The Economic and Business Impacts of the New IP

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1. Were you surprised by the 2.2 % figure for US productivity growth in the third quarter and the 3.3% figure for US productivity for the second quarter?

Yes? A number of economists – including Google’s Hal Varian in the WSJ – have argued that government statistics are not measuring the “Silicon Valley” effect on the economy correctly.

- Our estimates of the New IP’s impact on the economy suggest that the US Department of Commerce’s Bureau of Economic Analysis is probably undercounting the impact of software on the economy. New business software is a large part of spending on the New IP. BEA assumes that because prices of packaged software (e.g., Microsoft Office, Adobe Acrobat, etc.) have remained stable, the same is true of prices for software purchased by enterprises that can be modified prior to or after it is deployed. But that’s not true.
- We have estimated that the prices many Fortune 50 companies are paying for software defined infrastructure and tools – all part of the New IP -- are dropping by about 20% to 30% annually.
- So, annual US productivity estimates should be about 0.4% to 0.8% higher than estimated and US economic growth is probably undercounted by about 0.4% to 0.8%.
- The recent upswing in US productivity probably reflects this change. In the early 2000s, economists recognized that productivity was increasing faster than was expected. Later analysis at the Federal Reserve Board and elsewhere found that this was due to an inability to measure the contribution of information technology to the economy.

2. Software – i.e., the New IP -- is driving US growth and corporate strategy. The Fortune 500’s growth and the growth of many Silicon Valley firms, such as Facebook, Apple, Google and Amazon is driven by The New IP. When GM consolidated its data centers recently, it said it wanted to operate like Google, Amazon and others.

3. Waves of software innovation – such as the rise of containers in 2015 -- are part of the New IP and are driving recurring cycles of far lower prices to create services and applications. GE’s CIO recently said that before changing to a more agile – read New IP –
Infrastructure, it paid $65,000 to run an application; now, running the same app costs just $6000.

4. **Clouds and the New IP are being used in at least three different ways.** There is not just one approach to using the New IP or cloud computing ecosystems writ large. We see firms using the New IP to:

- **Support services and social media presence** (Facebook, Google, Amazon, Apple, media firms);
- **Create ecosystems of analytics** (large automakers like Ford and GM; aerospace firms like Boeing; big retailers like Walmart, Nordstrom and Amazon); and
- **Support multi-dimensional service delivery based upon innovative analytics** (e.g., tying genomics and clinical data to create personalized health care; creating new forms of service delivery as at Uber, and GrubHub).

5. **Over the past few years, a top priority for highly competitive businesses has been to be the most innovative firms that deploy and control agile software – the New IP.** The best examples of such firms are Facebook, Amazon, Apple, Google, Netflix and Gap. By adopting the New IP, these firms run and manage analytics and infrastructure (i.e., computing, storage and networking) much better than their competitors.