

Productivity Slowdown is Structural, not a Measurement Problem, New Brookings Research Finds

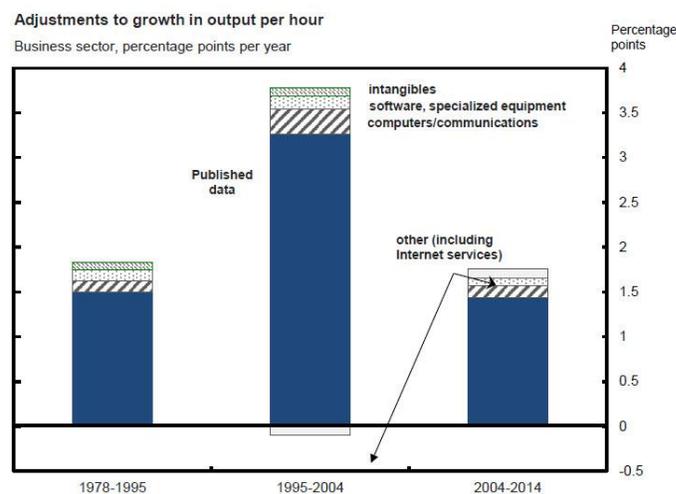
Mismeasurement occurred prior to slowdown and hasn't worsened; consumer benefits from free Internet services shouldn't be counted as part of market production

Underlying macroeconomic trends -- not mismeasurement of IT-related innovations -- are responsible for the slowdown in U.S. labor productivity and total factor productivity (TFP) since the early 2000s, according to a new Brookings paper published today. Economists and policymakers have been trying to understand why productivity slowed; slower productivity growth means smaller increases in GDP and inflation-adjusted wages.

In [“Does the United States have a Productivity Slowdown or a Measurement Problem?”](#) David Byrne of the Federal Reserve Board of Governors, John G. Fernald of the Federal Reserve Bank of San Francisco, and Marshall B. Reinsdorf of the International Monetary Fund assert that measurement errors have not gotten worse in the data that underlie productivity growth. For example, measurement error of IT equipment and other capital goods was large in the late 1990s and early 2000s as well. Moreover, the mismeasurement mattered more for domestic production and productivity then than now because more of the goods were produced domestically rather than imported. So correcting for mismeasurement of IT hardware actually makes the slowdown even larger.

The current rate of productivity is similar to earlier periods

The fast-growth period from 1995-2004 was an anomaly, thanks to the Internet, the reorganization of distribution sectors, etc.



Furthermore, they find that the productivity slowdown hasn't been concentrated in industries that are traditionally hard to measure. Between 2004-2013, there was a substantial slowdown in well-measured industries, as well as in IT production. According to the research, shifts in the industry composition of the economy also fail to explain the slowdown. Rather, an aggregate, broad-based slowdown across industries appears to be a more important driving factor.

The authors also address the impact of omitting or miscalculating economic gains from free digital services. The authors argue that gains from these innovations are inputs into non-market, home production that combine market products (an iPhone, for example) with nonmarket time. Therefore,

they shouldn't be counted as part of market production and do not change the fact that market sector TFP growth has slowed broadly.

“The major ‘cost’ to consumers of Facebook, Google, and the like is not the broadband access, the cell phone service, or the phone or computer; rather, it is the opportunity cost of [the users’] time. But that time cost does not represent consumption of market sector output. Rather, it is akin to the consumer

surplus obtained from television (an old economy invention) or from playing soccer with ones' children," they write.

They note the similarity between free digital services and free TV services, which are counted as providing advertising services, not final consumption services. Properly adding the market value of all free media to growth totals would only increase GDP growth by a few basis points. The full value to consumers, including the non-market benefits, is much larger, but still appears small relative to the slowdown.

They suggest that because the slowdown predated the Great Recession, and growth was similar in the 1970s and 1980s to what it's been since 2004, it was the fast-growth of 1995-2004 period that was the anomaly -- a one-time upward shift in the level of productivity rather than a permanent increase in its growth rate -- thanks to the Internet, the reorganization of distribution sectors, and the like. "Looking forward, we could get another wave of the IT revolution. Indeed, it is difficult to say with certainty what gains may yet come from cloud computing, the internet of things and the radical increase in mobility represented by smartphones," they write. Still, those hypothetical benefits have not appeared yet.

While the authors find little evidence that increased mismeasurement explains the broad-based slowdown in productivity, they also acknowledge that there are still unknowns and gaps in data and resources. They call for greater availability of scanner data and other "big data" sources, as well as more attention paid to the sharing economy as it continues to become a more important part of the economy going forward.

[Read the full paper from Byrne, Fernald, and Reinsdorf here >>](#)

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