

Example 2: Stimulating Local Public Employment: Do General Grants Work?

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Economics 326

March 25, 2014

Example 2:
Stimulating
Local Public
Employment:
Do General
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Introduction

Data

Empirical
specification

References

1 Introduction

2 Data

3 Empirical specification

Plan

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Stimulating
Local Public
Employment:
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Grants Work?

Paul Schrimpf

Introduction

Data

Empirical
specification

References

- Last week and today: how to use the methods we've studied
- Today: another walk-through research project

References

- "Stimulating Local Public Employment: Do General Grants Work?" Lundqvist, Dahlberg, and Mörk (2014)

Example 2:
Stimulating
Local Public
Employment:
Do General
Grants Work?

Paul Schrimpf

Introduction

Data

Empirical
specification

References

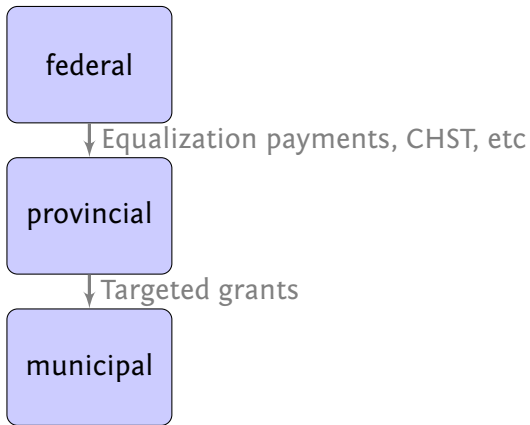
Section 1

Introduction

Introduction

- Fiscal federalism: how to allocate expenditures and revenue among different levels of government
- Intergovernmental grants (usually from central to local governments)
 - Targeted
 - General
- Care about how grants affect employment because:
 - Often used as stimulus to reduce unemployment
 - Quality of public services

Fiscal federalism in Canada



Fiscal federalism in Sweden

Introduction

Data

Empirical
specification

References

- Municipal public employment \approx 20% of work force
- Municipalities very autonomous
 - Taxes, borrowing
 - General grants
- Grants average 15% of municipal revenue
 - Per-capita, income-equalizing, and cost-equalizing
 - Cost-equalizing grants
$$= \begin{cases} 100 \times (\% \Delta \text{pop} + 2) & \text{if } \% \Delta \text{pop} \leq -2 \\ 0 & \text{otherwise} \end{cases} + \text{other stuff}$$

Example 2:
Stimulating
Local Public
Employment:
Do General
Grants Work?

Paul Schrimpf

Introduction

Data

Empirical
specification

References

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Stimulating
Local Public
Employment:
Do General
Grants Work?

Paul Schrimpf

Introduction

Data

Empirical
specification

References

- 279 Swedish municipalities 1996-2004
- Variables:
 - Municipal employment and wages by sector (admin, child care, schools, elderly care, social welfare, tech)
 - Cost-equalization grants
 - Demographics: population, portion young & old, portion foreign
 - Private employment in schools, child care, elderly care, and social welfare

Data

Example 2:
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Local Public
Employment:
Do General
Grants Work?

Paul Schrimpf

Introduction

Data

Empirical
specification

References

Scenario: we have gathered our data. What is the first thing we should do with it?

We should check that it makes sense. Let's look at some tables and figures. What tables and figures should we create?

Example 2:
Stimulating
Local Public
Employment:
Do General
Grants Work?

Paul Schrimpf

Introduction

Data

Empirical
specification

References

Section 3

Empirical specification

Empirical specification

- Want to estimate the effect of grants on employment
- What equation should we estimate

OLS

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Stimulating
Local Public
Employment:
Do General
Grants Work?

Paul Schrimpf

Introduction

Data

Empirical
specification

References

$$\text{emp}_{it} = \beta_0 + \beta_1 g_{it} + \epsilon_{it}$$

- What assumption do we need for OLS to be consistent?
- Suppose OLS is consistent, what is the predicted sign of $\hat{\beta}_1^{\text{OLS}}$?
- Why is OLS likely not consistent? In what direction do you think OLS will be biased?

OLS - interpretation

How can we interpret the OLS estimates? Does the coefficient of interest have the expected sign? Is it small or large?

Example 2:
Stimulating
Local Public
Employment:
Do General
Grants Work?

Paul Schrimpf

Introduction

Data

Empirical
specification

References

OLS - inference

How should we calculate standard errors?

We need an instrument for . What conditions does an instrument need to satisfy? What could be a good instrument?

We need an instrument for . What conditions does an instrument need to satisfy? What could be a good instrument?

We will use rule for allocating grants based on population change to form an instrument

$$\text{grants} = \begin{cases} 100 \times (\% \Delta \text{pop} + 2) & \text{if } \% \Delta \text{pop} \leq -2 \\ 0 & \text{otherwise} \end{cases} + \text{other stuff}$$

Define

$$\text{migration grants} = \begin{cases} 100 \times (\% \Delta \text{pop} + 2) & \text{if } \% \Delta \text{pop} \leq -2 \\ 0 & \text{otherwise} \end{cases}$$

Migration grants are a valid instrument if:

- 1 Relevant: migration grants correlated with cost-equalizing grants
- 2 Exogenous: migration grants uncorrelated with unobservables affecting municipal employment

Do these assumptions seem plausible? Can we check them?

Exogeneity

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Local Public
Employment:
Do General
Grants Work?

Paul Schrimpf

Introduction

Data

Empirical
specification

References

- Problem: migration grants = $f(\% \text{ population change})$, likely that municipal employment is also related to population (and its change)
- Solution: (Regression Kinked Design)
 - Migration grants are a non-differentiable function of % population change (there is a kink at -2)
 - Assume that municipal employment is a smooth function of population
 - Any kink in the relationship between employment and % population change at -2 must be due to the kinked relationship between grants and % population change

2SLS - specification

How should we specify the 2SLS estimator? What is the dependent variable(s)? What is the endogenous regressor of interest? What is the instrument? What controls should we include?

What is the first stage? What is the reduced form? What should we check in these regressions?

Code and data

- Code for main results
- Code for calculating heteroskedasticity robust clustered standard errors

References

- Lundqvist, Heléne, Matz Dahlberg, and Eva Mörk. 2014. "Stimulating Local Public Employment: Do General Grants Work?" *American Economic Journal: Economic Policy* 6 (1):167--92. URL <http://www.aeaweb.org/articles.php?doi=10.1257/pol.6.1.167>.