Quarterly GDP
Session 3.4: Supply-Use approach

by
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Objective

- To provide an overview of how a supply-use approach can improve quarterly estimates of GDP
  - Based on a common scenario
Introduction

- The Supply-Use framework is a powerful tool
  - For achieving consistency between GDP-P and GDP-E
  - For filing data gaps

- A system can be envisaged using an SUT as a basis for quarterly GDP estimation at both current and constant prices simultaneously

A common scenario

- Suppose you have estimates of output at constant prices at a detailed level using
  - Deflated turnover data, and/or
  - Quantities or quantity indicators

- You do not have quarterly data on IC by activity
  - Except perhaps for a small number of very large enterprises

- So how do you estimate GVA?
Short-term assumptions

- Possibly with one or two exceptions, in volume terms you will assume the IC ratios are fixed.
  - This is not unreasonable. If a lorry requires 100 litres of fuel to carry 30 tons of cement a certain distance, it will require 200 litres for two trips.
- However, at current prices a fixed IC ratio is not so good, especially when the price of fuel goes up or down sharply (as it can).
  - The freight company may or may not immediately change the price of carriage to maintain a fixed IC ratio.

GVA at current prices (CP)

- We assume not only that the IC ratios remain fixed at constant prices (KP), but also that the IC matrix coefficients remain fixed.
  - Applying these coefficients to the KP estimates of output will provide estimates of the intermediate demand for each product at constant prices.
- Given price indices for every product, we can reflate the KP output and matrix, row by row.
- Finally, summing up the columns will provide CP estimates of IC by activity.
Result so far

- Dividing the new estimates of IC at current prices by CP estimates of output will give IO ratios that will not be quite the same as those at constant prices (KP).
- Hence the quarterly estimates will have been “double deflated” (or rather “double reflated”)
- Has anyone here tried this?

But it is only a first step…

Step 2: GDP-E

- If you compile GDP-E at current and constant prices in the recommended way, you will have estimates of the component products (not necessarily independent of the output side).
- The totals by product (which may be negative) can then be compared with the total output by product **minus** the intermediate demand for the same product.
- There will be differences at both CP and KP and/or gaps to fill
Consistent estimates of GDP

- If all these estimates can be reconciled at a detailed level for every period, the result will be consistent first estimates of GDP at both current and constant prices.

- Notice that summing the quarterly figures when the year is over will provide an updated SUT.

We have not finished yet…

Step 3: Revisions

- If you have annual surveys of the accounts of enterprises, in principle these will provide:
  - Actual data on annual intermediate consumption at current prices
  - Typically after a delay of several months or more
- Should we then revise?
- Personally, except for the very largest enterprises, I have found the precision of the resulting IO ratios to be unsatisfactory for measuring actual change…
In conclusion

- This brief presentation has omitted to mention several complications, such as valuations, trade margins, etc.
- However, hopefully it provides an overview of the way an SUT can be at the heart of quarterly (and even annual) GDP estimates.

Discussion please

Thank you for listening.