National Accounts
Session 5.8: Work-in-progress

by
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WIP theory

- Production should be measured at the time it takes place and valued at the prices of that time
- When production activity takes more than one period before it is finished
  - The production should be shown as taking place in each period
  - This results in unfinished products at the end of each period – work-in-progress
Activities affected

Activities With Long Production Cycles
- Agriculture and forestry
- Manufacturing:
  - Aircraft; ships; other heavy equipment
- Construction
- Services
  - Any examples?

Important for annual accounts but (in theory) more pronounced for quarterly accounts or higher frequency

WIP theory

- WIP should be counted as output
  - Valued according to the cost of inputs
  - Balanced by entries on the expenditure side
    - either fixed capital or (temporarily) as inventories (until completed and sold)
- In theory, WIP becomes fixed capital formation at different times, depending on whether the work is done on contract, on own account, or for sale when finished
**Measurement**

- Accurate measurement every quarter according to theory is not a practical possibility in most countries.
- It may be possible to follow very large projects with a specific monitoring program…
- … but cannot cover everything.
- Sample surveys are costly and not accurate enough – often making variable output estimates worse.
- Models are often constructed to produce results based on some benchmark dataset…
- Is this just so we can say we comply with SNA?

**Good news**

- Construction industry data is hard to get.
  However:
- Do you measure construction activity through indicators of available inputs to extrapolate a benchmark?
- If so, great: you are taking account of work-in-progress!
- By commodity flow, also in fixed capital.
Plantations

- More of an annual than a quarterly issue
- Two types of trees
  - Fruit bearing or other regular product (latex, palm oil…)
    - Capital formation after the initial growing period
  - Timber plantations
    - Work-in-progress until harvested
- Specialist help needed for estimation…
  - Modelled on areas, life spans, valuation, etc.
- Extraction from natural forests like mining

Live animals

- More of an annual than a quarterly issue
- Two types of animal
  - Regular product (dairy…)
    - Capital formation after the initial growing period
  - For slaughter
    - Work-in-progress until then
- Specialist help needed for estimation…
  - Modelled on off-takes, life spans, valuations, etc.
Crops

- More of a quarterly issue, planting in one quarter, harvested in another
  - Valuation problematic before the harvest
  - Models may be constructed
- In my view, not worth the trouble. 1993 SNA:
  “There may be circumstances in which the uncertainties attached to the estimation of the value of work-in-progress in advance of the harvest are so great that no useful analytical or policy purpose is served by compiling such estimates.”

Discussion please

Thank you for listening