

## A downside

Of course, as with most changes, there is a downside. I am concerned that there is an adverse impact on jobs. Productivity increasing, say, at 2.4 percent in a given year means either that the same number of people can produce 2.4 percent more output or that we can get the same output with 2.4 percent fewer people. Both of these are happening. We are getting more output for each person in the economy, but overall output, nationally, requires fewer people to produce it. Nowadays, fewer people are required behind the desk of an airline. Much of the work is still physical—someone still has to take your luggage and put it on the belt—but much has vanished into the digital world of sensing, digital communication, and intelligent response.

Physical jobs are disappearing into the second economy, and I believe this effect is dwarfing the much more publicized effect of jobs disappearing to places like India and China.

There are parallels with what has happened before. In the early 20th century, farm jobs became mechanized and there was less need for farm labor, and some decades later manufacturing jobs became mechanized and there was less need for factory labor. Now business processes—many in the service sector—are becoming “mechanized” and fewer people are needed, and this is exerting systematic downward pressure on jobs. We don’t have paralegals in the numbers we used to. Or draftsmen, telephone operators, typists, or bookkeeping people. A lot of that work is now done digitally. We do have police and teachers and doctors; where there’s a need for human judgment and human interaction, we still have that. But the primary cause of all of the downsizing we’ve had since the mid-1990s is that a lot of human jobs are disappearing into the second economy. Not to reappear.

Seeing things this way, it’s not surprising we are still working our way out of the bad 2008–09 recession with a great deal of joblessness.

There’s a larger lesson to be drawn from this. The second economy will certainly be the engine of growth and the provider of prosperity for the rest of this century and beyond, but it may not provide jobs, so there may be prosperity without full access for many. This suggests to me that the main challenge of the economy is shifting from *producing* prosperity to *distributing* prosperity. The second economy will produce