

# The Rate of Return to Schooling: The Mincer Equation and Beyond

## Extract

James J. Heckman  
University of Chicago

Econ 350, Winter 2023

## What is “The” Rate of Return to Schooling?

- **Previous estimates traditional: based on a single cross-section**
- **Challenges faced in estimating rates of return**
  - a Lifetime earnings profiles required
  - b Observed earnings profiles subject to selection bias
  - c Identifying and quantifying nonmarket benefits and nonpecuniary costs is a difficult task
  - d Identifying agent expectations about future returns (what are their information sets?)
  - e Cohort effects (school quality; labor market entry effects)
- **Challenges in understanding schooling decisions made**
  - a What is model of schooling choices: Family? Individual?
  - b What is in agent information set?
  - c What constraints does agent confront?
  - d Role of parental transfers and altruism/paternalism

## What is Proper Measure of Causal Rate of Return? Use a Slightly Less Cumbersome Notation:

$$\ln \underbrace{Y(S_i, X_i)}_{\text{earnings}} = \gamma_i + \rho_i \underbrace{S_i}_{\text{years of schooling}} + \phi(\underbrace{X_i}_{\text{work experience}}) \quad (1)$$

- Becker and Chiswick (1966); Mincer (1974)
- $\gamma_i$ : “ability to earn” – source of “ability bias”
- $\rho_i$ : “rate of return”

- Causal relationships generated by hypothetical variations of each of  $\gamma_i$ ,  $\rho_i$  and  $\phi(\mathbf{X}_i)$ .
- Correlation between  $\gamma_i$  and  $S_i$  is the source of “ability bias” (e.g., Griliches, 1977).
- Strictly speaking,  $\gamma_i$  may or may not be related to ability.
- $\rho_i$ : “return to a unit of schooling” for person  $i$ .