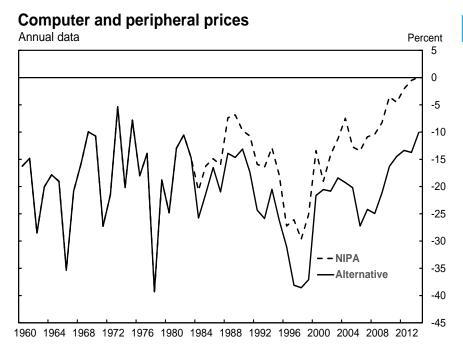
## Comments on Can Mismeasurement of the Digital Economy explain the U.S. Productivity Slowdown?

MIHO TAKIZAWA

TOYO UNIVERSITY

Hitotsubashi-RIETI International Workshop on Real Estate Market, Productivity, and Prices October 13<sup>th</sup>, 2016

#### Summary



Mismeasurement in ICT

& LP growth slowdown (04~)

Underestimation of quality

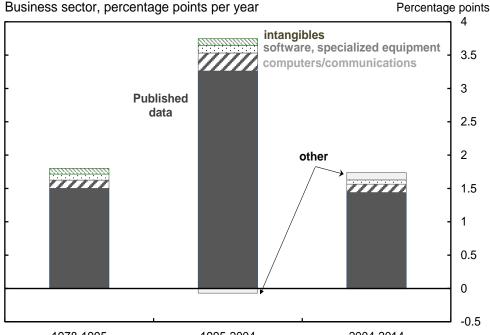
- ⇔ Upward bias in <u>price</u>
- ⇔ Downward bias in output

Reinsdorf(2016) Figure3

→ Alternative price indexes!

### Summary (cont'd)

#### Adjustments to growth in output per hour



1978-1995 1995-2004 2004-2014 Source: BLS, Fernald (2014a), and authors' calculations. Other comprises Internet, free digital services, globalization, and fracking.

Reinsdorf(2016) Figure4

Does it help? **NO, it does NOT.** 

- □ Price adjustments ⇒ Very tiny effect on productivity dynamics
- Other measurement issues does not work either...

☐ Internet-based digital services improve in consumer welfare, but they do not increase GDP...

# Comment 1: From the semi-macro viewpoint

Q. Any other important adjustments?

■ E.g., Low productivity growth in service industry

■ Any chance to extend the current discussion toward this direction (i.e., quality/price/output bias in service industries)?

# Comment 2: From the micro viewpoint

Q. Any industry- or firm-level heterogeneity?

- E.g.(a), highly digitized warehouse (Amazon)
- E.g.(b), internet-monitored bulldozer (Komatsu)
  - Bias associated with mismeasurement in "A" ≠ That in "B"

# Comment 3: Finally, why low productivity?

- Little effect of mismeasurement in ICT goods on low productivity
- Little effect of globalization (GVC) on low productivity
- Complementary relation between IT and intangibles?
- More intangible investments are required?
- ☐ Just return to the old pass?

#### Minor comments

Labor productivity (output per hour) is a good measure for technology (how about TFP)?

☐ Can ICT substitute for unskilled labor and/or skilled labor?