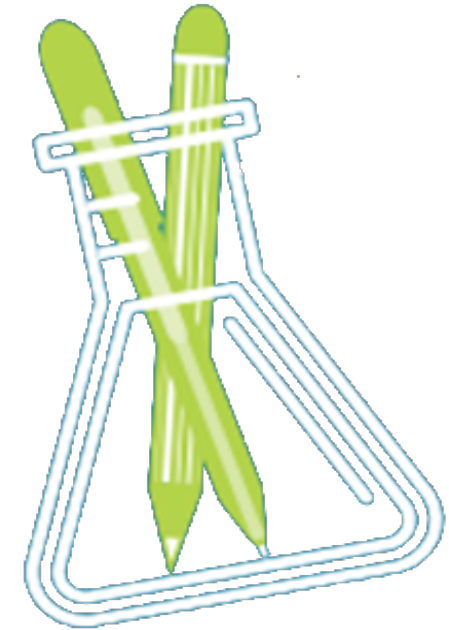# Measuring and Evaluating Determinants of Public Administration Productivity

Bureaucracy Lab

Development Impact Evaluation | Global Governance Practice

October 22-25, 2019, Brussels, Belgium

European Commission

i2i DIME
TRANSFORM DEVELOPMENT

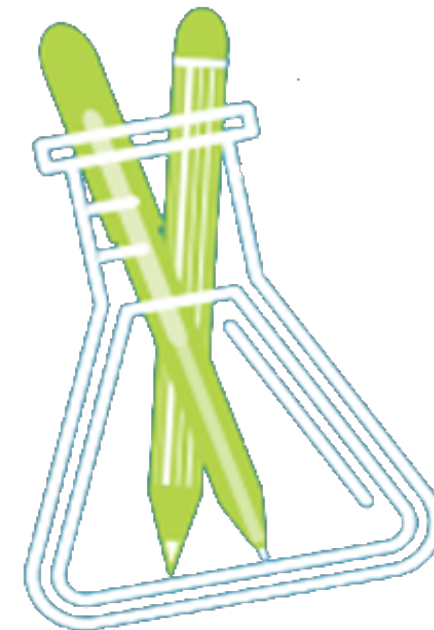**WORLD BANK GROUP**
Equitable Growth, Finance & Institutions

Measuring Productivity Innovatively…
…in Public Procurement

Michael Carlos Best
Columbia University

Bureaucracy Lab

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Public Procurement

- Large Stakes:
  - ~10–15% of GDP in OECD
  - Huge part of what government spends money on
  - Inefficiency is widespread, so potentially huge scope for savings

- Performance measurable(ish)
  - Main goals: Timely purchase, fair process, **price paid**
  - Prices can be used to measure performance for homogeneous goods…
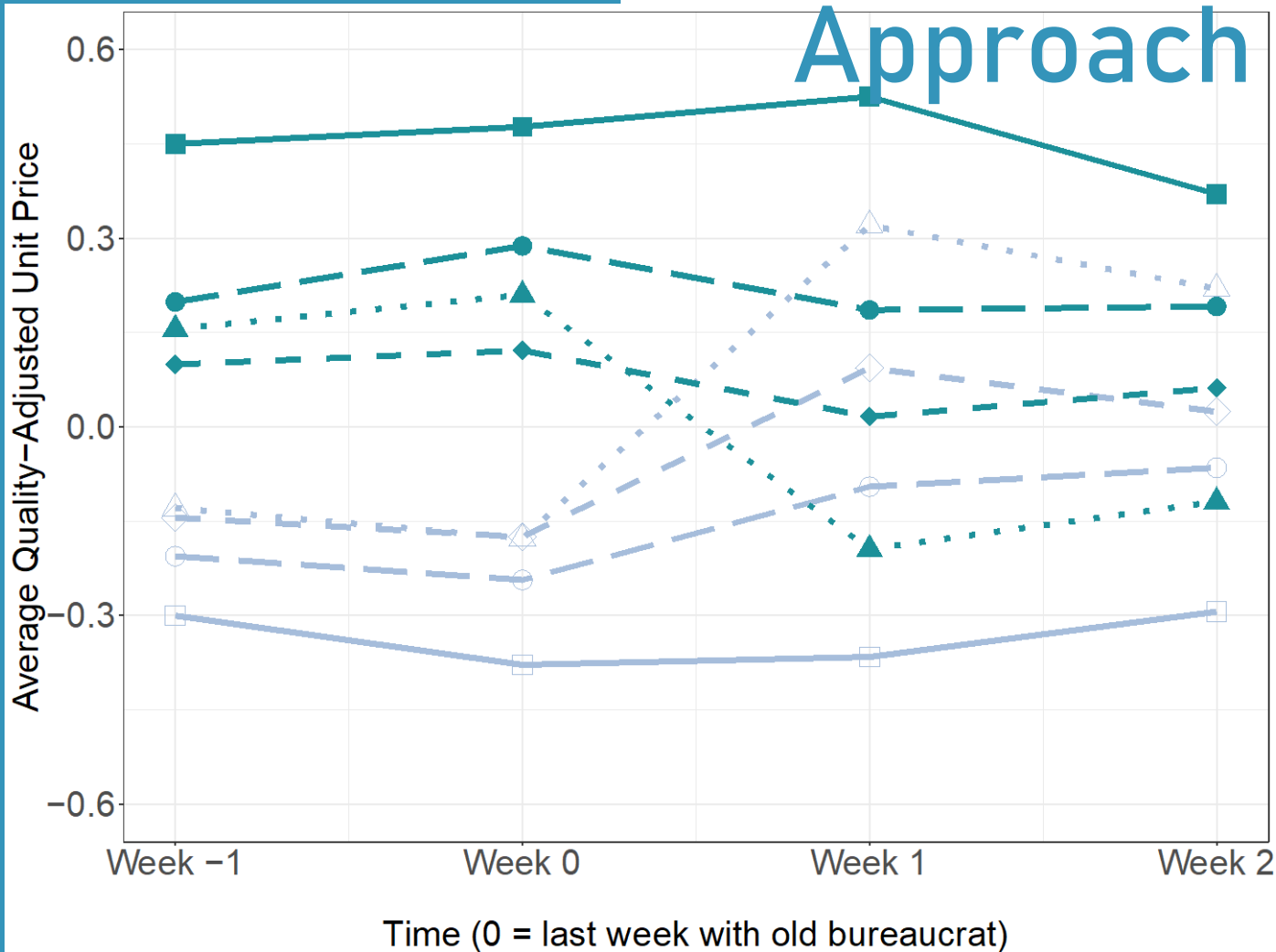 - …if you can measure *exactly* what people are buying

Example 1: Big Data approach

- Best, Hjort & Szakonyi (2019) study Russian procurement. 16 million purchases over 6 years.

- *Text* of procurement contracts contains extremely detailed description of the item that has been purchased.

- Apply tools from natural language processing to train classification algorithm to create homogeneous groups of purchases.

- => within groups, purchases can be compared on their price (with suitable controls) to generate performance measures for 55K bureaucrats and 60K public agencies in Russian bureaucracy
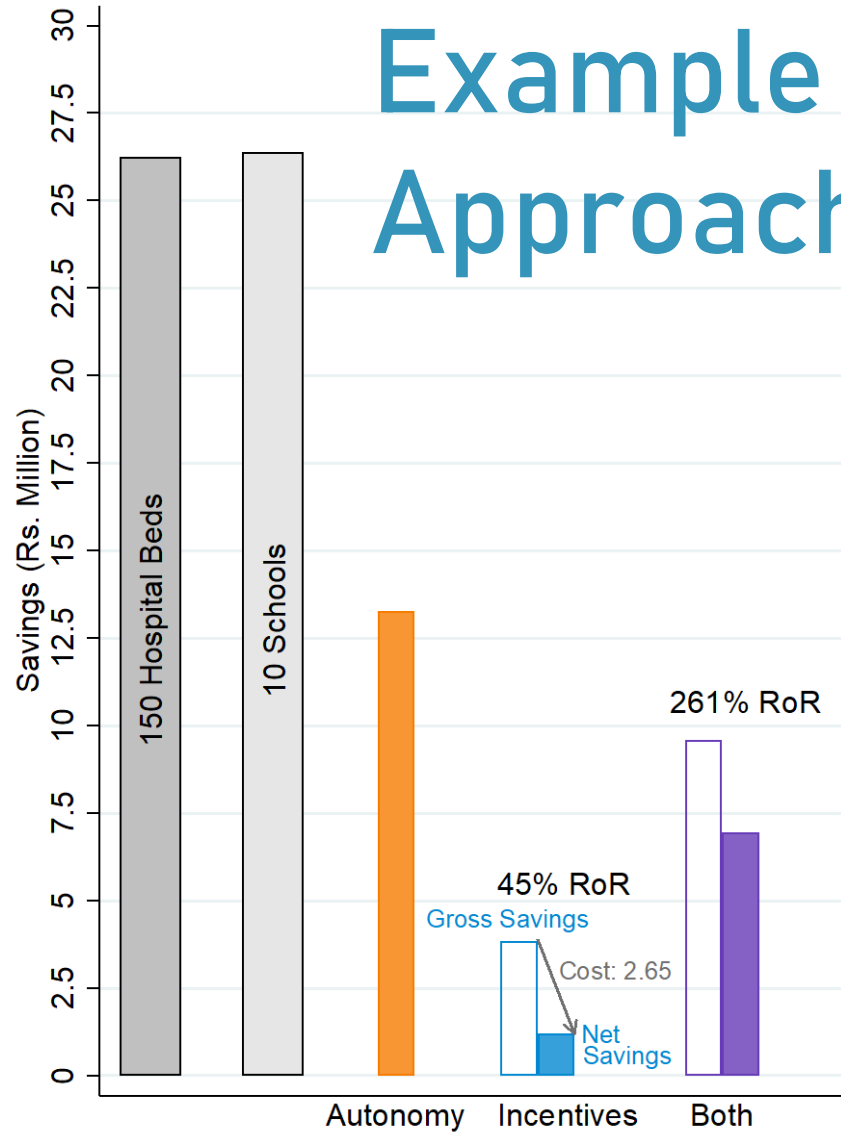
Example 1: Big Data Approach

- What happens when an agency changes the bureaucrat doing their procurement?

- Implies enormous scope for savings from improving performance: Moving bottom–25% performers to 75th %ile –> Total savings of 11% of expenditure

Example 2: Detailed Surveying Approach

- Bandiera, Best, Khan & Prat (2019) take a different approach: Gather detailed data of purchases of very homogeneous, off-the-shelf products.

- Use detailed data on 21,000 purchases to construct measures of item type to use as controls. -> Performance measure

- Conduct experiment with 600 offices in Punjab, Pakistan to test
  - Giving greater autonomy to procurement officers
  - Pay for performance scheme as benchmark

Example 2: Detailed Surveying Approach

- Autonomy treatment reduces prices by 8%

- Effects largest where monitoring agencies least efficient

- Intensive monitoring doesn't help if monitors are less effective than the implementing bureaucrats. instead empower implementing bureaucrats and audit ex post.

Tradeoffs and Future Work

- Big Data approach requires massive data to work. Rely on external data (customs in Russian case) to train algorithms

- Intense surveying is costly, requires monumental effort to clean data without detailed ex ante knowledge of what government buys

- Neither approach:
  - Gap between what end user/citizens want and what offices end up buying
  - Private sector:
    - Direct comparison with private sector performance (Best, Naritomi Szerman 202?)
    - Effect of government's market power (ibid)
  - Government effectiveness and citizen faith in government