

Exploiting equality constraints in causal inference

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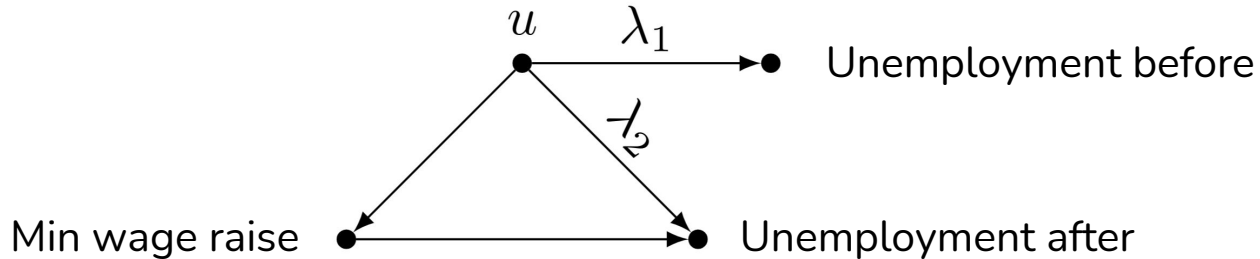




Diff-in-diff (Card and Krueger, 1993)

Goal: identify the **causal effect** of raise of minimum wage on unemployment

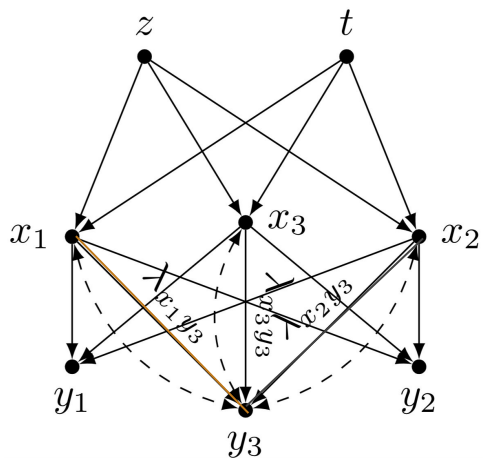
Equality constraint: $\lambda_1 = \lambda_2$





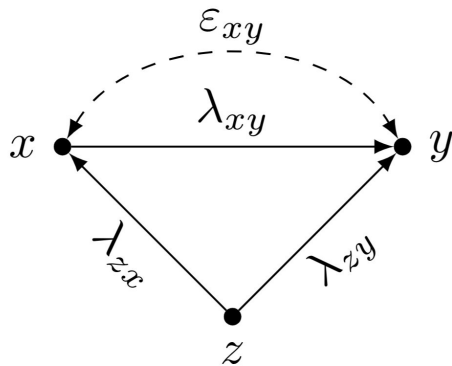
Other applications

Interference



Equality constraint: $\lambda_{x_1 y_3} = \lambda_{x_2 y_3}$

Benchmarking in sensitivity analysis



Equality constraint: $k \lambda_{zx} \lambda_{zy} = \epsilon_{zy}$



A General Graphical Approach

