MEASURING GDP IN A DIGITALISED ECONOMY

Paul Schreyer
OECD Statistics Directorate

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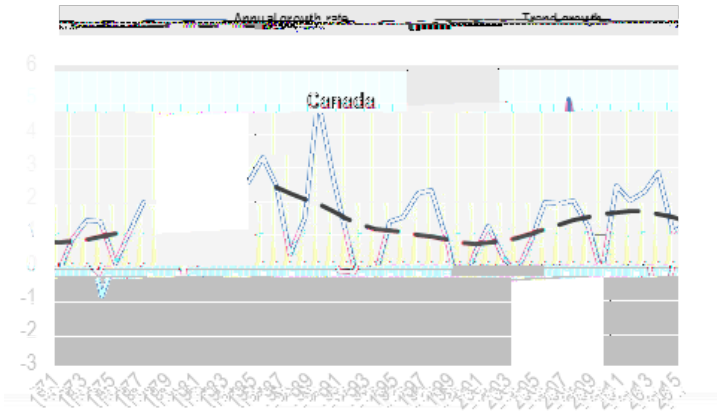
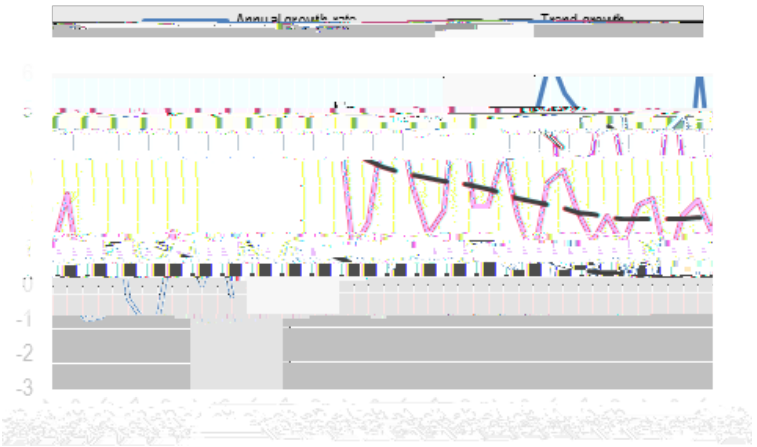
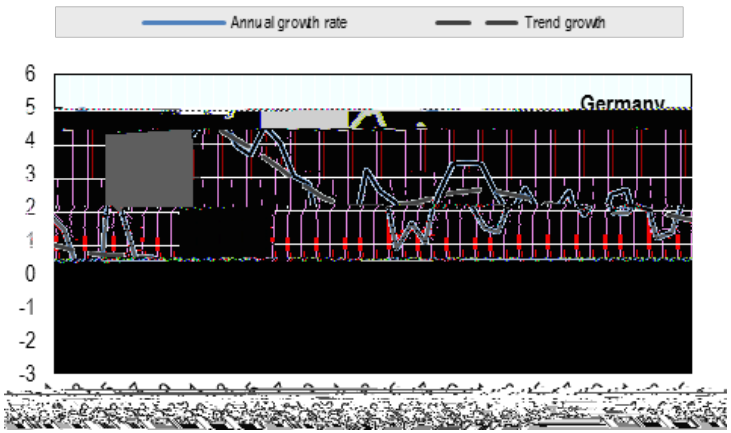
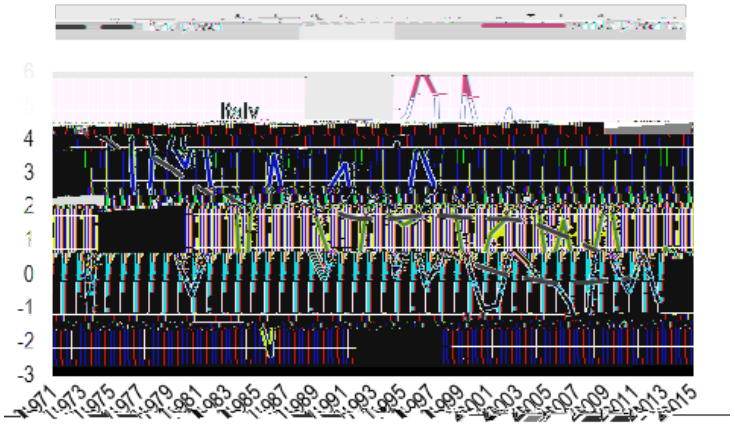
Downward trend labour productivity growth in many countries

Total economy, percentage change at annual rate









Source: OECD Productivity Compendium 2016

Some explanations

- Shortage of ideas (Gordon)
- Break-down of the diffusion machine and inequality (OECD)
- A business cycle effect
- A great deal is happening in the digital economy (Brynjolfsson/McAffee) but not picked up by GDP and productivity figures:

¾The Mis -measurement Hypothesis

…Presence in the public debate

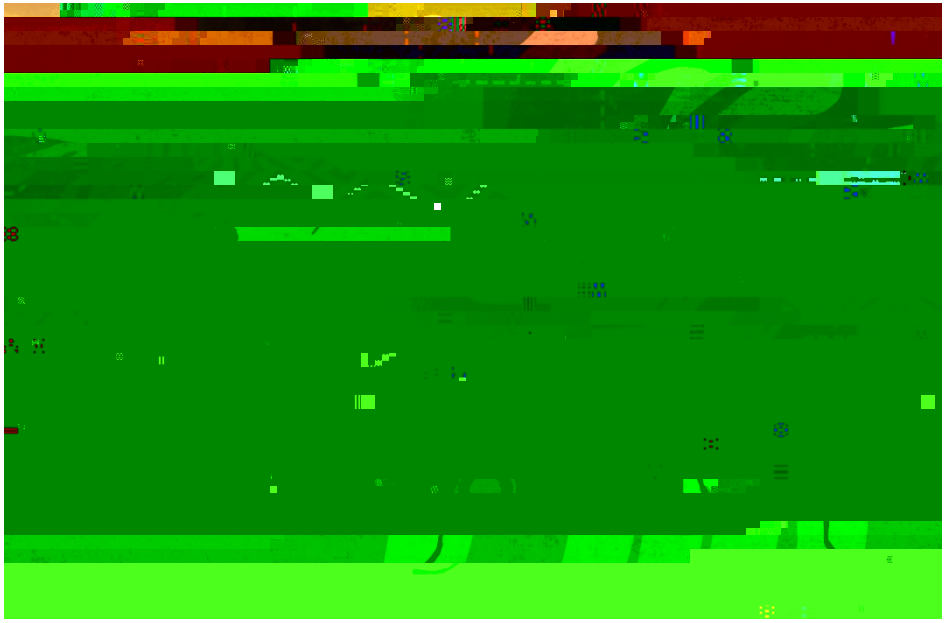
Charles Hulten : Valuing the Net and the wide range of applications… is challenging…. and their omission or undervaluation surely affects GDP."

Charlie Bean: "statistics have failed to keep pace with the impact of digital technology "

Diane Coyle: The pace of change in OECD countries is making the existing statistical framework decreasingly appropriate for measuring the economy

[redacted]

The U.S. Underestimates Growth



The internet and the productivity slump

ComputerWeekly.com

Why we're measuring the digital economy in the wrong way

Some optimists argue instead that the problem is one of measurement. Technological progress often raises productivity in ways that statistical agencies struggle to detect

A representative statement…

« I dont believe for a second the idea by economists who say that productivity does not grow any more anymore

Digitalisation

…but systematic work to assess the MMH is scarce…

And despite some notable responses:

- Challenges to Mismeasurement Explanations for the U.S. Productivity Slowdown, Chad Syverson: NBER Working Paper No.

In the debate, there is often confusion between:

- Conceptual vs. Empirical issues
- Production vs. Consumer Surplus vs. Welfare

Domain 1: New forms of intermediation services

New forms of intermediation of peer-to-peer services

- Digital platforms provide intermediation services for supply and demand on product markets
- Intermediation services not new, but more pervasive and provided differently:
  - Taxi reservation service -> Uber
  - Travel agent -> Booking.com
  - Hilton online reservations -> AirBnB
- Production = commissions and fees
- Conceptually and in practice captured in GDP

- Short-term rentals – likely increased significantly:
  - Often undeclared by the 'occasional self-employed'
  - But

Example 2: Business and transportation services

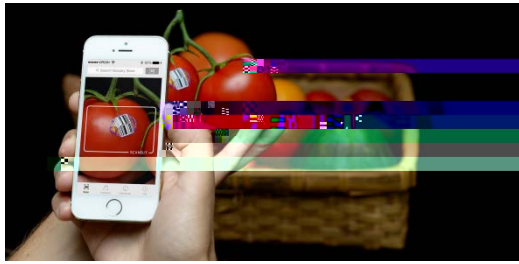
- Again: emergence of the 'occasionally self-employed'
- Some activity may be captured through LFS
- But not cash transactions if revenues undeclared
- New approaches to measurement needed, e.g., directly from intermediaries
- Issue: treatment of consumer durables
  - No impact on GDP
  - But impact on measured productivity and investment

- Sale of second hand goods between households,

Domain 2: Consumers as producers

Consumers as producers: blurring the production boundary

- The pervasiveness of internet access by households has led to blurring between household production for market purposes, own account production, consumption, leisure
- Examples :
  - Own booking of hotels, flights by households
  - Self-check in at airports
  - Self-service at supermarkets
  - On-line banking
- In common: movement from dedicated market producers out of market



Consumers as producers: blurring the production boundary (ctd)

- Other area: households generate free assets : Wikipedia, Linux
- Clearly, element of production but also leisure
- Not captured in GDP, labor input or balance sheets

- Is there a problem ? Joins traditional discussion about own-account production of households. Imputations for:
  - Childcare
  - Cooking
  - Gardening, ...?
- And unlikely to resolve productivity puzzle

Domain 3:
Free and subsidised consumer products

Free and subsidised consumer products

- Frequently put forward as examples of output

Triangular transactions: payment through advertising

Free and subsidised consumer products – advertisement financing

- Implicit transaction between consumer and software provider not reflected in GDP
- Should there be imputation?
- Yes: people

Free and subsidised consumer

Free and subsidised consumer products – advertisement financing (ctd)

- Excellent work akadn g

Free and subsidised consumer products – data sales financing

- Situation (even) murkier
- Software provider builds up digital asset (data base) for subsequent production of data services
- If imputation, what is value to proxy this investment?
- Provision of data by households (the corollary of consumers watching adverts) may not result in free goods or services in exchange (e.g. scanner data by supermarkets)

Cross-border flows of intellectual property products

- IPPs that give rise to royalties or licencing agreements are significant
- Associated income flows are captured but in which country? (legal vs. economic ownership)
- Issue for GDP more than for GNI
- Irish case

Domain 5:
Prices and volumes

Prices and Volumes

Prices

In Conclusion

- Good measurement is key in a digital economy but mis-measurement unlikely to explain productivity slowdown
- Conceptually, GDP and productivity appear up to the task
- But measurement in some areas requires improvement
  - The occasionally self-employed
  -

- Digital intermediaries are increasingly called to

- OECD carries out work on Digital Economy
- Active involvement in work mandated by the G20:
- NAWP has carried out survey

Thank you!

N. Ahmad and P. Schreyer (2016) "GDP in a Digitalised Economy" ;

OECD Statistics Working Paper

http://dx.doi.org/10.1787/5jlwqd81d09r-en