# SCED Special Issue - Analysis with $rho_M = 0.3$ , $rho_Y = 0.3$ , prop\_indir\_dir = 1

#### Benedikt Langenberg

#### 05/01/2021

#### Contents

T	Conditions	1
2	Dependent variable	2
3	Violin plot	3
4	Bias: Mean deviation from true value	4
5	Bias: Median deviation from true value	5
6	Root mean squared error	6
7	Median absolute error	7
8	Coverage probability	8
9	Power	9
10	Standard error bias: Deviation of mean estimated standard error from empirical standard error (standard deviation of point estimates)	9
11	Standard error bias: Deviation of median estimated standard error from empirical standard error (MAD of point estimates) $$	10
12	Median based results	12
13	Mean based results	13

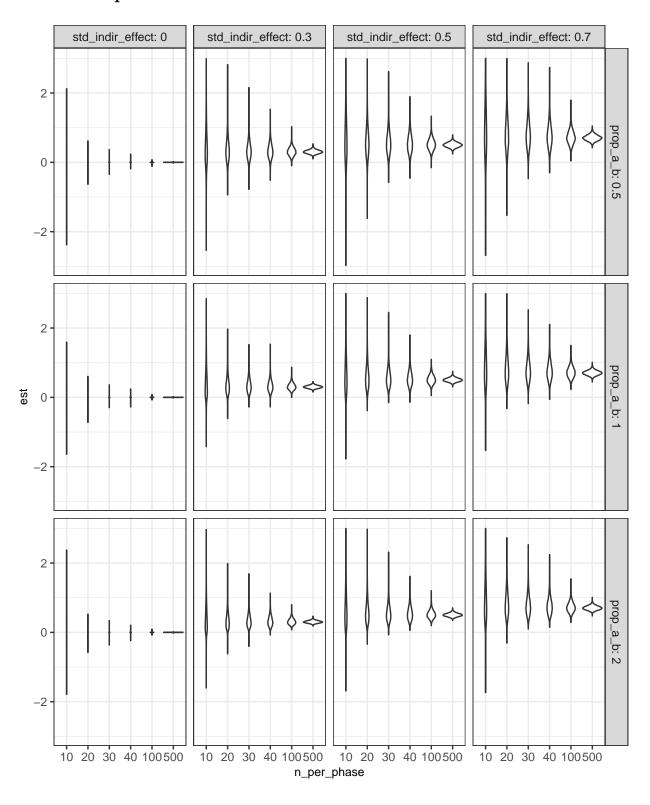
#### 1 Conditions

- measurements per phase: 10, 20, 30, 40, 100, 500 • standardized indirect effect  $(ab/\sigma_Y)$ : 0, 0.3, 0.5, 0.7 • proportion of indirect and direct effect: (ab/c'): 0.2, 0.5, 0.8 • proportian of a and b (a/b): 1
- proportian of a and b (a/b): 1
  autocorrelation of Y (ρ<sub>Y</sub>): 0.3
- autocorrelation of  $M(\rho_M)$ : 0.3

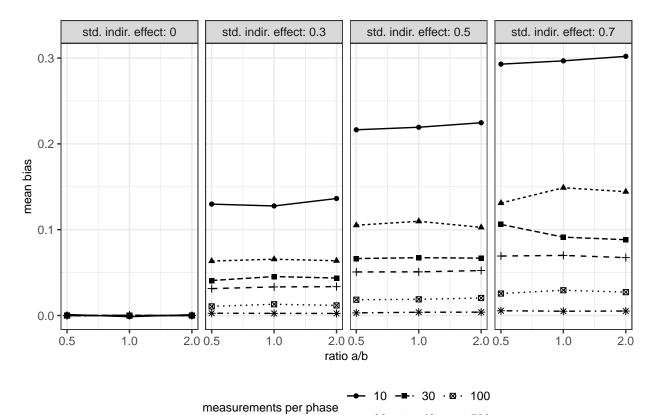
# 2 Dependent variable

- Standardized Indirect Effect:  $ab/\sigma_Y$ 

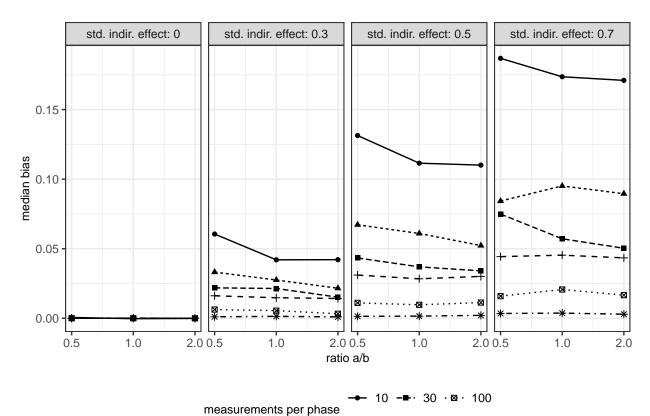
# 3 Violin plot



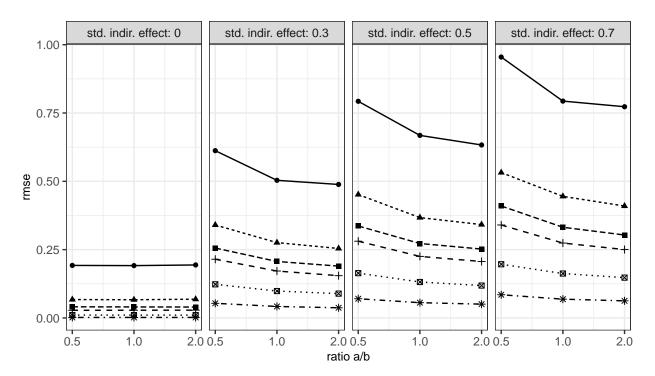
## 4 Bias: Mean deviation from true value



## 5 Bias: Median deviation from true value

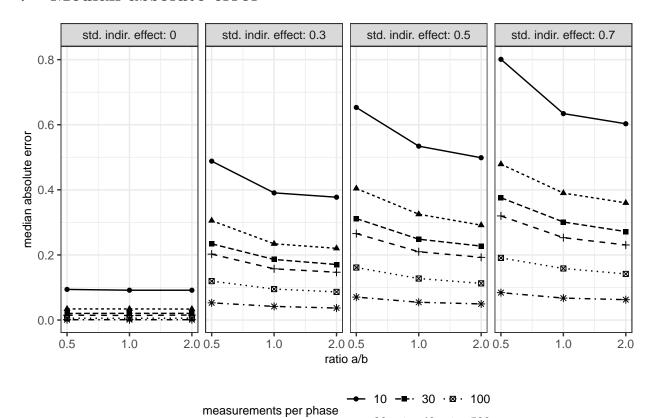


# 6 Root mean squared error

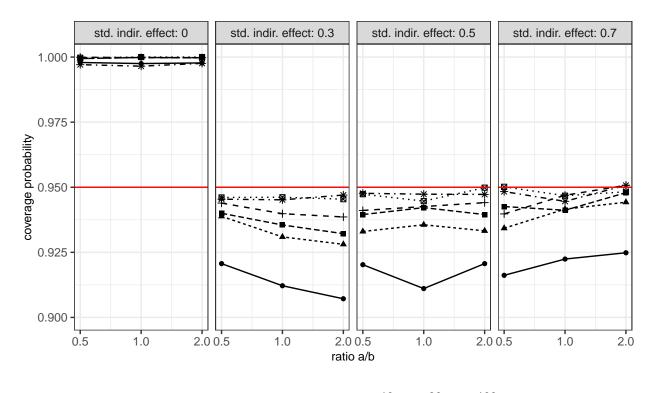


— 10 -■ · 30 · ⊠ · 100 measurements per phase

## 7 Median absolute error

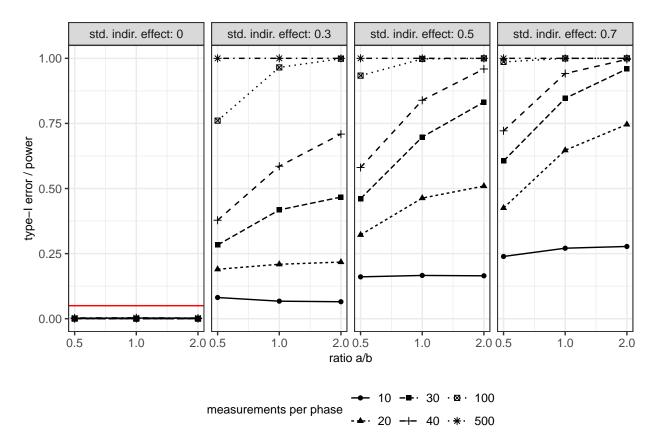


# 8 Coverage probability



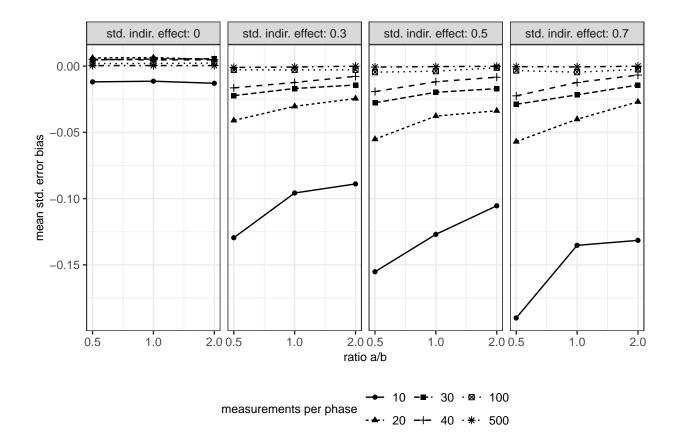
measurements per phase

#### 9 Power



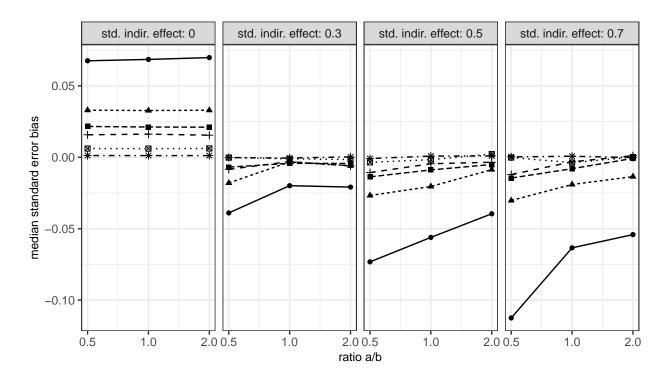
# 10 Standard error bias: Deviation of mean estimated standard error from empirical standard error (standard deviation of point estimates)

Note: Positive value indicates that the estimated standard error is graeter than the true standard error (which is estimated through the standard deviation of the point estimates).



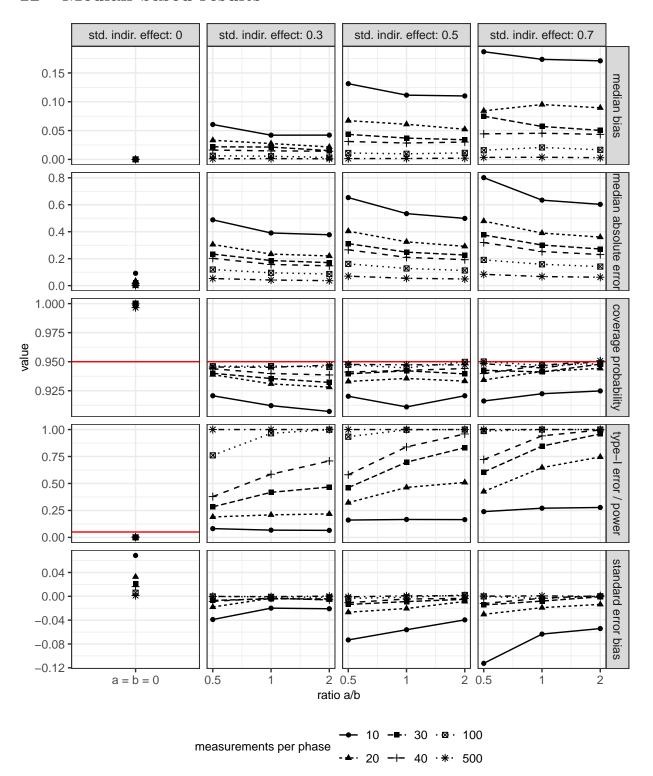
# 11 Standard error bias: Deviation of median estimated standard error from empirical standard error (MAD of point estimates)

Note: Positive value indicates that the estimated standard error is graeter than the true standard error (which is estimated through the MAD of the point estimates).



— 10 — 30 · □ · 100 measurements per phase — 20 — 40 · ★ · 500

#### 12 Median based results



#### 13 Mean based results

