MEASURING R&D&I PROCUREMENT – STATE OF PLAY & SELECTED RESULTS

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Silvia Appelt
Economic Analysis and Statistics Division
Directorate for Science, Technology and Innovation
Procurement of R&D&I – incidence and impact

• OECD-NESTI project on “measuring the link between public procurement and innovation” (2011-14); EC-OECD partnership on innovation (DG Growth)
  1. Reassessment R&D&I measurement frameworks
  2. Stock-taking of measurement efforts
  3. Exploration of administrative data sources (TED, FPDS)


• Today’s presentation
  1. Main data sources and indicators
  2. Methodological developments
  3. Quantitative analysis

Caution: monitoring vs. impact assessment
1. **Source-based** data collection from govts (GBARD)
   - CAN/CHE (survey of govt.), BEL, IRL, ISR, NZL (budget data)

2. **Performer-based reporting** of R&D efforts and sources of funds (GERD)
   - Only “direct procurement” of R&D considered;
   - **FM2002:** breakdown of government funds into contracts (payments for a service) and grants (unconditional payments).
     A few examples to draw upon for business:
     - USA ($34bn, 84-95% in 2010); CAN (15% in 2011), ESP (€200m, 22% in 2012)
   - **FM 2015, Chp.4:** R&D transfer vs. exchange funds (=contracts) within external sources of funds:
     i. compensatory return flow for service;
     ii. delivery risk partly borne by funding unit;
     iii. substantial rights to R&D results

- **OM (2005): Innovation** = implementation of a new/significantly improved product (incl. services) or process (also org/mkt methods).
  - **Innovations introduced by firms** (alone or in partnership) in context of or in anticipation of procurement activities are captured but **no guidelines for identifying these separately**
  - Introduction of innovations **by other types of organisations** (e.g. public authorities) not considered in the Oslo Manual

- **Selected business innovation surveys linking PP and I**
  - Qs on “supply to government”: e.g. AUS, CAN, UK
  - Qs on role of procurement for innovation activity: e.g. CHN, KOR
  - Qs about role of procurement in driving innovation, e.g. DEU, recent developments → **CIS 2012 and CIS 2014:**
    - Had a procurement contract (domestic/foreign PSO)
    - Innovation activity as part of contract (required/not required)
3. Investigating the scope for using administrative procurement databases

1. Indicators of R&D procurement and innovation content: US federal (FPDS-NG, 2000-11) & EU procurement (TED, 2006-11)
   - Product code and company sector classifications
   - Innovation-related terms in product descriptions; RESEARCH, DEVELOP, R&D, INNOVAT, ADVANCE...

   International comparability limited

2. Link between procurement and R&D inputs and outputs
   Analysis based on matched FPDS, ORBIS, USPTO patent and trademark data
   - Range of important correlations between public procurement, reported R&D, trademark activity and firm turnover uncovered, e.g.
     - Reported R&D expenses rise by 0.2% as the value of past obligations increases by 10%.
   - Controlling for employment, capital stock, firm fixed-effects
   - Causal analysis (e.g. selection issues)
1. Lots of **progress on survey-side** → FM and OM **implementation**

2. Limitations **but also opportunities** of administrative sources
   - Limited int. comparability of indicators, potential for analytical uses

3. Different options for a measurement system to meet different user needs – trade offs
   - Problems/challenges target-driven measurement (Goodhart’s law)
   - Cognitive/knowledge issues in establishing causal links → Indirect impact assessment: **data infrastructure and research design**:
     - Inputs, outputs, outcomes ↔ action vs. programme vs. policy
     - Selection, endogeneity, measurement error, ...
       → matching IVs, RDD, CDM model
     - [OECD microBeRD project](https://www.oecd.org) (R&D tax incentives) – EC DGRTD

For further information on the project:
silvia.appelt@oecd.org
fernando.galindo-rueda@oecd.org