Applied Data Analytics

Data analysis — Interpretation challenges

Graphs & Causality

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Graphs & Causality

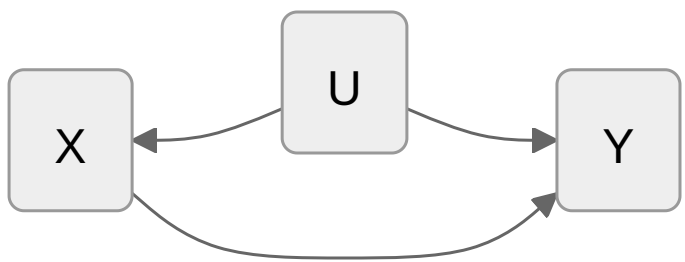
- Graphs encode sense of direction
- Data description alone **never** does

Inferring causality

- Necessary condition: We have a DAG

  Implies that framework is not immediately constructive for supply and demand

- No forks on any path from cause to effect ("no confounders")



Inferring causality

- Necessary condition: We have a DAG

  Implies that framework is not immediately constructive for supply and demand

- No forks on any path from cause to effect ("no confounders")

  Could in principle solve via including all confounders in a multiple regression

$$Y_i = \beta_0 + \beta_1 X_{1,i} + \beta_2 X_{2_i} + \ldots + \beta_k X_{k_i} + U_i$$

  but the world is too complex for that.