Big Data for Public Policy

Introduction

Sergio Galletta

ETHZ Zurich

23/02/2023

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- ▶ This course provides an introduction to **data science** and **applied economics** methods for **public policy** applications

- ▶ **Causal inference methods** from applied economics and **machine learning techniques** are perfect to evaluate and support better policies

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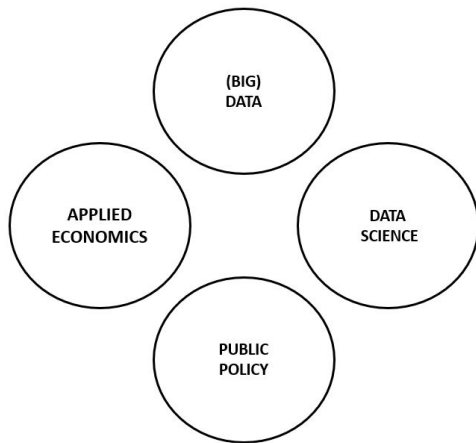
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- ▶ Data Science:

    - ▶ ML/AI optimal methods to make predictions

    - ▶ Perfect for generating risk assessment and tailoring actions

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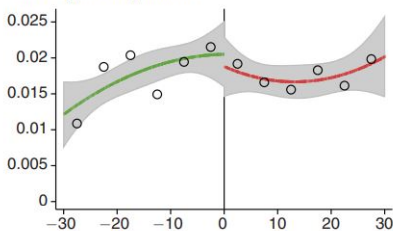
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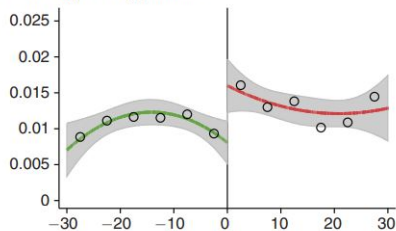- ▶ Perfect setting for a causal estimation (randomness)

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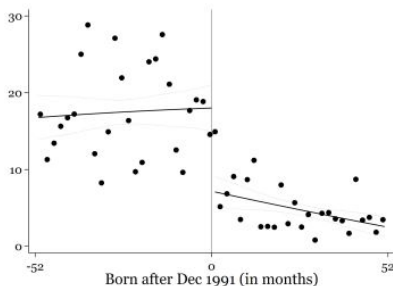
(A) SIDS mortality

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Fig. 1: Comparing Novissi targeting to alternatives.
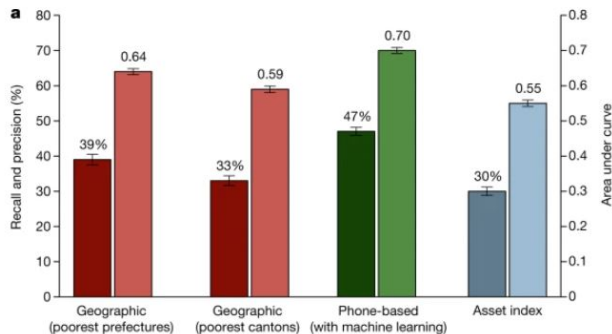
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Table 4: Performance Metrics for Targeted Auditing Policies

Evaluation Sample	Status Quo (Lottery)		Targeted Audits		Fair Targeting
	(1a) All (Sim)	(1b) Audited	(2a) All (Sim)	(2b) Audited	(3) Audited
Corruption Rate, if Audited	0.5123	0.4664	0.9186	0.8563	0.789
↪ Ratio over Random Audits			1.7869	1.836	1.693
Audit Rate, if Corrupt	0.036	0.036	0.0653	0.0671	0.0618

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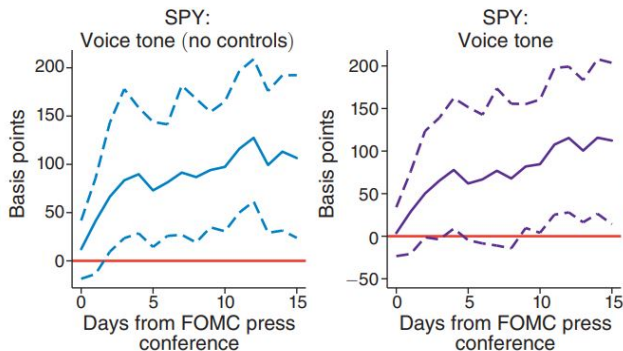
Practical Information

▶ Instructors: Sergio Galletta (sergio.galletta@gess.ethz.ch) & Elliott Ash (ashe@ethz.ch) & Christoph Gössmann (christoph.goessmann@gess.ethz.ch)

▶ Lecture Time: Thursdays 12:15-14:00 (13 lectures)

▶ Location: In person LFW B 1

▶ Office hours: By appointment via email

▶ Most of the important information are in the syllabus and we update the course material on github