year may not seem like much, but decades of such growth would change everything. And that is the true measure of what The New Economy means. **M**

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## ANSWERS TO THE PUZZLER, PAGE 72

"...I had no idea where the property boundaries were but the dogs knew. Every time I crossed from one farm to another, a different dog barked. Those Indonesian dogs...had the basic information needed to set up a formal property system." — DeSoto, *The Mystery of Capital*.

A. deep fried  
B. ever  
C. SHAEF  
D. opt out  
E. teetered  
F. oriented  
G. Toy Story

H. haddock  
I. emphases  
J. mood ring  
K. Yemen  
L. swing shift  
M. twitters  
N. end of gender

O. re-enters  
P. Yoruba  
Q. order about  
R. feeder  
S. chainsaw  
T. abdomen  
U. photon

V. in a bind  
W. tamarisk  
X. aphorism  
Y. loofah