Price and volume measurement of goods and services affected by digitalisation

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Issue Note on Prices and Volumes

- Guidance in this area **will evolve** pending decisions on **Data and “Free” products**. Issue paper focuses on **best practices and best alternatives** when the ideal may not be achievable.

- Overview

  Chapter 1: Introduces Challenges for National Accountants
  Chapter 2: Measuring the value of output in current prices
  Chapter 3: Prices and volumes for **existing** goods and services
  Chapter 4: Prices and volumes for **new** goods and services
  Chapter 5: Methods to address fast-pace price change for evolving products

- Questions for the Advisory Experts Group

Challenges for both nominals and prices

Traditional data sources need to be **updated more frequently** to capture rapid changes associated with digitization. Otherwise,

- **Nominal spending** may not reflect the value of these goods in a timely fashion, and
- **Price and volume measures** may not adequately represent
  - New types of outlets (UBER, Airbnb)
  - New versions of existing goods (quality improvements in cars), and
  - Entirely new goods (cloud, digital intermediaries)

Chapter 3: Prices for existing goods and services

- Digitalisation exacerbates traditional price measurement challenges
  - **Outlet substitution bias** more prevalent with new ways to purchase goods and services
    - Not just for digital goods: for example, books: switching of purchases to Amazon from brick and mortar might have lowered the price of books to consumers and, if so, would not be reflected in the official statistics.
  - **Quality adjustment**
    - Digital goods – product introductions are more rapid with digitalisation
    - Other goods – quality improvements are more ubiquitous, making it important to monitor quality changes for many types of goods, not just digital ones (e.g., cars)
- Case study: **telecommunication services**

Chapter 4: Prices for new digital goods and services

- The arrival of entirely new goods and services **requires careful study** of the ability of traditional methods and data sources to **adequately account for prices and volumes** of these commodities

- This is illustrated using two case studies:
  - **Cloud services**
  - **Digital intermediaries**

Chapter 5: Fast-pace price change for products

- The price flexibility of online retailers means that online prices:
  - Tend to move differently than in-store prices.
  - Can adjust to the market price quickly in response to changing market forces (also called algorithmic pricing or dynamic pricing).
- When prices are relatively stable, collecting price quotes at a **point in time** (as is typically done) likely provides prices that are representative for the **month as a whole**.
- However, this is not necessarily true when prices change rapidly.
- This chapter reviews what is known about this problem and the potential solutions to deal with this problem.

Questions for the Advisory Expert Group

a) Section 3.3.4 provides options and analysis of options for **telecommunications services**, which propose bringing the treatment of this service in line with electricity. Opinions on this treatment are requested.

b) Section 4.1.2, discusses how to treat the instance where one room in a home is rented out through **Airbnb**. Should this room be excluded in the calculation of the imputed rental price, or should an adjustment be applied, and does this affect the weight of owner-occupied housing in the CPI?

c) Section 4.1.3, discuses **cloud computing** and recommend using quality adjusted price indexes to deflate values developed using hedonic models which capture the variety of attributes. We would appreciate views or alternatives.

d) The AEG is asked to consider other broad elements of this emerging guidance and where more work would be beneficial.