Empirical Assessment of Procurement Policies: Evidence from the Recent Practices in Brazil
New Trends in Public Procurement Research

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The Relevance of Procurement

- Public procurement
  - significant fraction of the public expenditures
  - 16% of GDP in EU, and 20% of GDP in the U.S.
  - goods and services: construction, public utilities, pharmaceuticals ...

- Government policies affect procurement costs
  - important impact on public budgeting.
Growing literature on empirical evaluation of procurement practices

- Discriminatory Programs in Government Procurement
  - Marion (2007, 2009), Krasnokutskaya et al. (2010), Athey et al. (2012)

- Auctions versus Negotiation
  - Bajari et al. (2009), Estache et al. (2009), Chong et al. (2010)

- Make-versus-Buy Decision
  - Hart et al. (1997), Levin et al. (2010), Bergman et al. (2010)

- Other Initiatives: Pooled Procurement, Competition Enhancing Policies...
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Empirical Evaluation of the Recent Procurement Practices in Brazil

1. **Pooled Procurement:**

   Evidence from Price Registration System

   - Barbosa and Fiuza (2011)

2. **Calling for a supplier of active substance:**

   A manner to procure for pharmaceuticals

   Evidence from Sao Paulo State’s Procurement Contracts

   - Arvate, Barbosa and Gambardella (2012)
Demand Aggregation and Credit Risk Effects in Pooled Procurement: Evidence from Brazil

Barbosa and Fiuza (2011)
The Relevance of Pooled Procurement

**What is Pooled Procurement?**

- Pool of buyers: jointly procure for goods/services
- Common feature: selected supplier(s) provides goods/services at a unique price to all pool members.

**Pooled Procurement around the World**

- **Europe:** Framework Agreements in Europe - EC Directive 18/2004
  - Bandiera et al. (2009): Consip with Italians public bodies 22% of total procurement

- **U.S.:** Bulk Procurement for acquisition of pharmaceuticals
  - NCL (2010): Multi-state bulk buying pools: NMPI, TOP, SSDC, ...

- **Other countries:** Brazil, Peru, Chile, India, New Zealand
  - Mucha (2010), Huff-Roussell et al. (1996), Tordoff et al. (2005), ...
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Demand Aggregation Effect: Reduction in acquisition prices

- increasing in bargaining power
- suppliers can achieve economies of scale/scope (logistic or production).

Credit Risk Effect: Increase in acquisition prices for reputable buyers

- Buyers have different financial capabilities in paying suppliers.
- A low credit risk buyer may have its price paid increased when it is joined by high credit risk buyers in the pool.
Empirical Analysis: Effect of Pooled Procurement on Acquisition Prices

1. Demand Aggregation: price reduction effect
2. Credit Risk: price increase effect for good buyers

Data:

- Decentralized procurement contracts of Brazilian public bodies
- Public purchases of pharmaceuticals and medical supplies
- Procurement: Pooled and Individual
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Pooled and Individual Procurement in Brazil

- **Standard/Individual Procurement:**
  - Law nº 8.666/93
  - most of public acquisitions rely on competitive bidding
    - 5 types: from open electronic auction to invited bidders
  - others: direct purchases (low value, patents) and exceptions (emergency)

- **Pooled Procurement: Price Registration System**
  - any group of public buyers (federal, state, municipal) can organize a PP
    - managing participant and non-managing participants
  - all acquisitions **must** rely on competitive bidding
    - open electronic auction, standard and hybrid competitive bidding
  - selected supplier: goods/services at uniform prices for all members
  - buyers’ additional demand: new selection no needed for 12 months
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Decentralized Procurement System in Brazil

Central Government $ State/Municipal Government

$ Federal Unit (Hospital) $ State/Municipal Unit (Hospital)

Supplier

Pooled Procurement
Buyers Heterogeneity and Credit Risk in Brazil

- **Payment to Suppliers**: occurs after delivery of products/services
- **Delay Payment**: big issue in public procurement in Brazil
  - Suppliers frequently complain that public bodies do not pay for goods and services according to the contracts
- **Heterogeneity in Credit Risk**:
  - Bodies are different concerning financial capabilities, budget, and reputation in paying suppliers
- **Measuring Credit Risk**:
  - State and municipal units: higher credit risk than federal ones
  - States are different with respect to liquidity and solvency
  - Some public bodies are located in areas with limited contract enforceability (Doing Business Brazil)
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Data Base

- **Source:** ComprasNet
  - All public federal bodies procurement transactions.

- **Our Data:** Pharmaceuticals and medical supplies
  - all products are fully described, standardized and codified
  - 95,403 procurement transactions: 2004-2009
  - 5,248 different products: panel data
  - awarding procedure: only PP’s procedure
    - the same product is purchased by the same public body, year, by PP or individual procurement

- **Buyers:** public bodies (agencies and units)
  - pooled (federal, state and municipal bodies) and individual procurement (federal bodies).
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Conclusions

- **Preliminary Findings:**
  - Lower unit prices in pooled procurement: up to 15 percent
  - Good buyers joined by Bad ones pay higher prices in pooled procurement: it may offset the aggregation effect gains
  - Limits for pooled procurement!!!
    pooling buyers does not always reduces unit price paid

- **Policy Consideration:**
  - mechanism to pool similar buyers is needed
  - supplier’s price discrimination in a pool may lead to more pooled procurements: potential “lemon effect”.
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Generic Drug Program and Public Expenditure

Arvate, Barbosa and Gambardella (2012)
**Regulation:** Pharmaceuticals are *standardized* in Brazil

- All drugs (branded and non branded) must provide description of the active substance
- Production and commercialization are subject to the approval of the Ministry of Health
- Generics Law in 1999: companies are legally allowed to produce generic drugs that are *perfect* copies of patented drugs
- Each pharmaceutical company gives a commercial name for its product
Competitive bidding: good procedure to acquire standardized goods.

- more competition $\rightarrow$ reduction in price paid.

Why not rely on competitive bidding and call for suppliers of active substance?

Potential sources of competition:

- intra-brand competition: among dealers
- inter-brand competition: among drug producers
- generics versus branded drugs
Empirical Analysis: Effect of Calling for Active Substance and Impact of the Generics on Acquisition Prices

Generic versus Branded: Has the introduction of generics reduced procurement costs?

Data:

- Procurement contracts of Sao Paulo State in Brazil
- All public purchases of pharmaceuticals: 2008-2012
- Classification: generic versus branded drugs
- Awarding procedures: open auction

Preliminary Empirical Findings:

- Price paid for Generics: similar to Branded drugs’ ones.
- Presence of suppliers of generic drugs in a tendering reduces unit price of (generic and branded) drugs - competition pressure effect
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