

# Digital change and measuring prices: what are the implications?

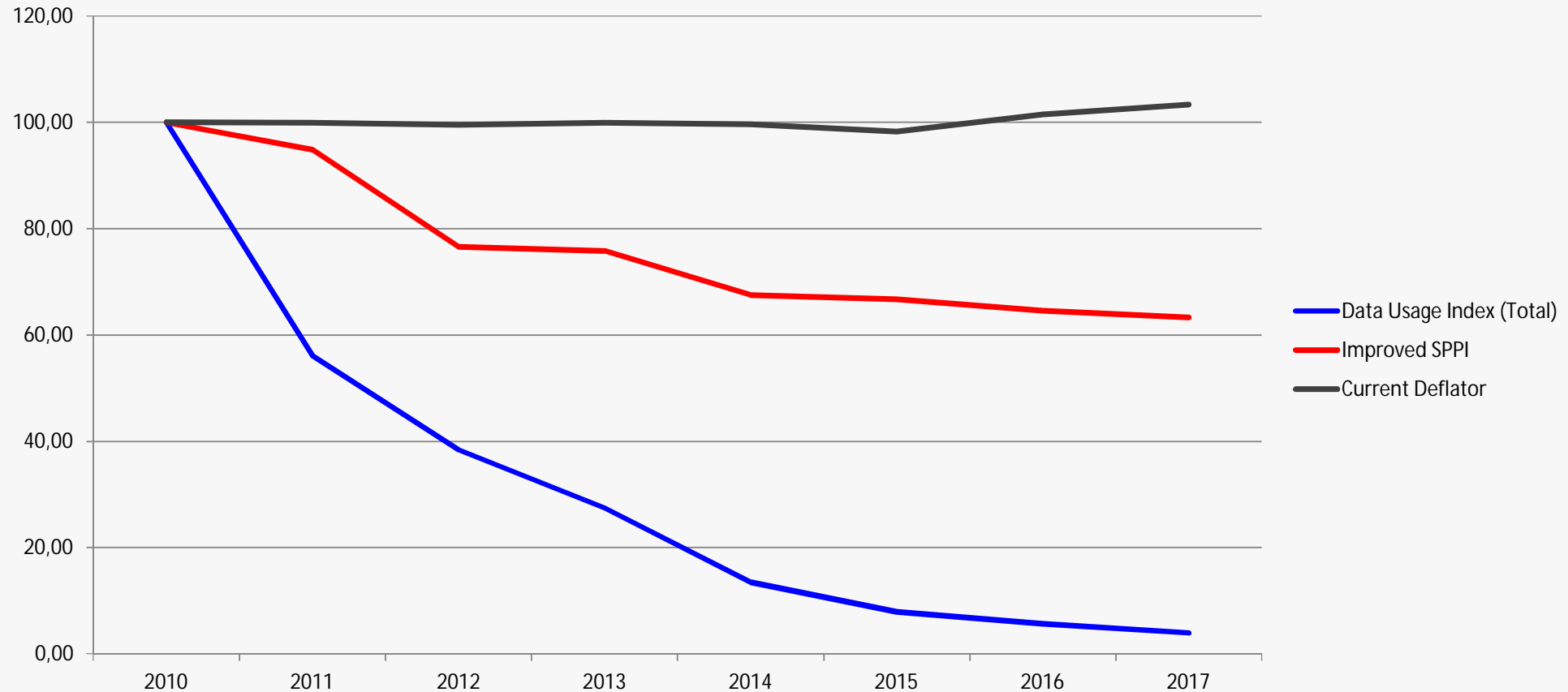
Diane Coyle

University of Cambridge

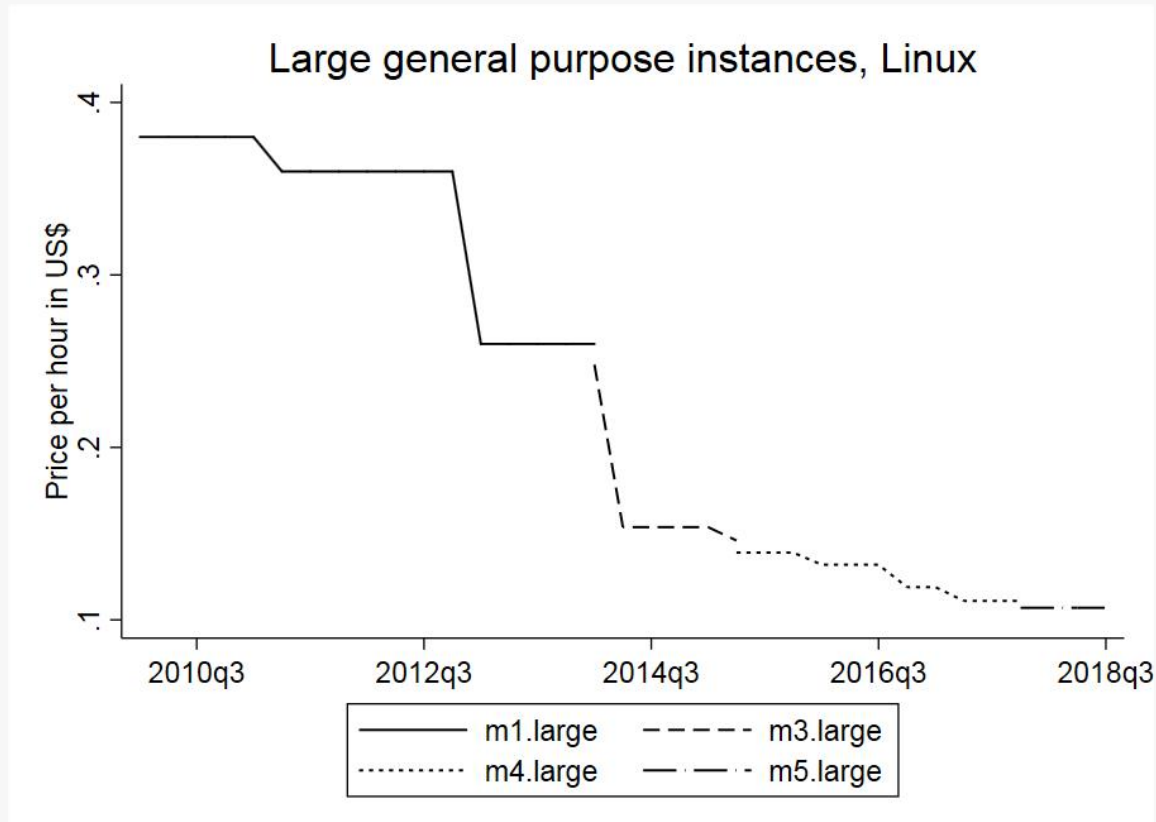
26 October 2018

dc700@cam.ac.uk

# Alternative price indices for UK telecommunications services

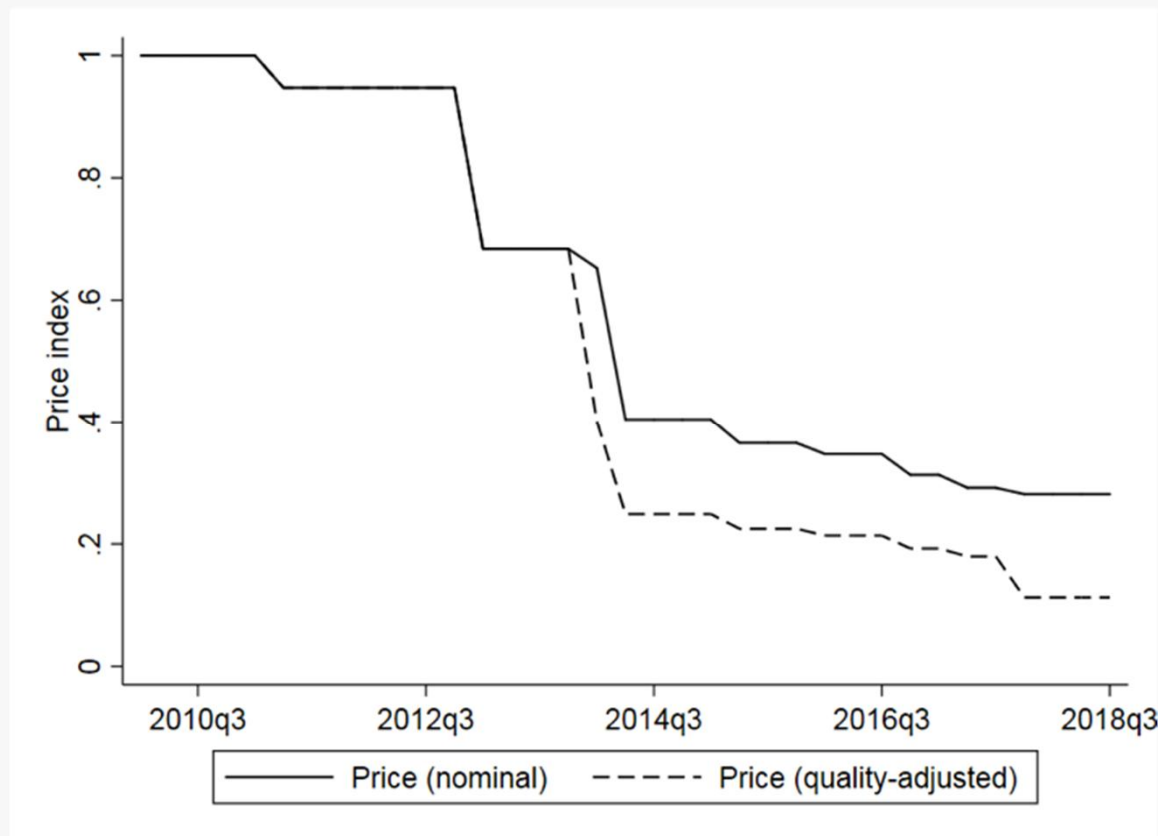


# Price of cloud computing services in the UK



- Trend similar to other instance types (small, x.large, ...)
- Also Google's compute products look similar (see full paper)
- Prices declined by 72% over 35 quarters

# Quality-adjusted prices falling more rapidly



- Quality-adjustment not relevant pre-2014, but from Q1-2014 adjusted prices fall more rapidly
- Price index dropped by 83% over 35 quarter (!)
- This is 11 percentage points above nominal price (25 for Windows)

Notes: AWS, EC2, large general purpose instances, Linux

# Are better hedonics the answer?



“The fact is that the real accounts do not balance, only money accounts do. I think this point is insufficiently appreciated. ...[W]hat we call “real” magnitudes are not completely real; only the money magnitudes are real. The “real” ones are hypothetical.”

Thomas Schelling 1958

# Implications?

- Even small improvements lead to substantial changes in deflators
- Consumer prices: new goods problems galore, plus practical challenges
- Constant utility concept for price indices: hedonic adjustment is an arbitrary allocation of part of consumer surplus
  - As real GDP *is* an welfare measure, is it the right one? (Distribution, balance sheets, time use, externalities...)
- Intermediate goods prices:
  - Double deflation
  - Sector productivity pattern
  - Value added multifactor productivity approach?

“Though the Social Product (or National Income, or Gross National Product) has been ‘sold’ to the public, it has been ‘sold’ by economists. We have a responsibility for it—the responsibility of the manufacturer for the quality of the good which he sells. We cannot escape the duty of justifying it by pretending that it has been justified already.”

J.R. Hicks, 1975