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THE MACRO INVESTOR



By STEVE LIESMAN

Predicting Productivity Gains Is Economists' Exercise in Futility

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Many economists are convinced that productivity has to slow from its recent breakneck growth rates. Many politicians hope it does. They believe job growth will suffer until the economy stops being so darn efficient.

These forecasts, as far as I can tell, are worth about as much as the recent jobs predictions of economists -- which is to say, not very much.

Of course, productivity won't keep growing faster forever. It may stop next quarter. The point is few have a clue. And they don't have very many good reasons for having a clue.

"There is no fundamental economic argument why it can't remain strong. There's no natural limit to it," says Kevin Stiroh, associate professor at Wesleyan and a productivity expert who is on leave from the New York Federal Reserve Bank. "The only limits are what we've seen historically."

It's critical for investors to understand this because productivity is such an important part of economic growth. If Americans worked no additional hours and all we did was improve our efficiency, the economy would continue to grow. Over many recent quarters, that's just what happened: Hours worked actually declined, but output grew. So productivity has been responsible for a lot of the economy's recent growth.

Because productivity means more output with less or unchanged inputs, it helps keep inflation down. We produce more without taxing our resources. Still, politicians and Federal Reserve bankers hope productivity growth slows a bit. The thinking is that job growth has been stunted by these efficiency gains --- employers using machines instead of people --- even though the evidence for that is skimpy.

ECONOMIC FORECASTING SURVEY



1 Dig into and download the March economic forecasting survey. See individual forecasts from the economists for GDP, inflation, unemployment, and interest rates. Plus, read answers to questions about "outsourcing" and Social Security. See prior survey installments and

The evidence about what drives productivity growth is also skimpy, as is our knowledge of what industries have produced the gains. Finally, our measurement of hours worked in the service sector is lacking, so we don't have

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ABOUT STEVE LIESMAN

Steve Liesman is the senior economics reporter for CNBC. Prior to working at CNBC he covered economics, monetary policy and accounting for The Wall Street Journal. He has also covered business and economics for the Journal in Russia.

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more at WSJ.com/Economists³.

a good handle on whether some in that sector may be working longer hours that aren't being

measured.

Here's a way to think about it:

Imagine you run a small-air transport business with a couple dozen old planes. Your mechanic of 30 years recently retired and you've hired this young guy with a tattooed arm and a body piercing in a place that makes you wince every time you look at it.

Couple of months go by and you notice something funny. The planes seem to be getting there a little faster. They burn less fuel. They break down a little less, so you're not spending as much on replacement parts.

You're pretty happy. Profits are up, since costs are down. But it's a little unnerving. The planes are getting there faster, but in a way you can't predict. Sometimes a trip that used to take two hours now takes 1:59. Next time, it's 1:58. Sometimes the planes have a 3% improvement in fuel efficiency; the next time it's 1%. All you know is you can count on improvement. The rate of change eludes you.

Even worse, because the increases are incremental, you can only measure it at the end of the month. And it's hard to know which planes are delivering these efficiencies. You just know it's happening in total.

You confront your employee.

"What are you doing to the planes?" you ask.

He turns down the blaring radio. "Nothing," he says, "just a little tweaking."

"Well, keep up the tweaking," you say. "Just tell me one thing: Do you have any idea how much more tweaking is possible? I need to know, say for planning purposes, how much faster the planes will be next year, and how much less fuel they'll use."

"Haven't a clue," the tattooed mechanic responds.

He turns up the radio and goes back to work.

That's what's happening in the economy. Productivity is improving for reasons that are unclear; and we have no idea how much more gains there are to be had.

To understand another part of the problem, consider how you might complete the series 1, 2, 3. (I've stolen this from an old speech by Harvard University President Larry Summers.) You might say "4" since you think the past growth trend will continue into the future. You could say "3" since the most recent result is most likely. It could be 2 since that's the average of the existing series. Or it could be 1, since you think trends have a way of reverting to the mean.

Now, let's plug in some real productivity-growth numbers. Between 1973 and 1995, productivity grew 1.4% per year on average. For 1995 through 2000, economists were amazed to find productivity growth had increased by a full percentage point to 2.5%. This increase was the economic backbone of the whole concept of a new economy. Many predicted confidently that the growth couldn't last.

Over the two years ending in the fourth quarter of 2003, the impossible happened again: Productivity

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growth registered a 4.7% average annual gain.

Now, go ahead and complete the series "1.4, 2.5, 4.7."

All you card-carrying Mensa members get it immediately. You'll notice the first increase was 1.1 percentage points. The second increase was 2.2. So the next increase could easily be 3.3 percentage points, bringing average annual productivity growth to 8%. Or the difference could be doubling, so the next gain would be 4.4 points larger, giving us 9.1%.

"My basic view is that it is almost impossible to forecast productivity -- none of us has a good history with doing so," says Stanford University Professor Justin Wolfers. "As a result, we tend to fall into one of two camps: 'Productivity will revert to its long-run trend' or 'Productivity will continue at its current pace.' "

Mr. Stiroh and Harvard University Economics Professor Dale Jorgenson have published a series of research papers over the years suggesting that the improvement of productivity is closely linked to the increased pace with which computer chips have doubled in speed.

If that's what we're hanging our hat on for a productivity slowdown, we're out of luck. Intel and others keep breaking new records. They were once doubling the speed of computer chips roughly every three years. Now it's roughly every two years. "Soon, Intel technologists will add hundreds of millions of transistors annually," the company says.

Here's an example. It took three years to move the i486 chip from a clock speed of 25 megahertz to 50 MHz. By 2002, Intel was boasting of adding 25 MHz a week. In a few years, the company predicts it will add 25 MHz a day.

Drew Matus, an economist at Lehman Brothers, is among those expecting a decline, but he knows his reasons are only historical.

"I am not sure if there are great reasons as why we are expecting a decline except for the fact at some point, there's only so much capital you can add per employee," he told me yesterday on Squawk Box. "Therefore at some point you are going to see productivity at least revert closer to the mean."

WHEN U.S. JOBS GO ABROAD



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Amid a "jobless recovery" and presidential-year politics, outsourcing is drawing strong reactions. See [complete coverage](#)⁵, and check out our [overview](#)⁶ and [online roundtable](#)⁷ for perspectives.

One question I get a lot: How has outsourcing impacted the productivity numbers? The answer is they have helped improve efficiency. If we take less-productive jobs and move them offshore, we are left with, on average, more-productive jobs. And the economy continues to grow even while those workers who have lost their jobs remain unemployed. That means the output of the remaining, more-productive workers must be compensating for the output of the lost jobs. And remember, imports subtract

from growth. That means the economy continues to expand even after we take away the value of what we import from jobs shipped overseas.

My personal opinion, informed by nothing but my use and knowledge of technology, is that we have a long way to go. There's still an awful lot of stuff out there that doesn't have the latest microchip in it. And there's still an awful lot of microchip capability that we haven't figured out how to put to productive use.

In just the past couple of years, I've put a wireless network in my house; been given a Blackberry that has integrated my cellphone and PDA; started working for a television network that recently began storing its archives on computers rather than on tape; and become a columnist for a "publication" that exists only in the ether of the Internet. So it's hard for me to think that we're anywhere near the end of the advances

from technology that have improved productivity.

Like I said, that's not worth much either. The only thing productivity seems incapable of doing is improving my predictive powers, or the forecasts of economists about jobs and productivity itself.

But that too could change.

If you'd like to reach Steve Liesman, write to him at steve.liesman@nbc.com⁸, and place "Attn: Macro Investor" in the subject line, or write to newseditors@wsj.com⁹ to have a comment published about the Macro Investor.

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