Ability bias in the returns to schooling:
How large it is and why it matters

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Outline

Mincer Equation

Wage $\sim$ Schooling $+$ Experience $+$ Experience^2

- Human Capital Theory   (Becker, 1962)
- Mincer equation   (Mincer, 1974)
- g factor   (Ree et al., 1994)
- Ability bias   (Griliches, 1977)

Mincer Equation Enhanced

What about ability?

What do we already know?

| Study name	AB	AB*	PB	PB*	Method
Psacharopoulos (1994)	.	.	.	.	.
Fleisher et al. (2005)	.	.	.	.	✓
Churchill & Mishra (2018)	.	.	✓	✓	✓
Psacharopoulos & Patrinos (2018)	.	.	.	.	.
Patrinos & Psacharopoulos (2020)	.	.	.	.	.
Cui & Martins (2021)	.	.	✓	✓	✓
Iwasaki & Ma (2021)	.	.	✓	.	✓
Ma & Iwasaki (2021)	.	.	✓	✓	✓
Wincenciak et al. (2022)	✓	✓	.	.	✓
Horie & Iwasaki (2023)	.	.	✓	.	.
Number of studies:	1	1	5	3	6
Percentage of studies:	10%	10%	50%	30%	60%

Data Collection

- Google Scholar search
- 574 records identified through query
- 200 of them screened and evaluated for eligibility
- 74 fulfilled selection criteria
- 41 more studies added through snowballing
- 115 final studies yielded a total of 1754 estimates

Schooling in Years vs. Levels

$$S_i = (1 + \beta_{i,higher} - \beta_{i,lower})^{\frac{1}{Y_{i,higher} - Y_{i,lower}}} - 1$$

Graphical Test Using a Funnel Plot
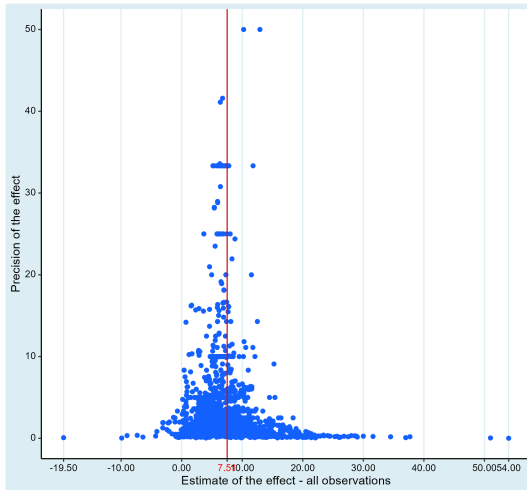
Statistical Tests and Publication Bias

	OLS	FE	BE	RE	Study	Precision
Publication bias *(Standard error)*	0.832 (0.097)	0.746 (0.060)	0.752 (0.244)	0.747 (0.058)	1.169 (0.121)	0.262 (0.425)
Effect beyond bias *(Constant)*	6.408 (0.118)	6.517 (0.107)	6.741 (0.418)	6.708 (0.294)	6.294 (0.153)	6.540 (0.168)
	WAAP	**Top10**	**Stem**	**Hier**	**AK**	**Kink**
Publication bias				0.503 (0.168)	P = 2.764 (0.107)	0.262 (0.39)
Effect beyond bias	6.9 (0.092)	6.439 (0.548)	7.2 (1.186)	6.801 (0.266)	6.548 (0.091)	6.54 (0.054)
Observations	1,754	1,754	1,754	1,754	1,754	1,754

Individual Variables in Returns to Education

Six categories of variables:

- Estimates and their descriptive statistics
- Estimate characteristics
- Data characteristics
- Spatial/structural variation
- Estimation method
- Publication characteristics

Different Approach to Ability

Four ways to address ability:

- Directly
- Indirectly
- Verbally
- Not at all

Model Inclusion in Bayesian Model Averaging