



Comparing the Digital and Physical Sectors Using BEA Approach to Digital Economy

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Can we answer key policy questions using BEA approach to the digital sector?

1. Is the digital sector benefitting consumers and workers compared to other industries?

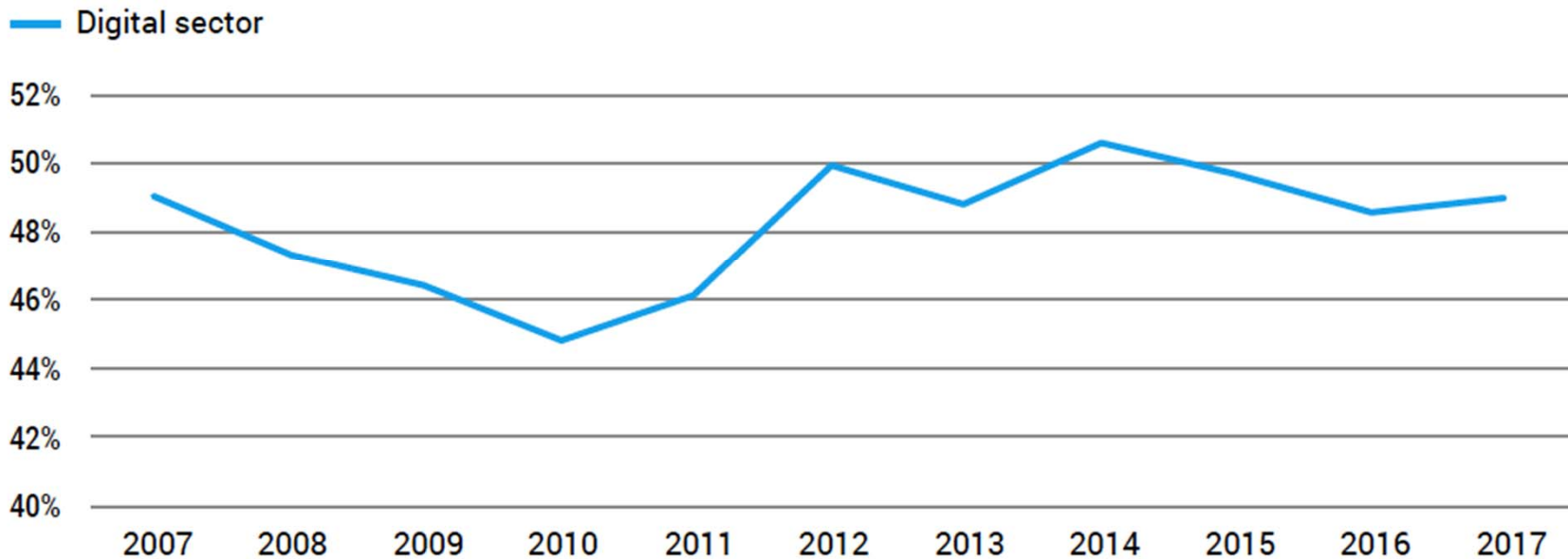
2. As digitization spreads to new industries, what is impact on workers/consumers/productivity?

- BEA approach builds up digital sector from digital goods and services.
- November 2018 PPI working paper “Competition and Concentration” takes congruent approach, builds up tech/telecom/ecommerce sector from individual industries
- NAICS 334+511+515+517+518+519+5415 + 4541 + portion of NAICS 493 (estimate of ecommerce fulfillment centers)
- Compare to rest of non-health private sector.

How the Digital (Tech/Telecom/Ecommerce) Sector Performed, 2007-2017

	DIGITAL SECTOR	REST OF NON-HEALTH PRIVATE SECTOR
GROWTH AND PRICE MEASURES		
REAL VALUE-ADDED (PERCENTAGE CHANGE)	80.9%	8.8%
PRODUCTIVITY (PERCENTAGE CHANGE)	58.7%	5.3%
PRICE (PERCENTAGE CHANGE)	-14.6%	21.2%
LABOR MEASURES		
FULL-TIME EQUIVALENT JOBS (PERCENTAGE CHANGE)	14.0%	3.3%
REAL ANNUAL PAY PER WORKER (PERCENTAGE CHANGE)	15.4%	7.0%
LABOR SHARE (CHANGE IN PERCENTAGE POINTS)	-0.1	-1.3

FIGURE 4: Labor Share in the Digital Sector Falls and Then Rebounds (labor compensation as share of value added*)



*Including nonfarm proprietors' income. Data: BEA, PPI

Initial estimates suggest that digital labor share rose in 2018, fell in rest of private sector.

Importance of boundary decisions

- The results look very different depending on whether we ecommerce fulfillment center workers as part of digital economy.
- For example, roughly about half the 2007-2017 gain in digital sector jobs can be attributed to ecommerce workers. Much bigger share of non-college digital workers. Broader geographic distribution.

Pro: Amazon is one of the tech giants.
Omit ecommerce workers, you omit
Amazon from digital economy.

Pro: Ecommerce fulfillment centers are
a prime example of the digitization of a
physical industry. Robots + data have
changed the economics of distribution.

Pro: Households are choosing to shift
unpaid shopping hours into the market
sector via ecommerce, thus generating
hundreds of thousands of new jobs.

The next question: What should be our criteria for including digital manufacturing in the digital sector?

That's going to be an increasingly important question for policy purposes.

Conclusion: The BEA approach to the digital economy is potentially a powerful tool for addressing key policy questions.



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