Conditional Cash Transfers and School Attendance: A Meta-Analytical Approach

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Motivation

Education is important in developing process

- Human capital accumulation Duflo (2004)
- Avoiding poverty transmission across generations Tilak (2002).
- Technological progress and economic growth Barro (2001) and Krueger and Lindahl (2001)

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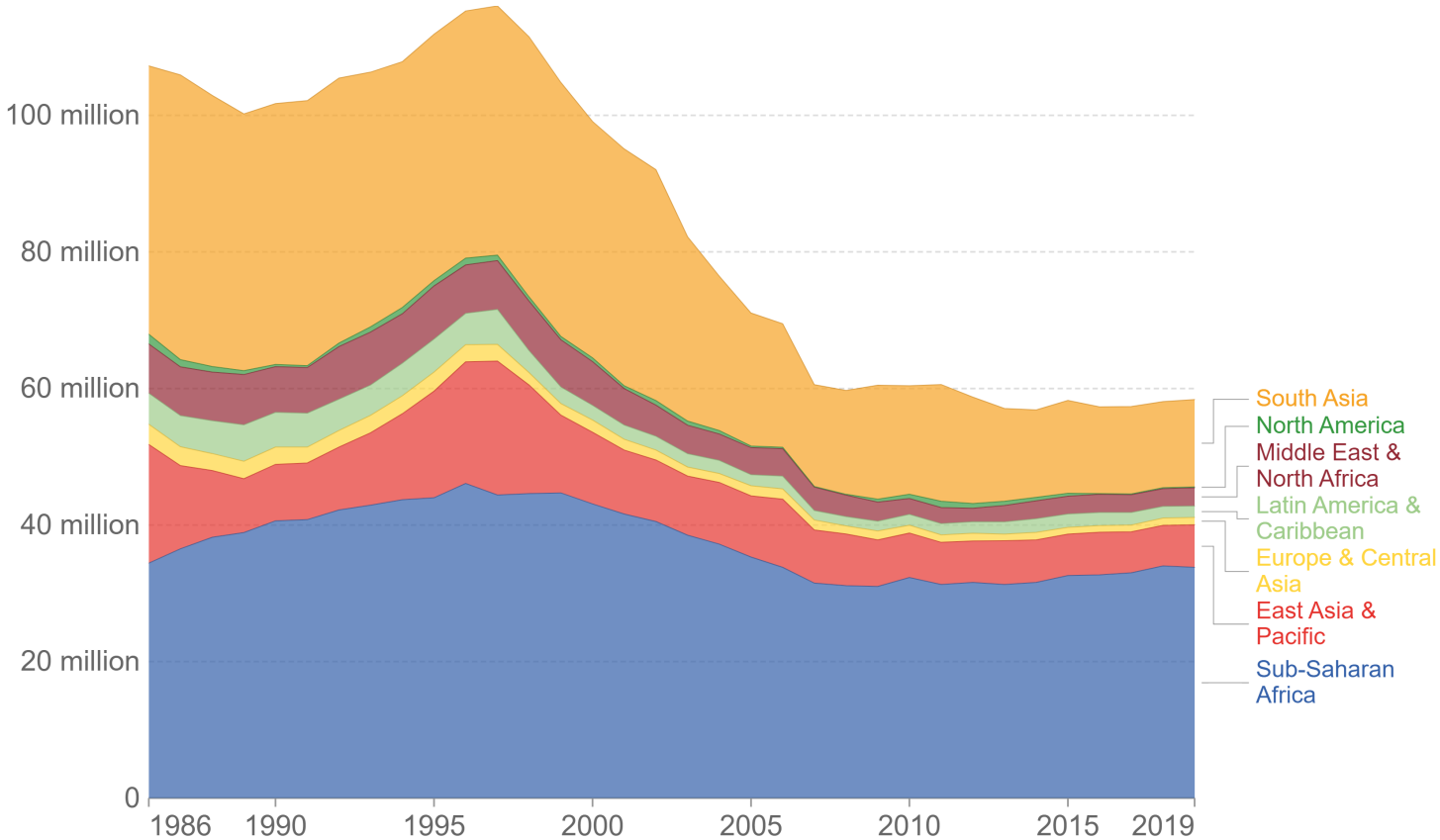
However, the school attendance is still low in developing countries.

Out-of-school children of primary school age by world region, 1986 to 2019

Children in the official primary school age range who are not enrolled in either primary or secondary schools.

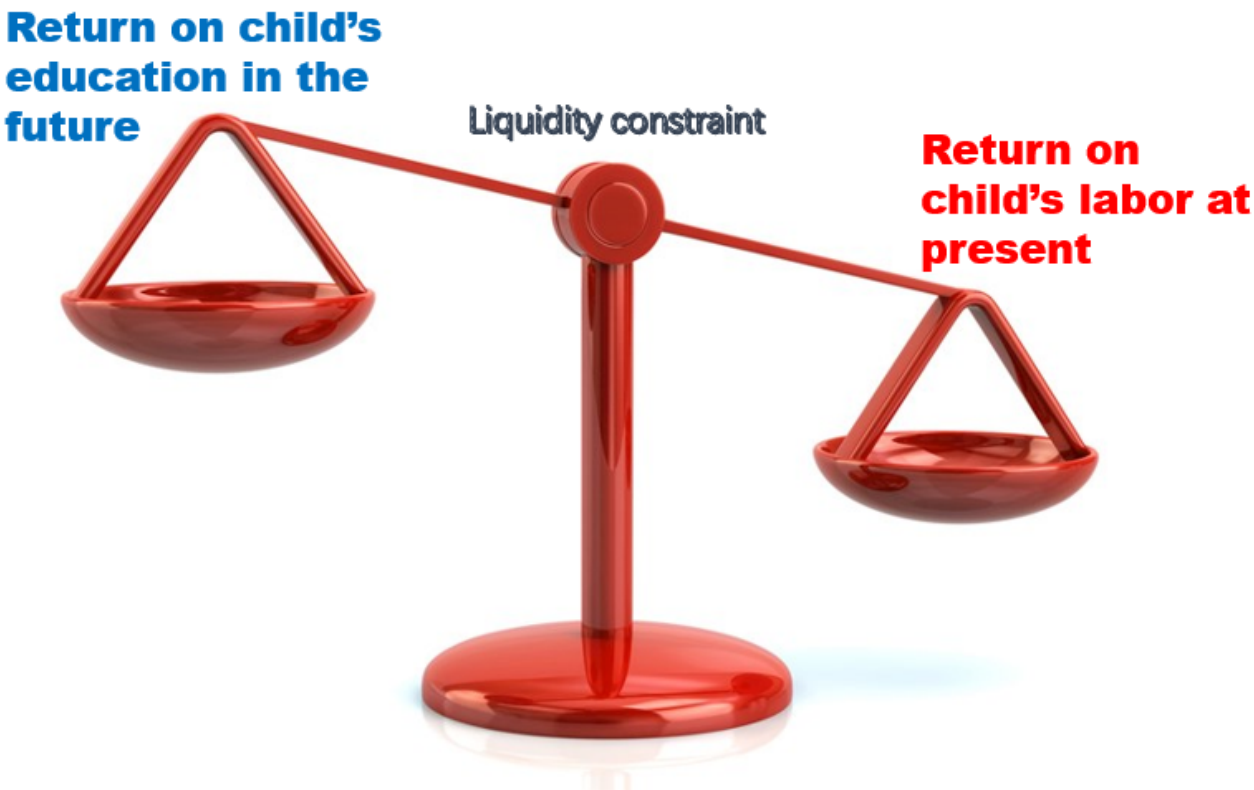


Source: UNESCO (via World Bank)

OurWorldInData.org/primary-and-secondary-education • CC BY

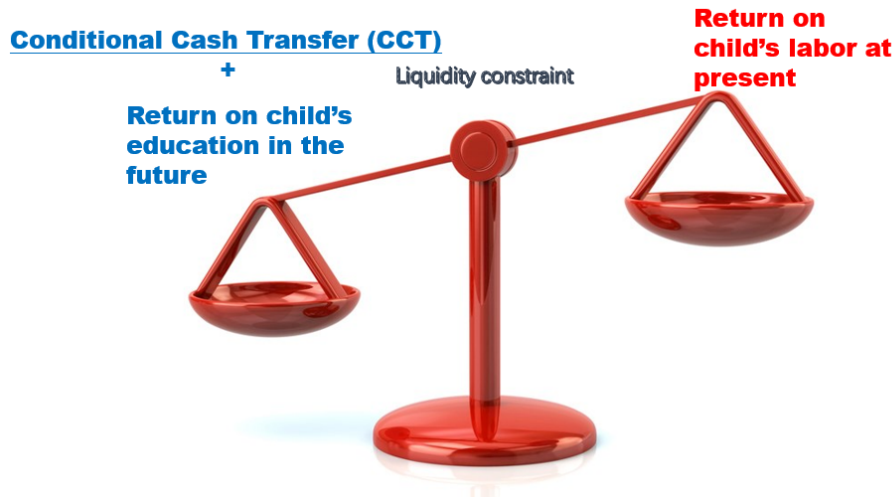
Why?

- Liquidity constraint + Perceived low returns on education by the parents Baland and Robinson (2000) and Kremer and Holla (2009)



Solution: Conditional Cash Transfer (CCT)

- Conditional Cash Transfer (CCT): transfer money to households conditional on making investment in their children's human capital.



- The most popular social welfare program in the developing world: over 63 countries have at least one CCT program World Bank (2018).

Literature Review

Overview:

- Most studies suggest a positive relationship between CCTs and school attendance.
- Some other studies reveal an insignificant impact of CCTs on school attendance.

Why there are two different conclusions from these studies:

- Family background
- Innate ability
- Willingness to study
- Geographical characteristics

Data

Search Strategy

- Search platforms:
  - Google Scholar
  - Web of Science
  - Citations and references
- Keywords:
  - *Conditional Cash Transfers AND School Attendance*
  - *Conditional Cash Transfers AND Education*
  - *Conditional Cash Transfers AND Schooling*
  - *Conditional Cash Transfers AND Attendance*

Data

Eligibility Criteria

- **Variables of interest**: CCTs and school attendance
- **Language**: the paper must be written in English
- **Year of publication**: the paper should be published after 2000
- **Treated subjects**: the estimated effects should cover at least part of the age range between 11 and 16 years old as affected group
- **Measure of effect**: the reported effect should be measured as percentage changes
- **Standard error**: SE of the estimate should be obtainable
- **Independence**: all the studies should be independent of each other.

Data

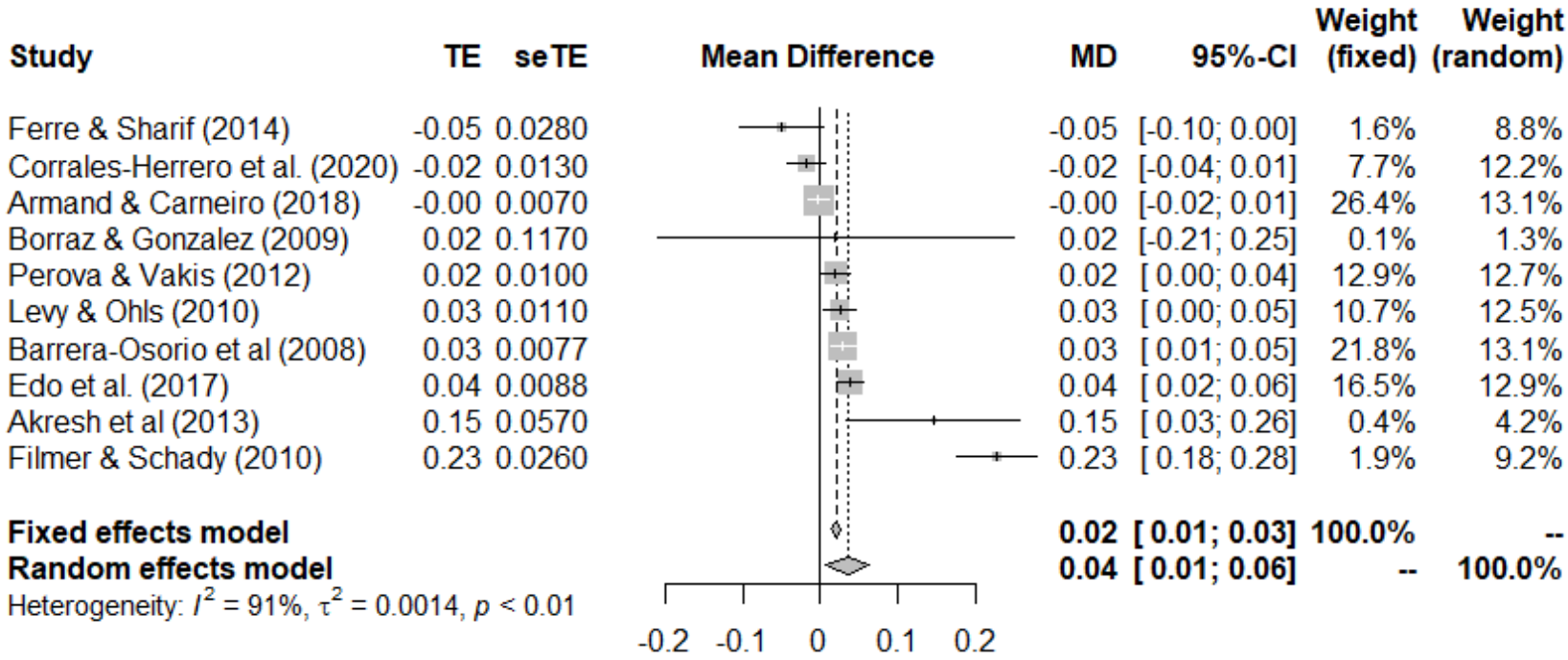
Selected Studies

Effect	Study
Positive	Akresh et al (2013) Barrera-Osorio et al (2008) Edo et al. (2017) Filmer & Schady (2010) Levy & Ohls (2010) Perova & Vakis (2012)
Insignificant	Armand & Carneiro (2018) Borraz & Gonzalez (2009) Corrales-Herrero et al. (2020) Ferre & Sharif (2014)

- Aggregate effect across different genders
- Aggregate effect across different age groups
- Aggregate effect across different regions

Results

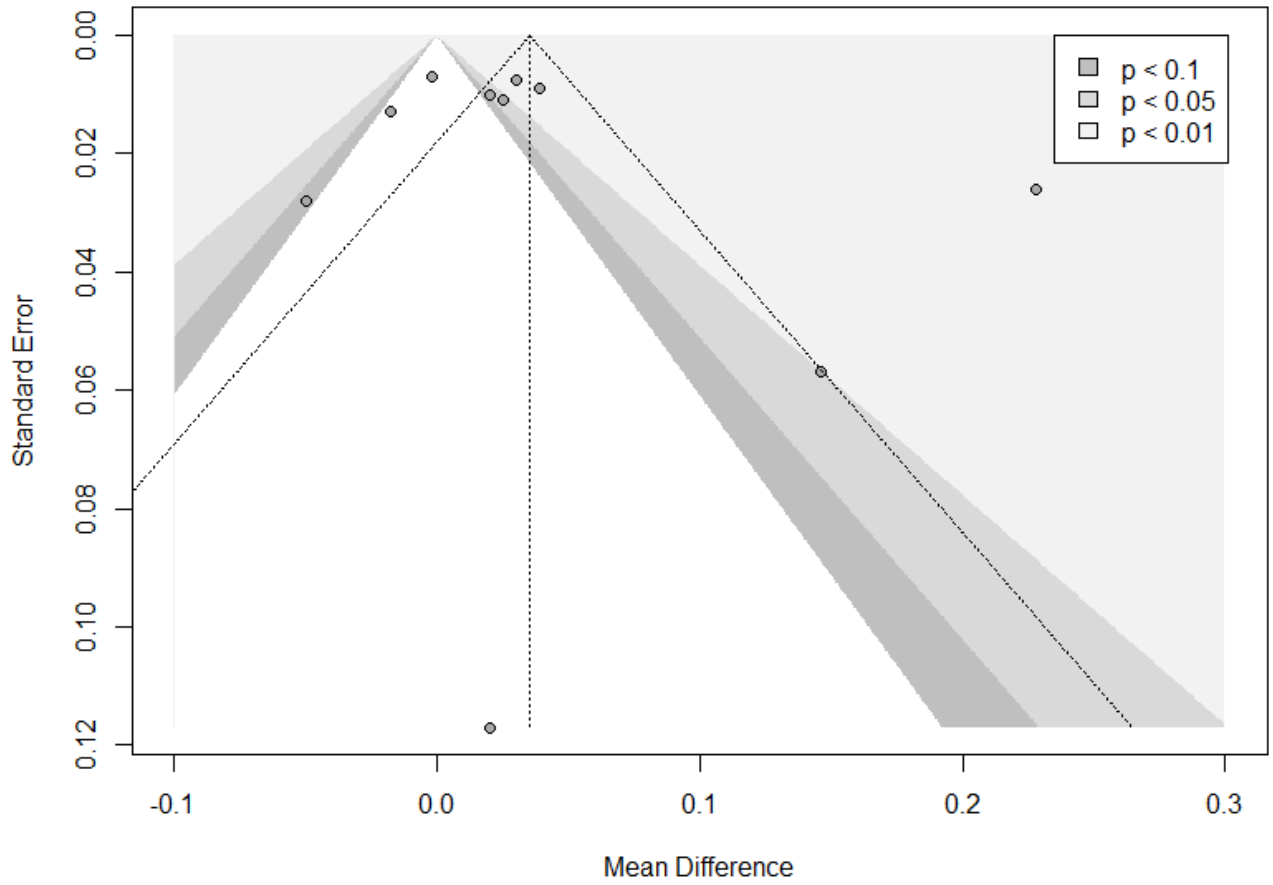
Forest Plot



- Significantly positive estimates
- High heterogeneity: Different implementations of CCTs, country dependant effects, time factors

Publication Bias

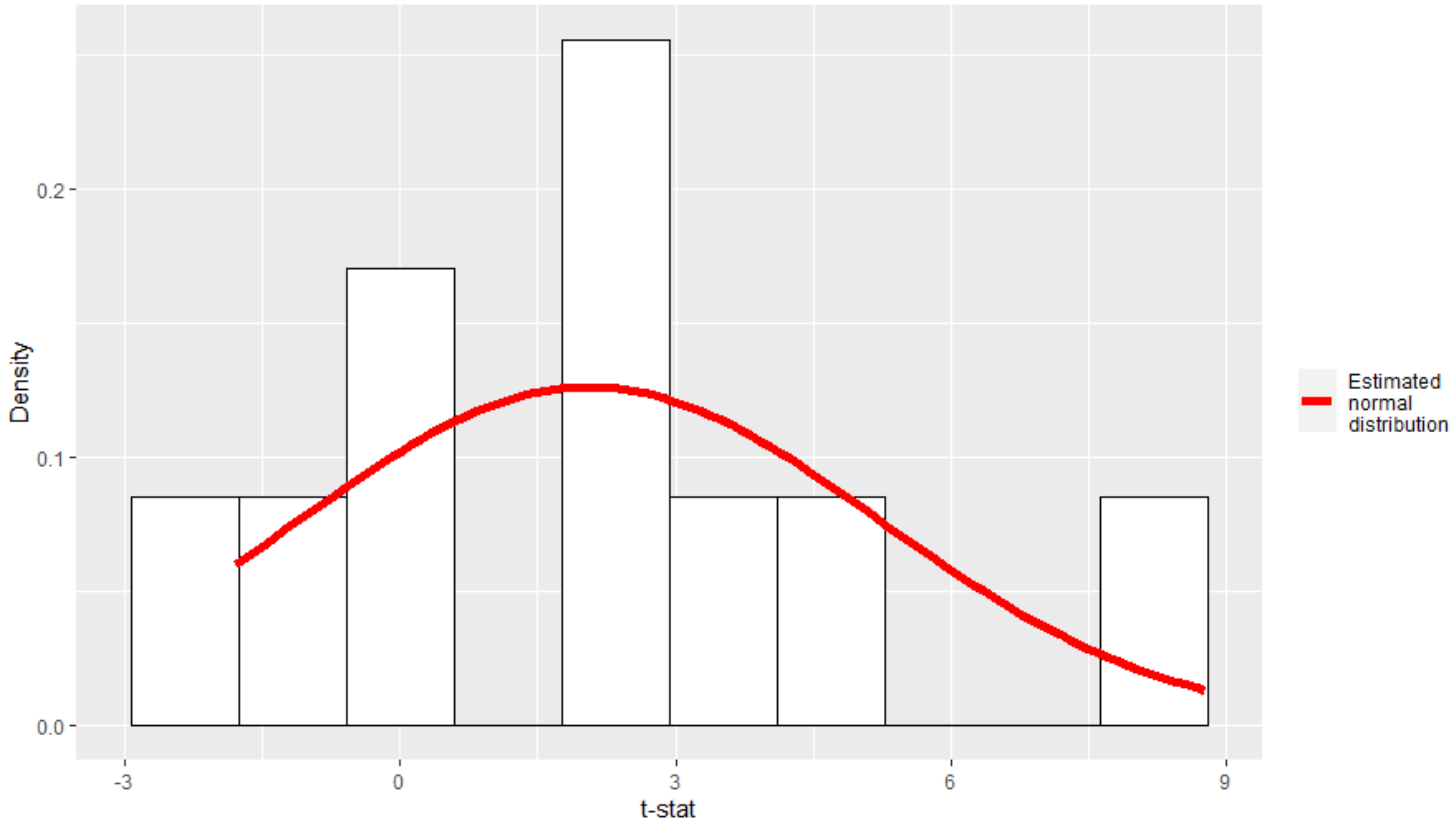
Funnel plot



- The results appear to be randomly distributed around the random-effects estimator

Publication Bias

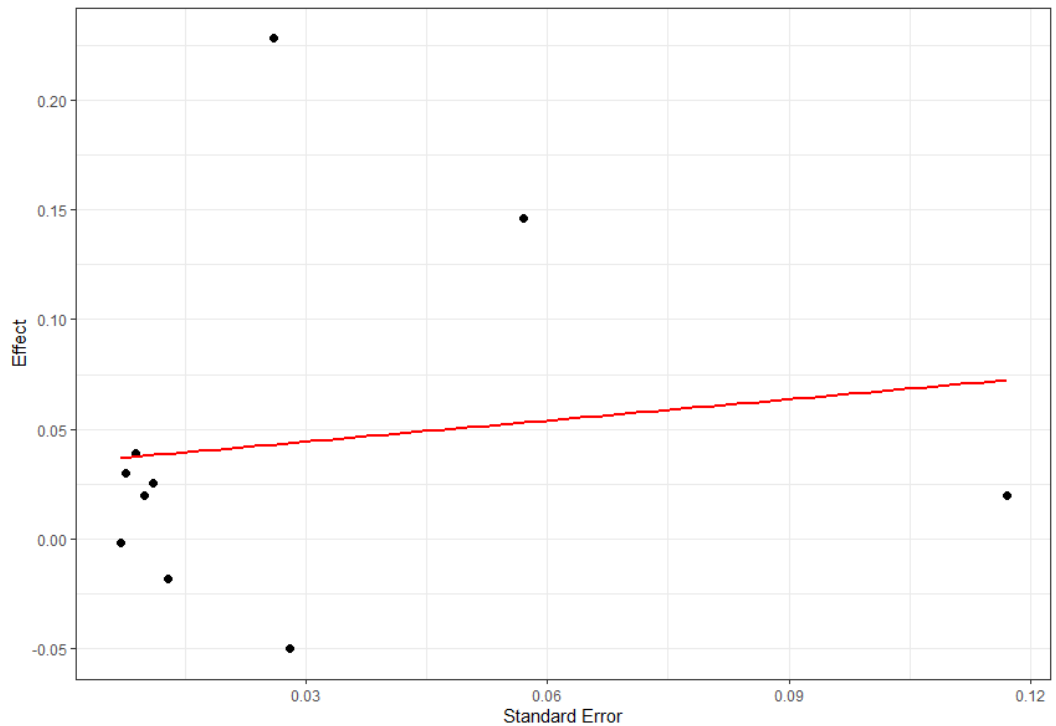
t-statistic



- Mean ≈ 2; SD ≈ 3
- Interesting peak, but large standard deviation

Publication Bias

Reported Effects and Standard Errors



- No evident correlation
- Insignificant estimate of the slope coefficient in a linear regression

Heterogeneity (& Publication Bias)

Meta-Regression Model

$$ReportedEffect_i = \beta_0 + \beta_1 SouthAmerica_i + \beta_2 after2012_i + \beta_3 SE_i + \varepsilon_i$$

- $ReportedEffect_i$ is the a study's reported effect
- β_0 is the estimated underlying effect
- $SouthAmerica_i$ is a dummy for studies in South America
- $after2012_i$ is a dummy for studies published after 2012
- SE_i is the standard error of the reported effect

Heterogeneity (& Publication Bias)

Regression Results

	Dependent variable:						
	Effect						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
SouthAmerica	0.047		0.035		0.045		0.033
	(0.053)		(0.070)		(0.057)		(0.075)
after2012		−0.042	−0.021			−0.039	−0.020
		(0.053)	(0.070)			(0.057)	(0.075)
SE				0.322	0.211	0.218	0.187
				(0.830)	(0.862)	(0.873)	(0.931)
RealEffect	0.020	0.065	0.037	0.035	0.015	0.057	0.031
	(0.037)	(0.038)	(0.068)	(0.036)	(0.044)	(0.050)	(0.079)
Observations	10	10	10	10	10	10	10
Note:							*p<0.1; **p<0.05; ***p<0.01

Conclusion

- Estimated positive significant effect (4 percentage points increase due to CCTs in the random-effects model)
- No strong evidence for publication bias
- Results to be taken with a grain of salt:
  - Small sample size
  - Heterogeneity remains unaddressed

Thank you for your attention!

Any questions?