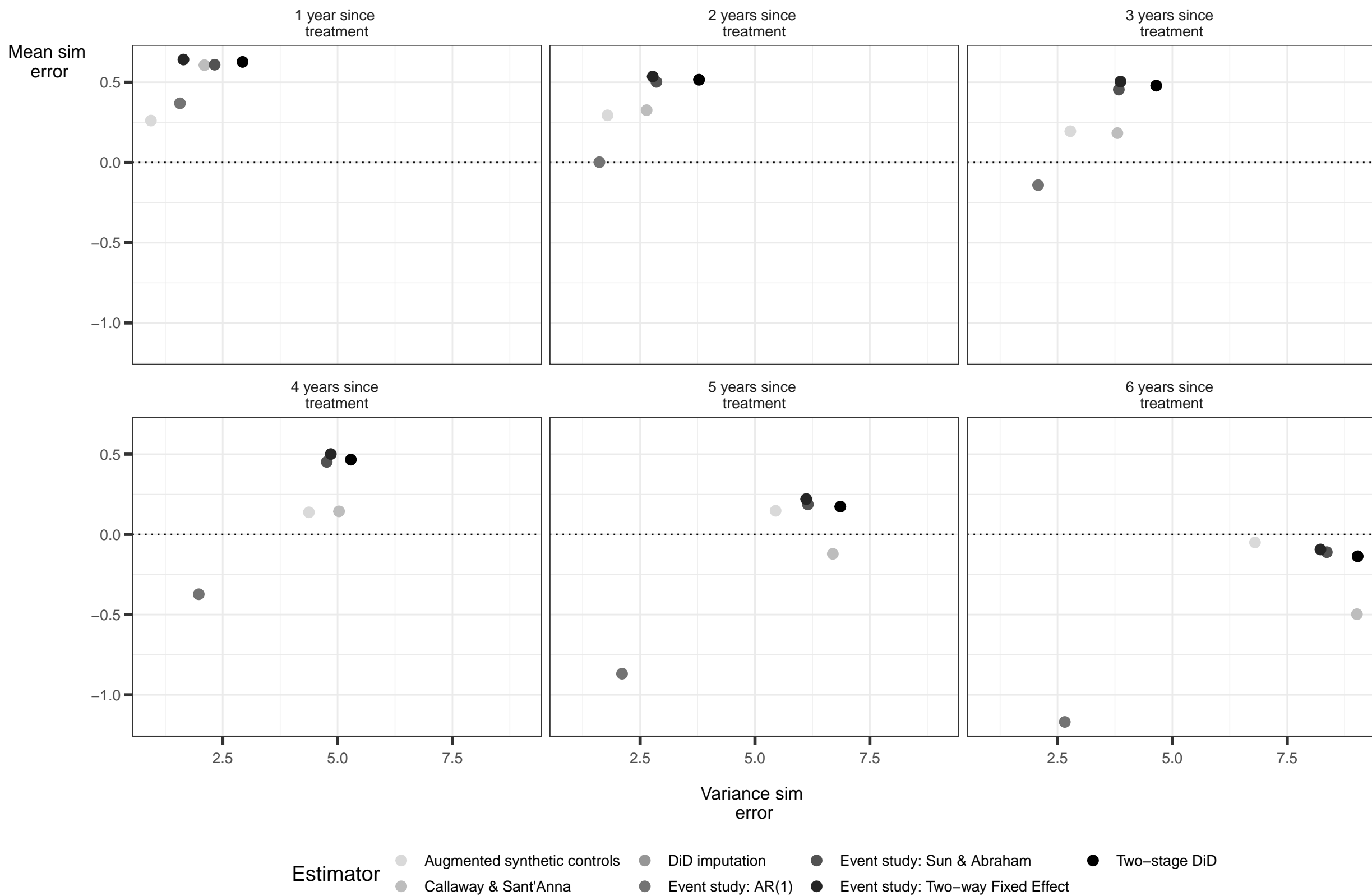
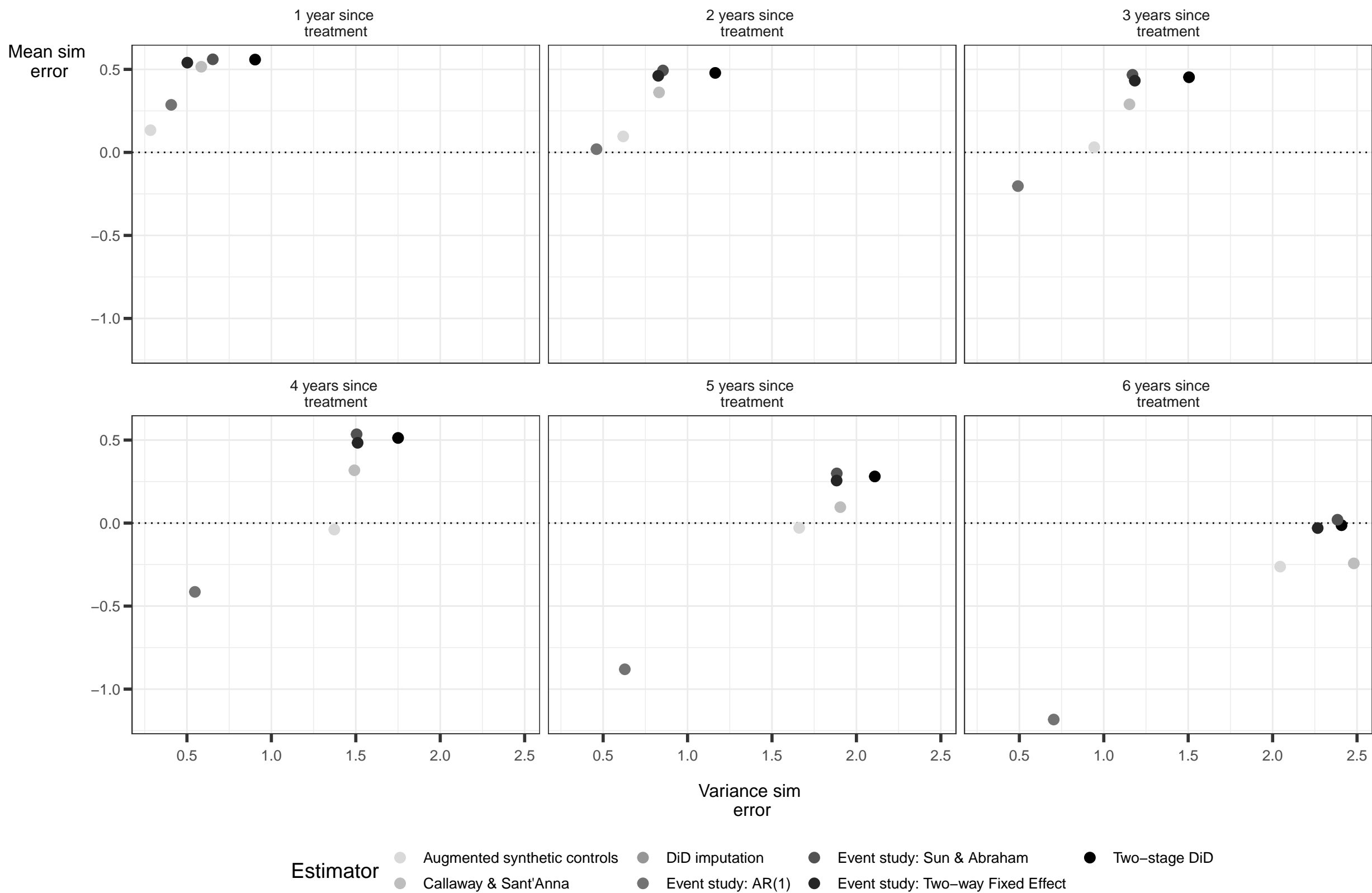


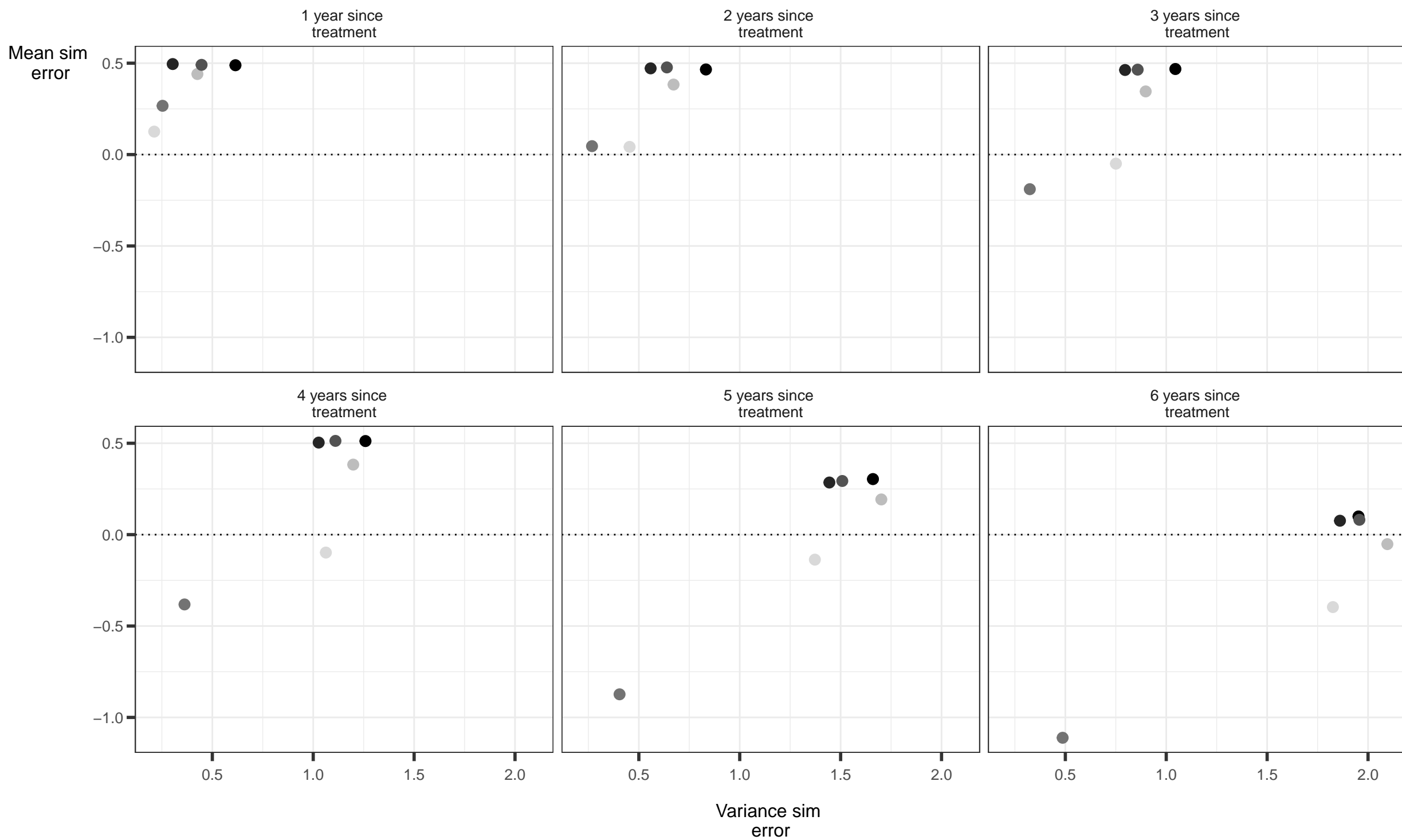
# Mean sim error v. mean sim variance: 5 treated units and linear increasing effects



# Mean sim error v. mean sim variance: 20 treated units and linear increasing effects



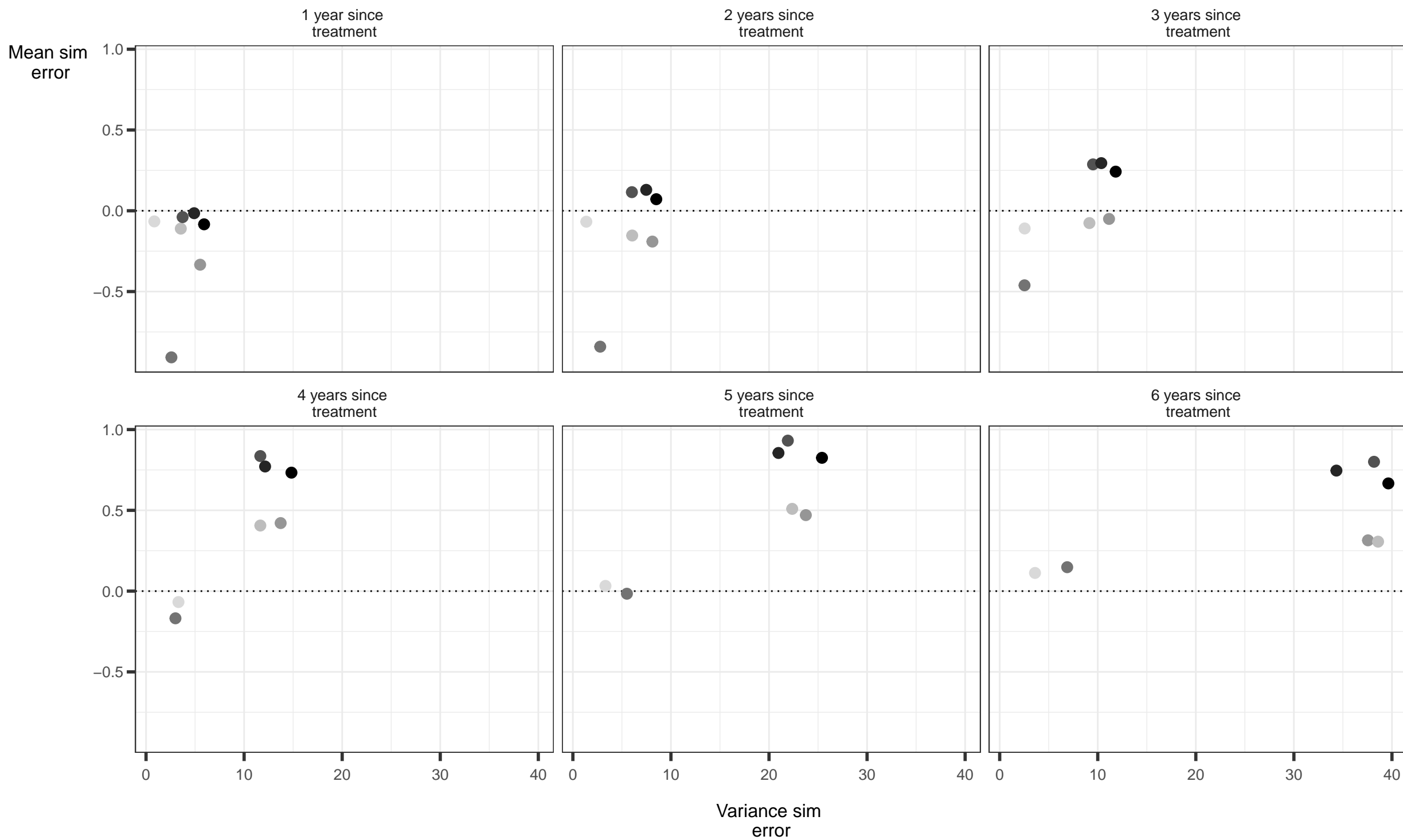
# Mean sim error v. mean sim variance: 35 treated units and linear increasing effects



**Estimator**

- Augmented synthetic controls
- Callaway & Sant'Anna
- DiD imputation
- Event study: AR(1)
- Event study: Sun & Abraham
- Event study: Two-way Fixed Effect
- Two-stage DiD

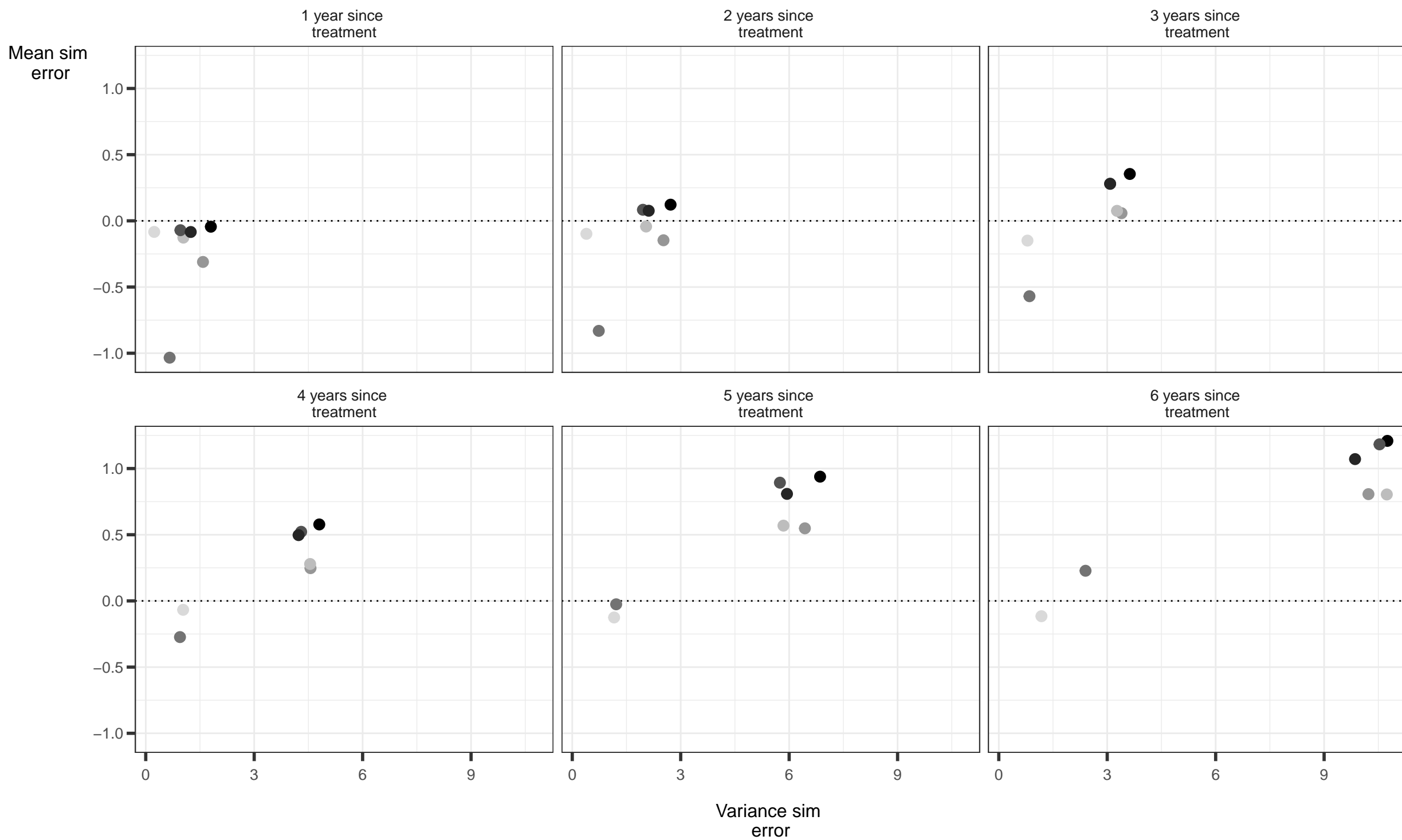
# Mean sim error v. mean sim variance: 5 treated units and linear decreasing effects



Estimator

- Augmented synthetic controls
- Callaway & Sant'Anna
- DiD imputation
- Event study: AR(1)
- Event study: Sun & Abraham
- Event study: Two-way Fixed Effect
- Two-stage DiD

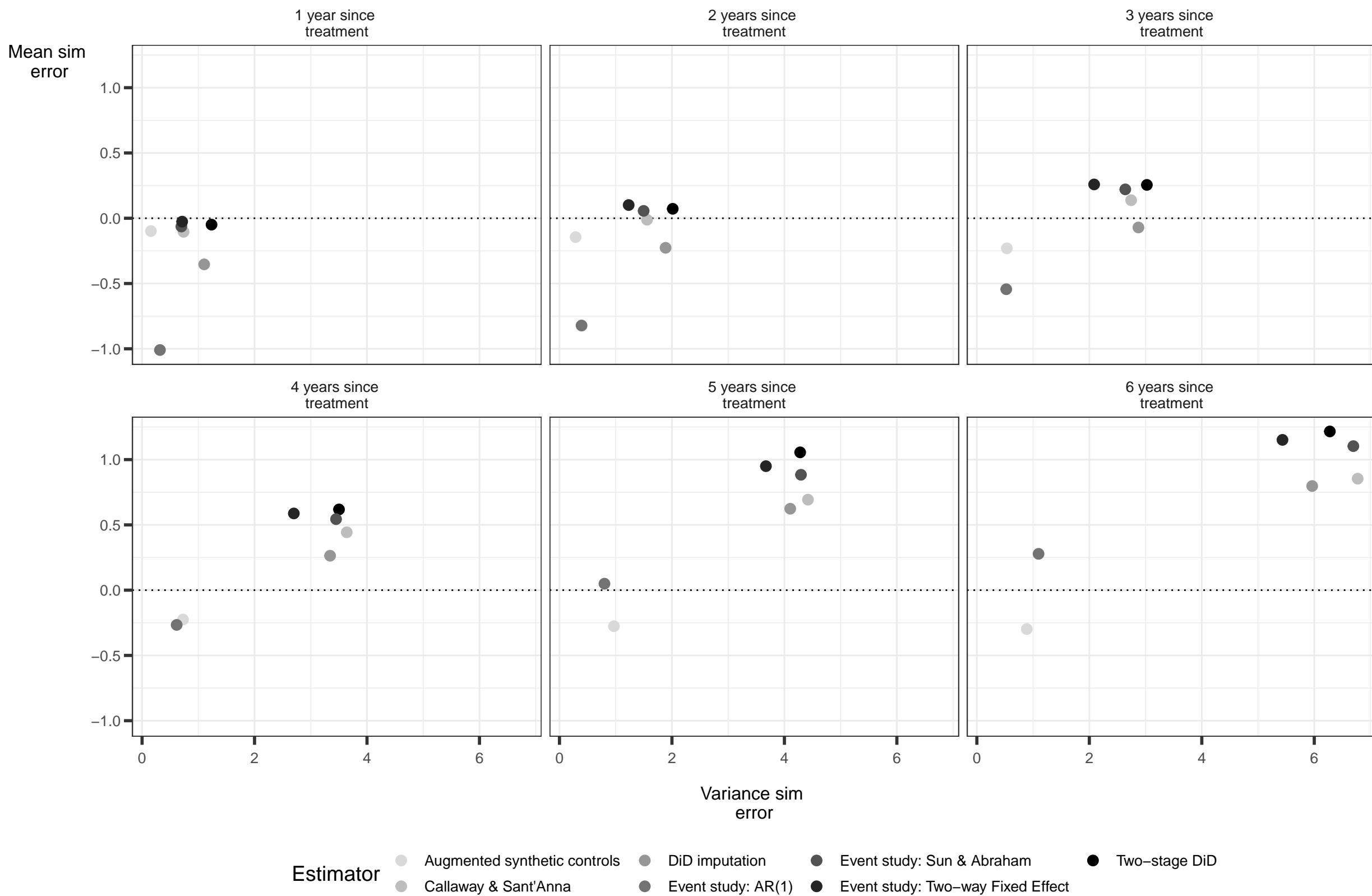
# Mean sim error v. mean sim variance: 20 treated units and linear decreasing effects



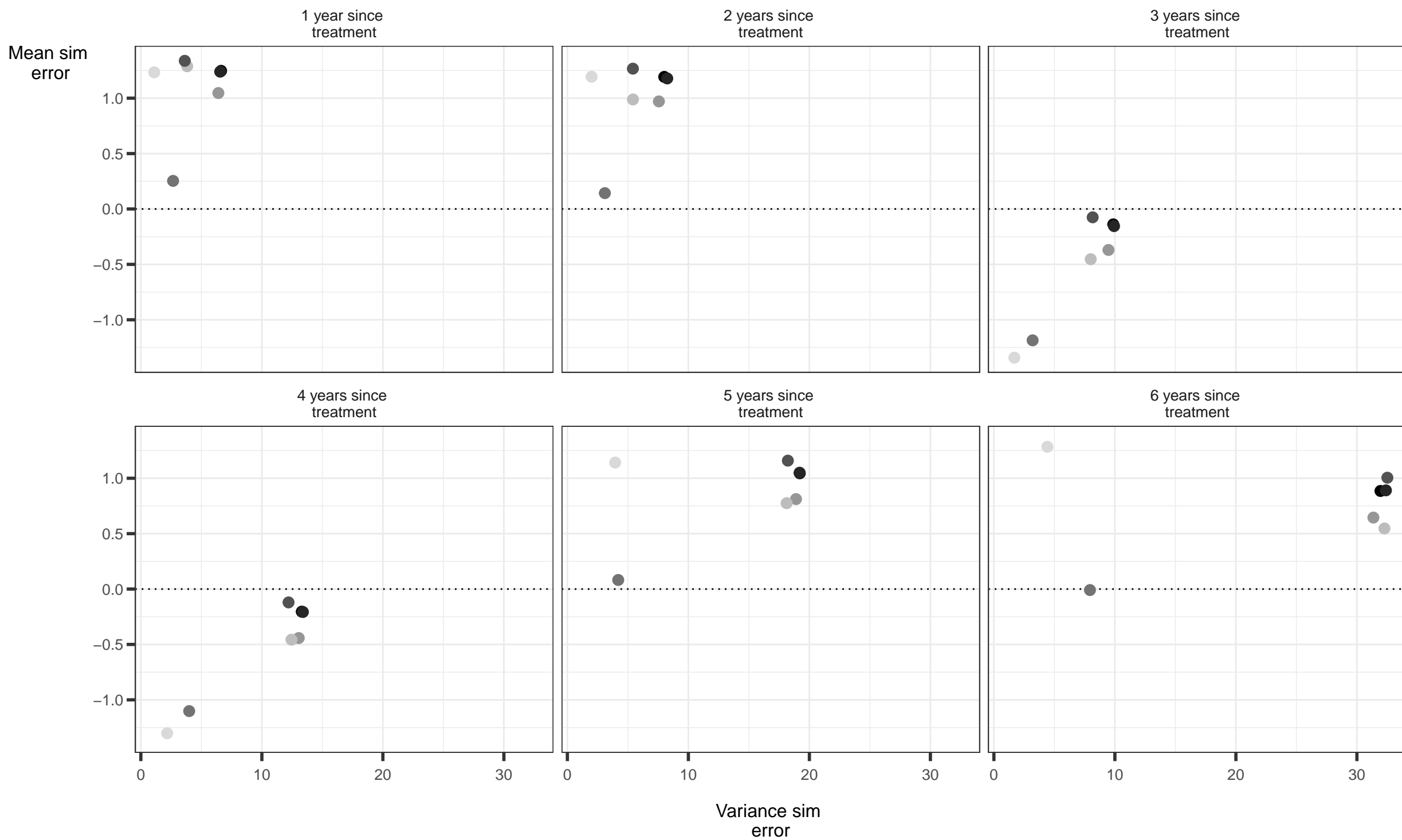
Estimator

- Augmented synthetic controls
- Callaway & Sant'Anna
- DiD imputation
- Event study: AR(1)
- Event study: Sun & Abraham
- Event study: Two-way Fixed Effect
- Two-stage DiD

# Mean sim error v. mean sim variance: 35 treated units and linear decreasing effects



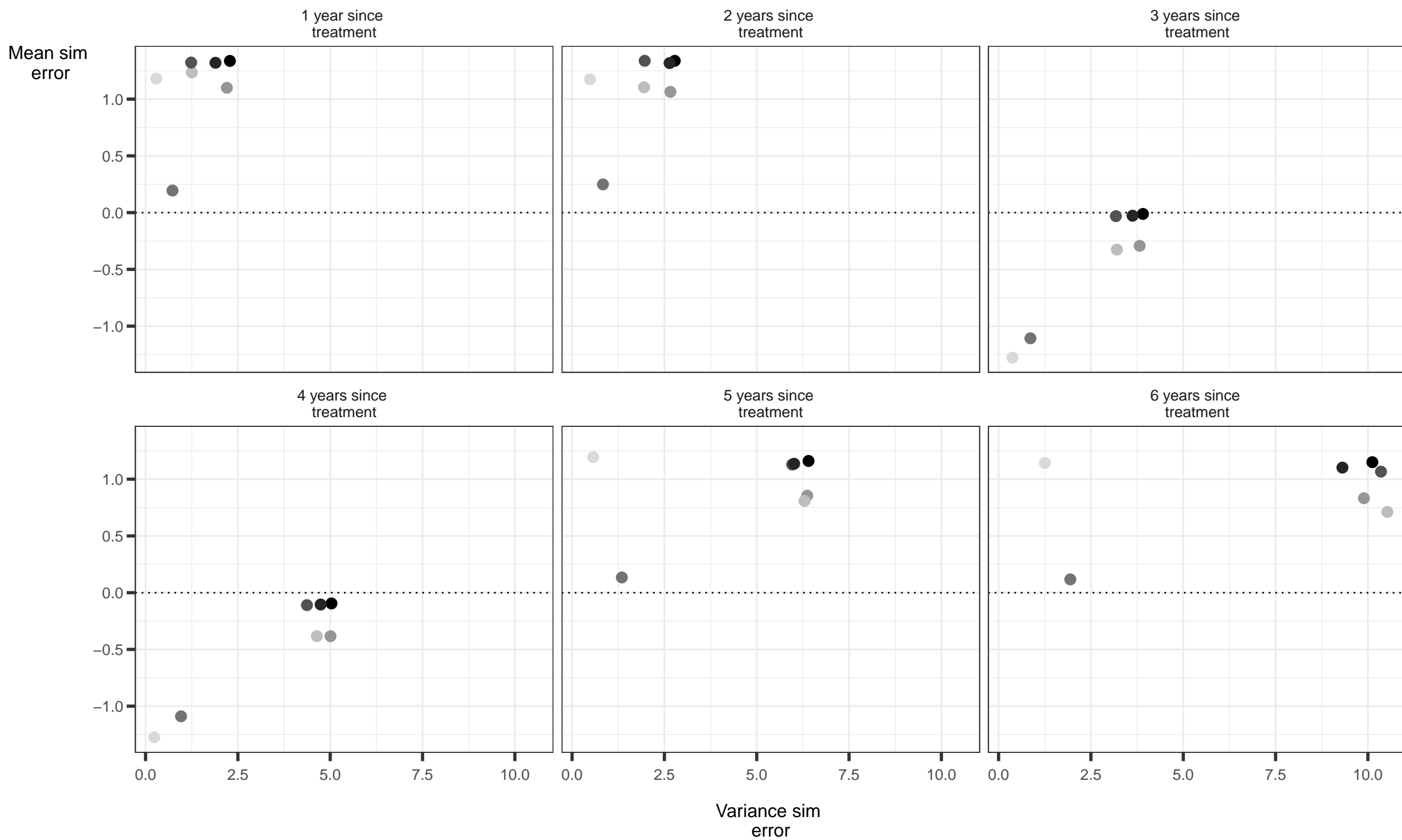
# Mean sim error v. mean sim variance: 5 treated units and instant plateau effects



**Estimator**

- Augmented synthetic controls
- Callaway & Sant'Anna
- DiD imputation
- Event study: AR(1)
- Event study: Sun & Abraham
- Event study: Two-way Fixed Effect
- Two-stage DiD

# Mean sim error v. mean sim variance: 20 treated units and instant plateau effects

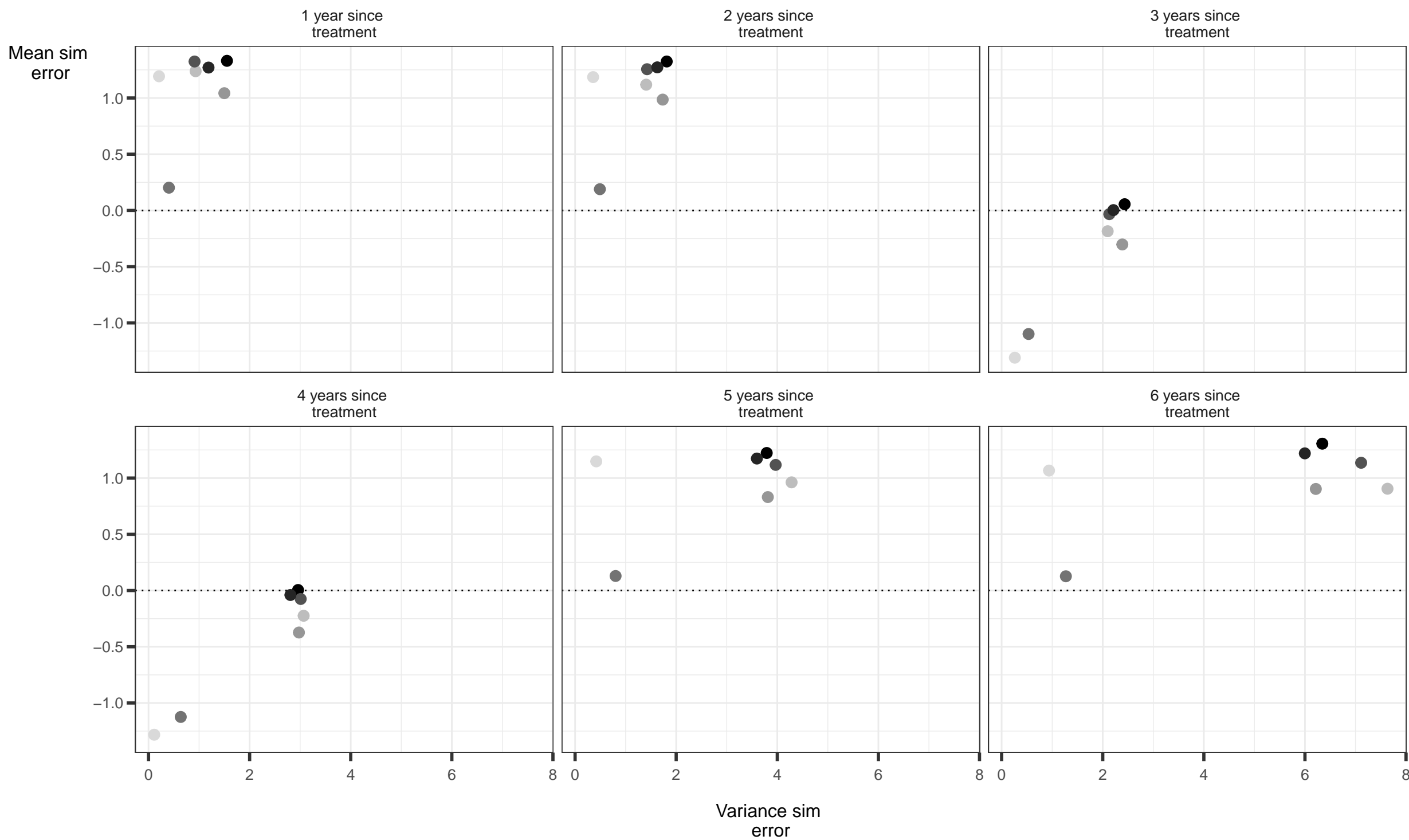


**Estimator**

- Augmented synthetic controls
- Callaway & Sant'Anna
- DiD imputation
- Event study: AR(1)
- Event study: Sun & Abraham
- Event study: Two-way Fixed Effect
- Two-stage DiD



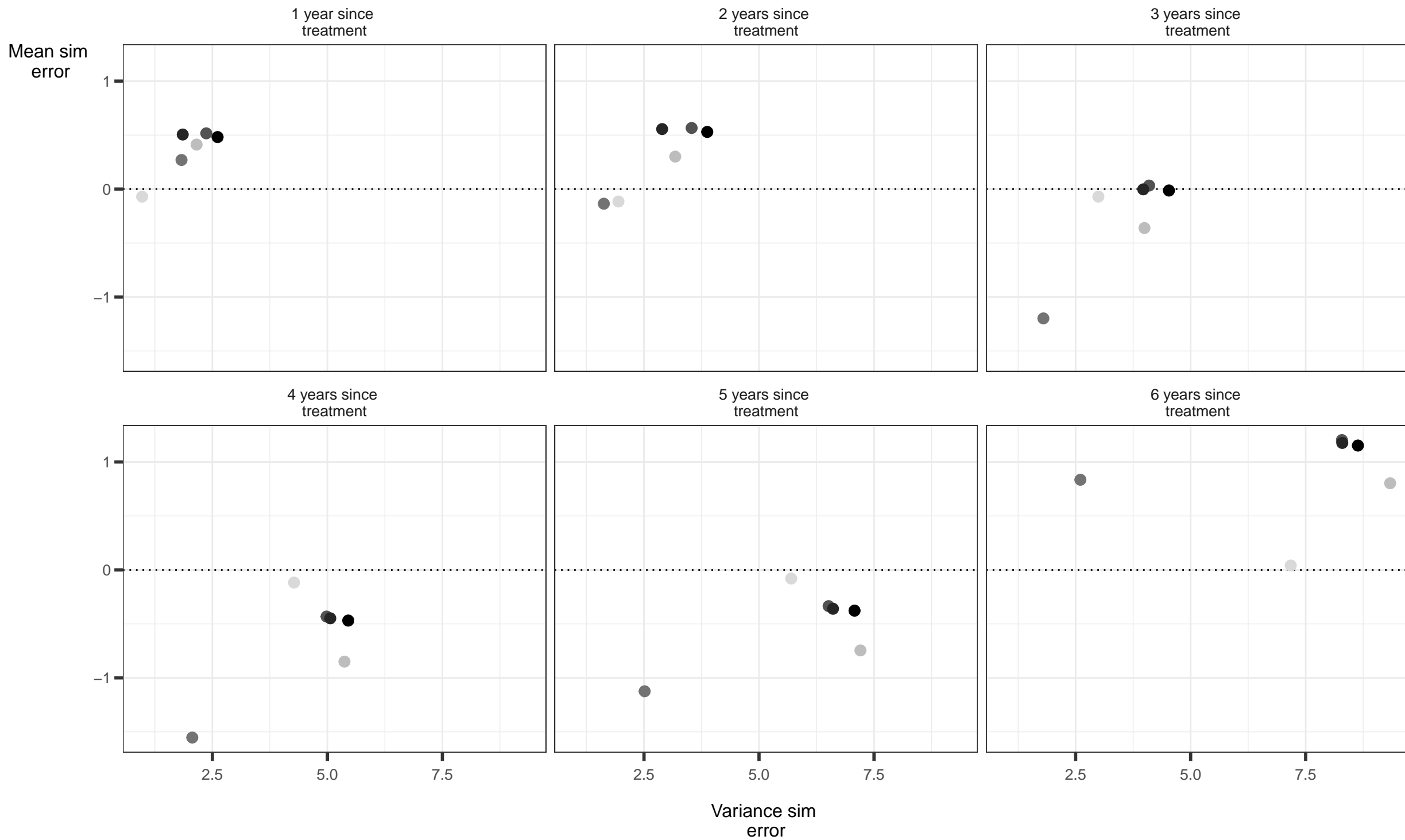
# Mean sim error v. mean sim variance: 35 treated units and instant plateau effects



**Estimator**

- Augmented synthetic controls
- Callaway & Sant'Anna
- DiD imputation
- Event study: AR(1)
- Event study: Sun & Abraham
- Event study: Two-way Fixed Effect
- Two-stage DiD

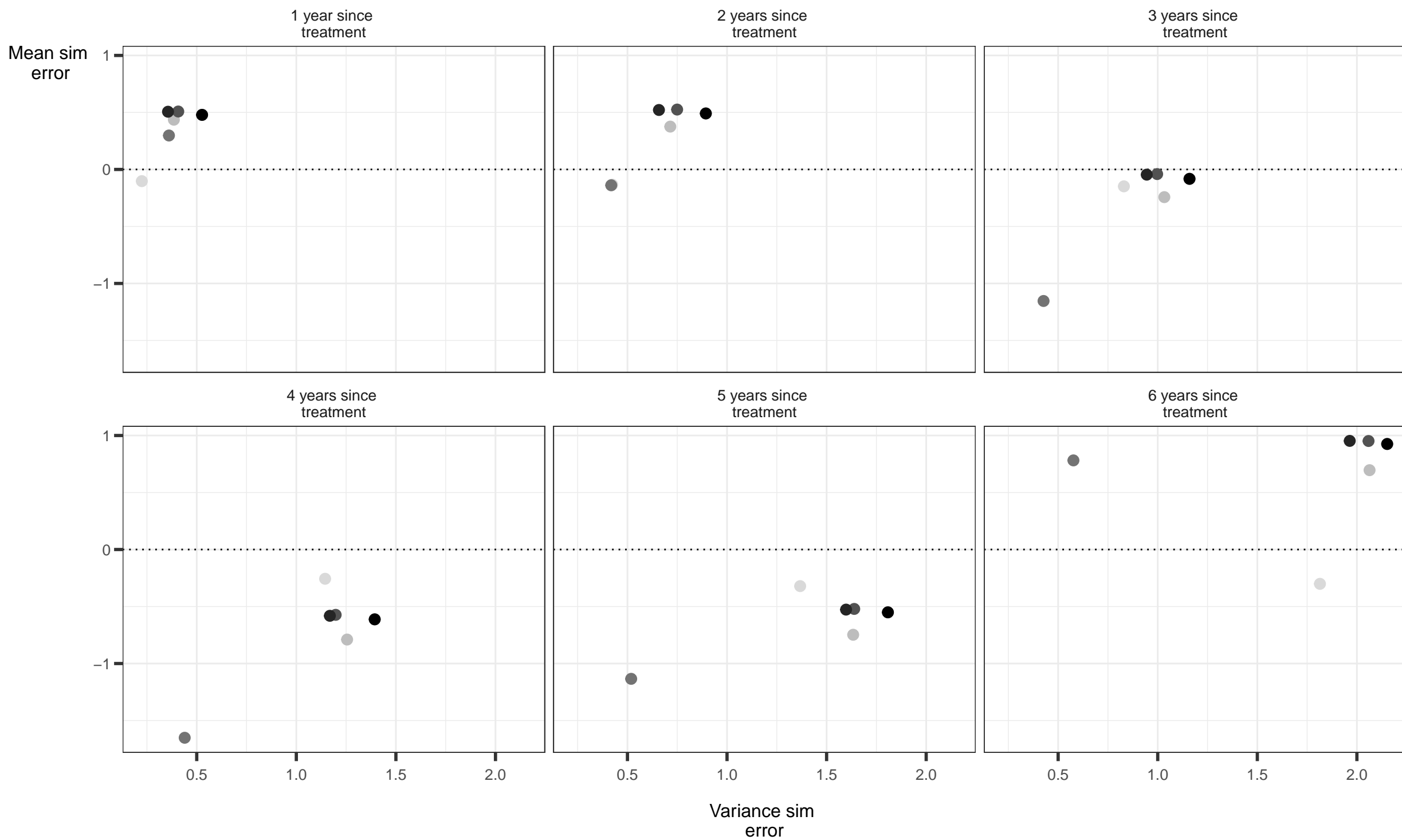
# Mean sim error v. mean sim variance: 5 treated units and slow plateau effects



**Estimator**

- Augmented synthetic controls
- Callaway & Sant'Anna
- DiD imputation
- Event study: AR(1)
- Event study: Sun & Abraham
- Event study: Two-way Fixed Effect
- Two-stage DiD

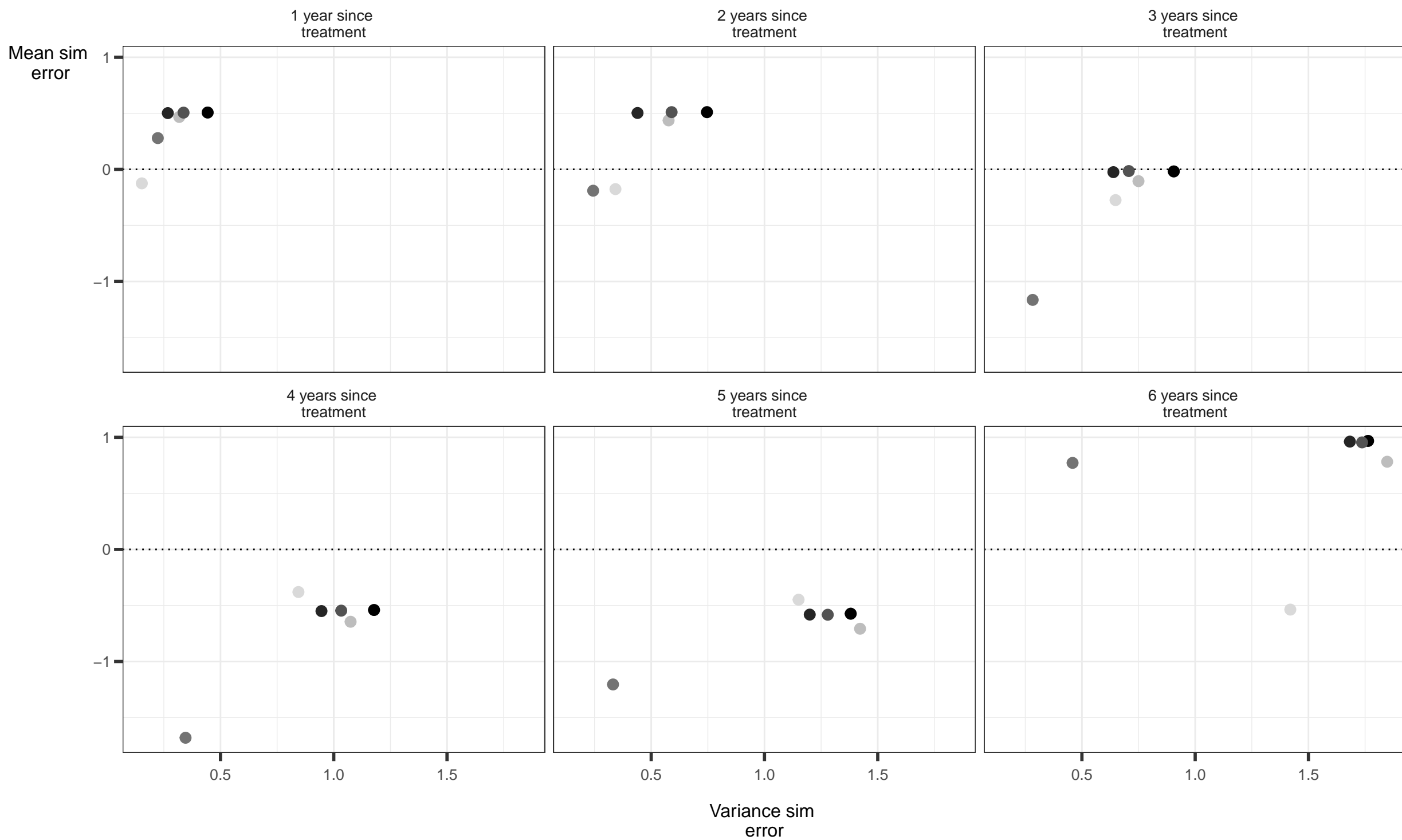
# Mean sim error v. mean sim variance: 20 treated units and slow plateau effects



**Estimator**

- Augmented synthetic controls
- Callaway & Sant'Anna
- DiD imputation
- Event study: AR(1)
- Event study: Sun & Abraham
- Event study: Two-way Fixed Effect
- Two-stage DiD

# Mean sim error v. mean sim variance: 35 treated units and slow plateau effects



**Estimator**

- Augmented synthetic controls
- Callaway & Sant'Anna
- DiD imputation
- Event study: AR(1)
- Event study: Sun & Abraham
- Event study: Two-way Fixed Effect
- Two-stage DiD