

Ec104: A Toolbox

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Overview

- Throughout the lectures, I provided slides with the title “A note on tools: ... ”
- Four of the most important tools I discussed were multiple regression, instrumental variables, fixed effects, and regression discontinuity.
- The essay assignments and practice exam questions have taught you to trace themes across several lectures and readings.
- In this part of the review, we'll trace types of evidence (*and now you know what evidence looks like*) across several lectures and readings.

Multiple Regression

- Outcome (Y)
 - Example: Temin (2002) in Topic 8, Lecture 1
 - The Decadal Growth Rate.
- Independent Variables (X)
 - Initial income, per capita GDP in 1948 relative to 1938, initial proportion of the labour force in agriculture
- Lesson
 - Countries with a greater share of the labor force in agriculture at the end of WW2 experienced faster economic growth until 1965

Instrumental Variables

- Outcome (Y)
 - Example: Alesina et al. (2013) in Topic 10, Lecture 2
 - Female labor force participation
- Endogenous Variable (X)
 - Historic plough use
- Instrument (Z)
 - Geo-climatic conditions for plough-positive versus plough-negative crops
- Lesson
 - Historic plough use limits FLFP today

Fixed Effects

- Outcome (Y)
 - Example: Collins and Wanamaker (2014) in Topic 7, Lecture 3.
 - Income
- Independent Variable (X)
 - Migration out of the South
- Fixed Effect (θ)
 - Pairs of brothers
- Lesson
 - Migration raised income by almost 100%

Regression Discontinuity

- Outcome (Y)
 - Example: Dell (2015) in Topic 10, Lecture 3.
 - Drug-related homicide
- Running Variable That Defines Distance From Cutoff (X)
 - The difference in vote shares between a PAN mayoral candidate and the next candidate
- Treatment That Changes At The Cutoff (T)
 - Whether a PAN mayor wins
- Lesson
 - Election of a PAN mayor raises homicides by 23-33 per 100,000

Review

- What are some additional examples of multiple regression you have seen?
 - Tell me the outcome, independent variables, and lessons.
- What are some additional examples of instrumental variables you have seen?
 - Tell me the outcome, endogenous variable, instrument, and lessons.
- What are some additional examples of fixed effects you have seen?
 - Tell me the outcome, independent variable, fixed effect, and lessons.
- What are some additional examples of regression discontinuity you have seen?
 - Tell me the outcome, running variable, treatment, and lessons.