Meeting-Dec05-TreatmentEffect-Uniform

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2023-12-05

```
library(MASS)
library(glmnet)
library(rpart)
library(rpart.plot)
library(intervals) # package used to aggregate repro intervals
library(party) # MOB function to generate partitions
library(partykit) # reference to terminal node in rpart
library(ggplot2)
library(reshape2)
library(ggpubr)
library(dplyr)
set.seed(1)
```

summary

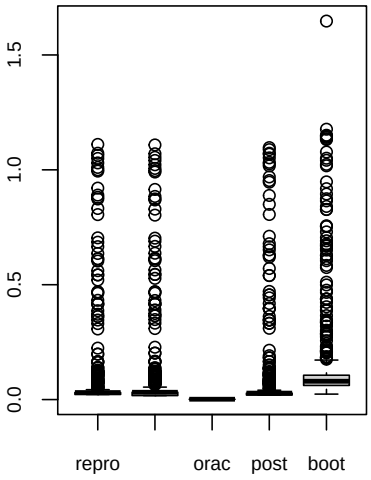
Example: IPW + Base 0

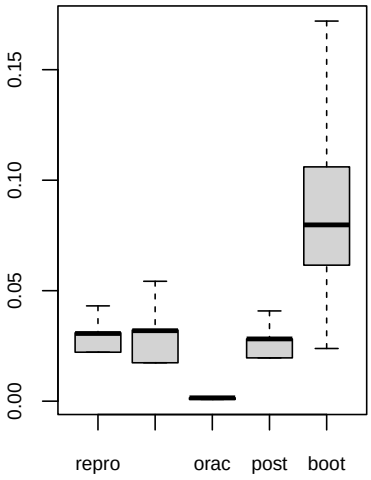
```
transf = 1; etasetting = 0
out = results.prepare(transf, etasetting)
summ.repro = out$summ.repro
summ.repro.rob = out$summ.repro.rob
summ.orac = out$summ.orac
summ.post = out$summ.post
summ.boot = out$summ.boot
summ.grf = out$summ.grf

testdata <- readRDS('rf1128-testdata-unif.rds')
n0 = testdata$n0
X0 = testdata$X0
```

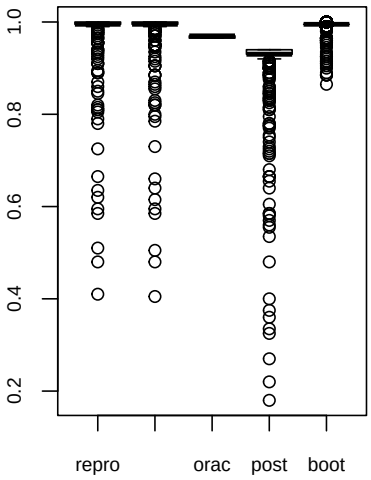
n=400

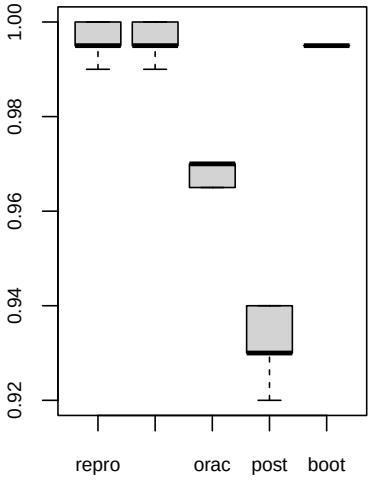
We first compare the BIAS





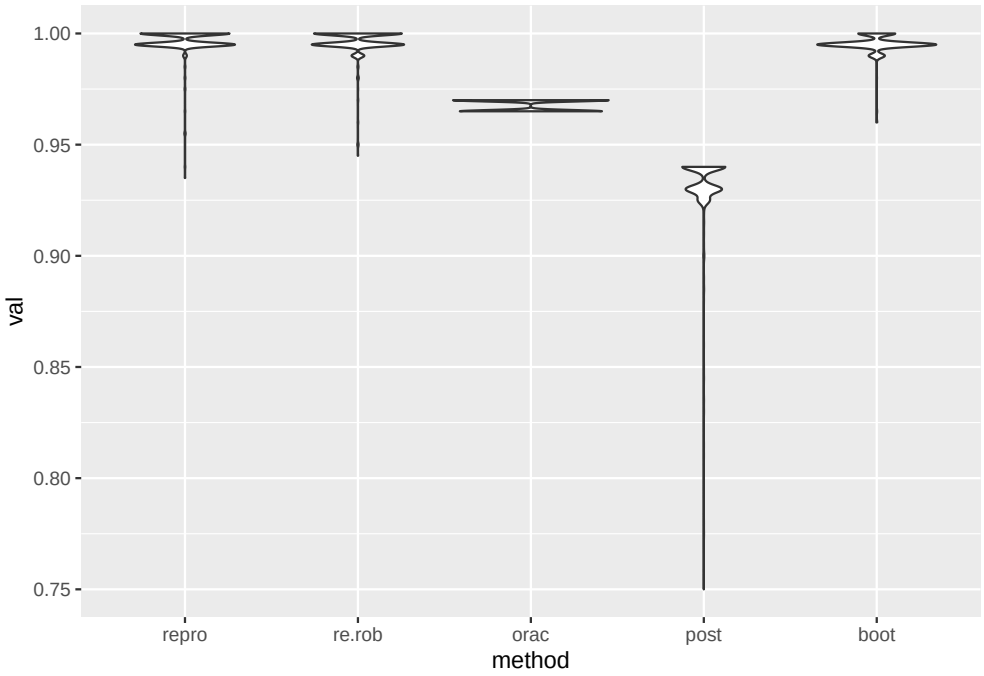
We then compare the COVERAGE



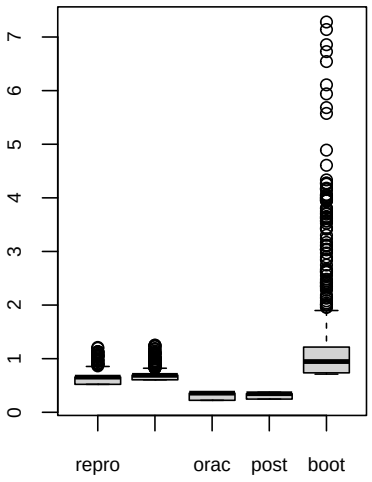


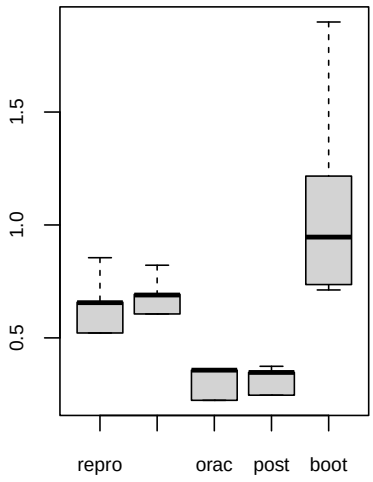

```
## [1] "Points that have coverage lower than 75%"
```

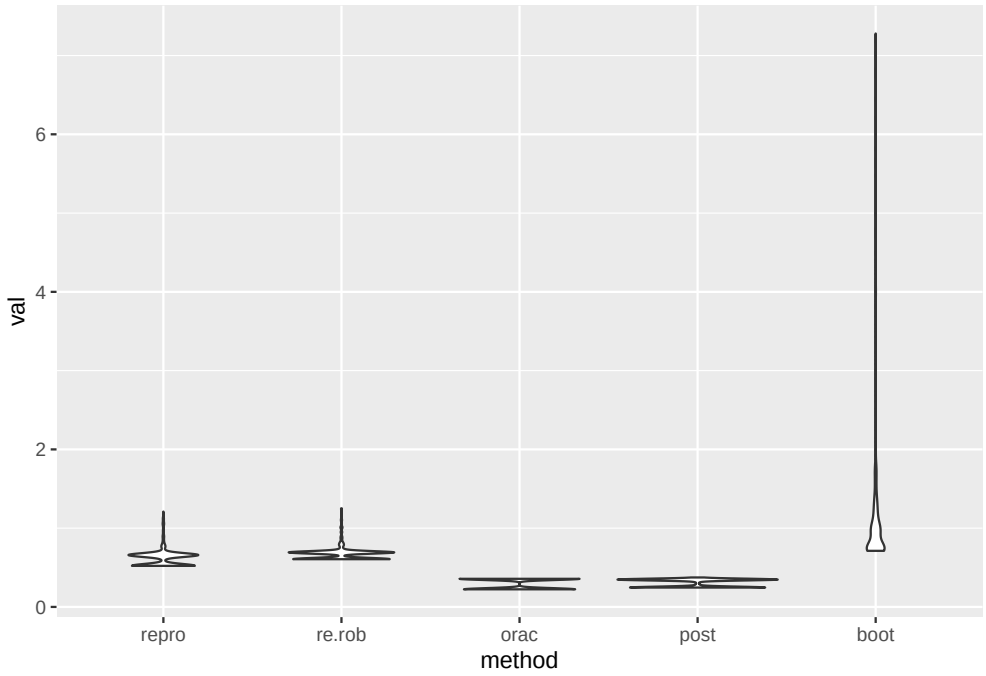
```
## [1] 0.009 0.009 0.000 0.030 0.000
```



we then compare the LENGTH



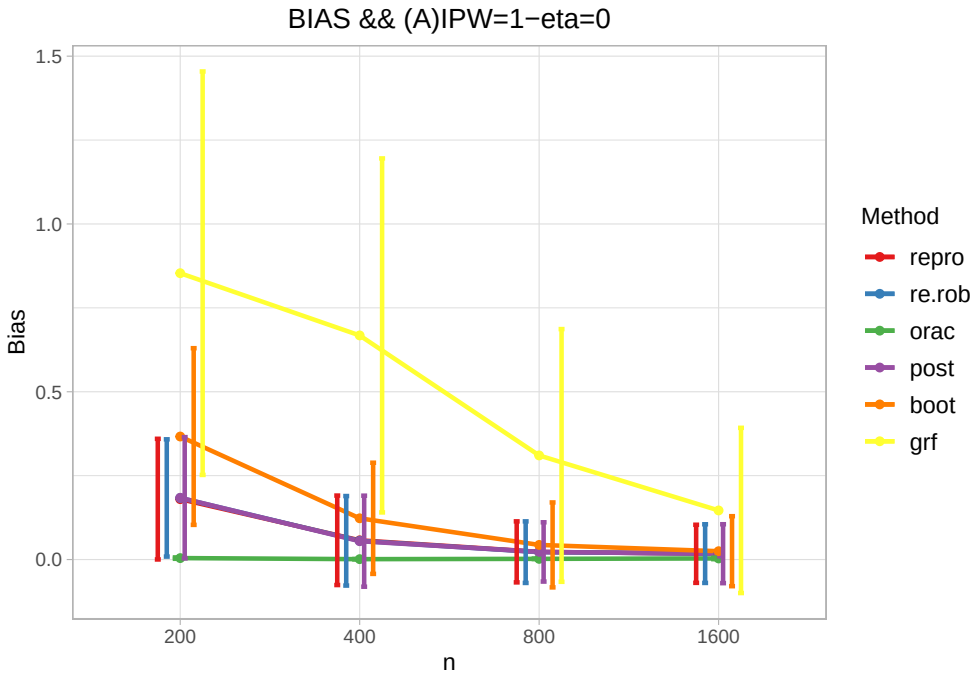


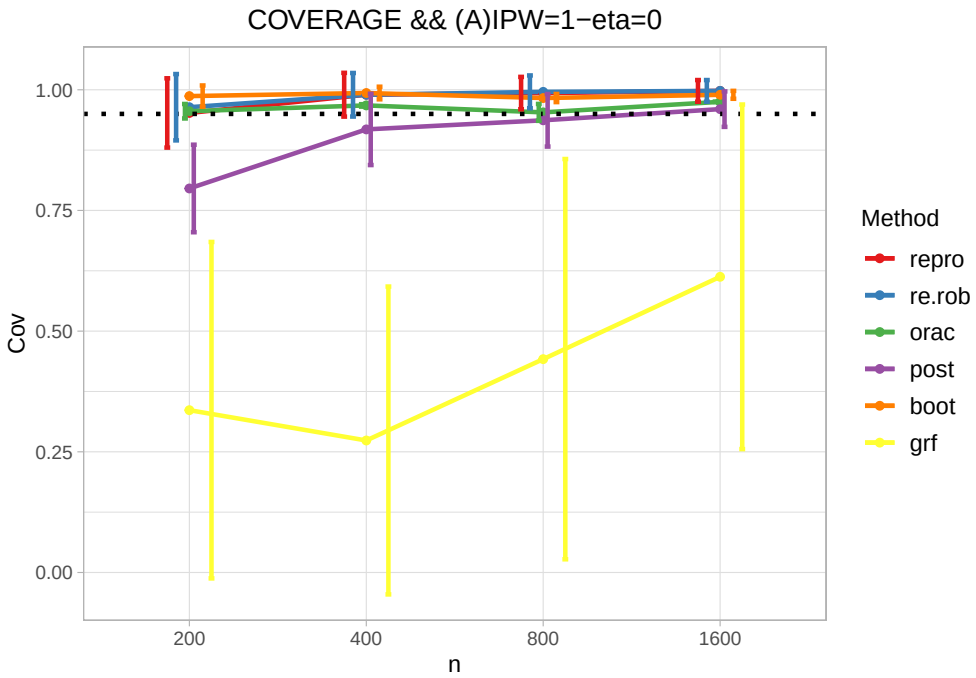


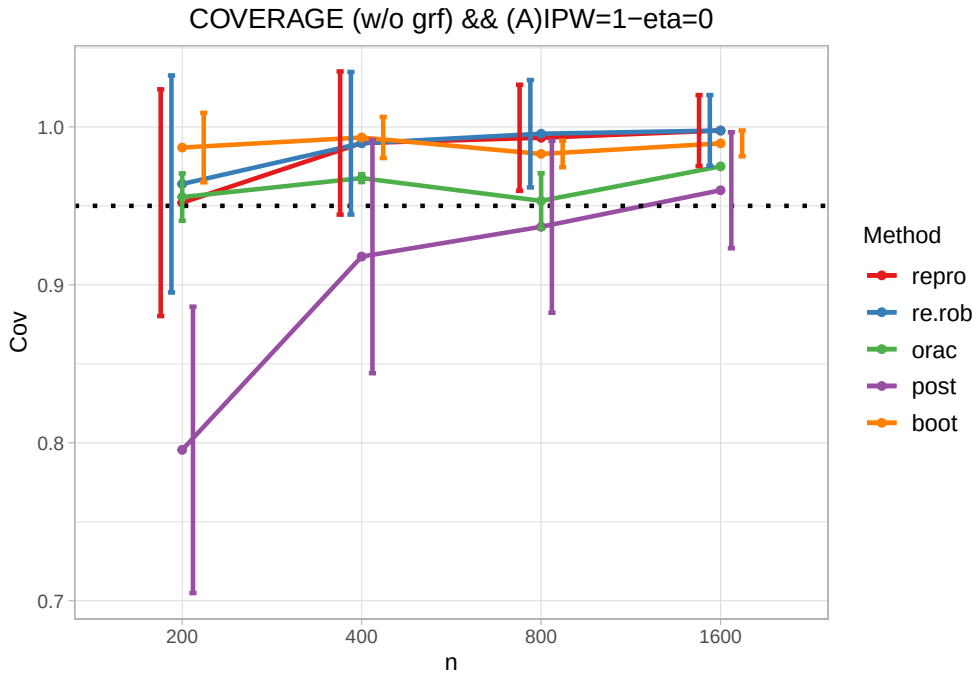
IPW transform + Eta0

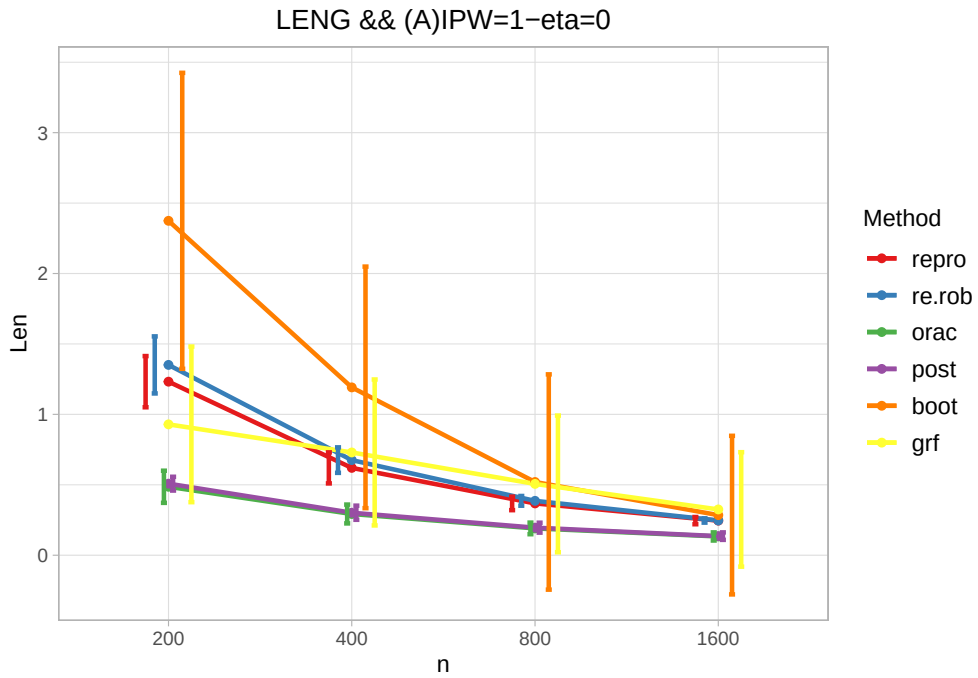
```
transf = 1; etasetting = 0
out = results.prepare(transf, etasetting)
```

```
## Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
## i Please use `linewidth` instead.
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```


BIAS && (A)IPW=1−eta=0
Bias
1.5
1.0
0.5
0.0
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf

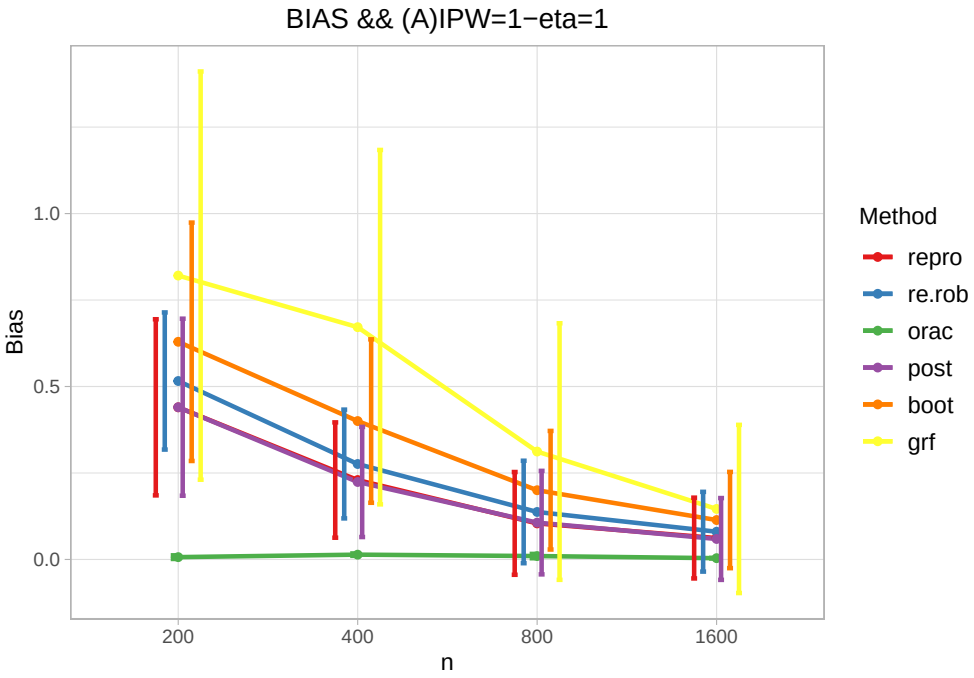

COVERAGE && (A)IPW=1−eta=0
Cov
1.00
0.75
0.50
0.25
0.00
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf

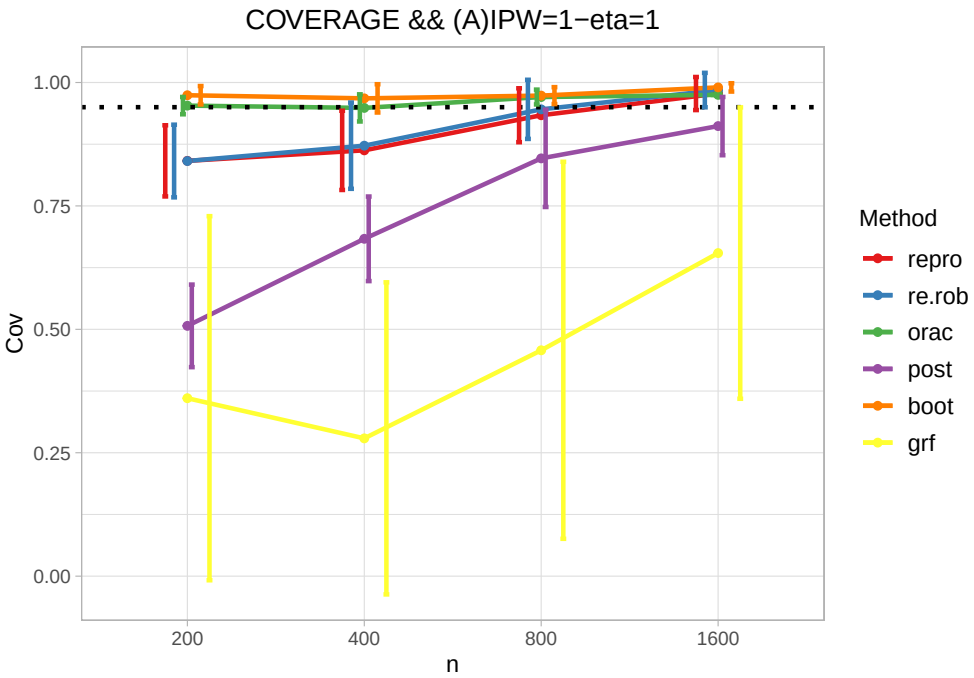


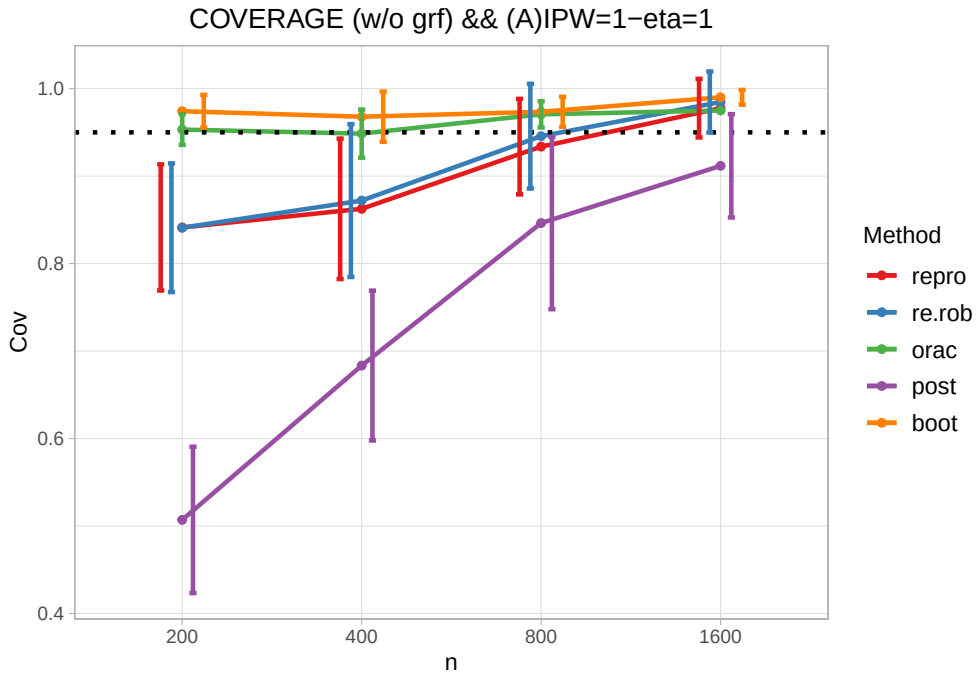


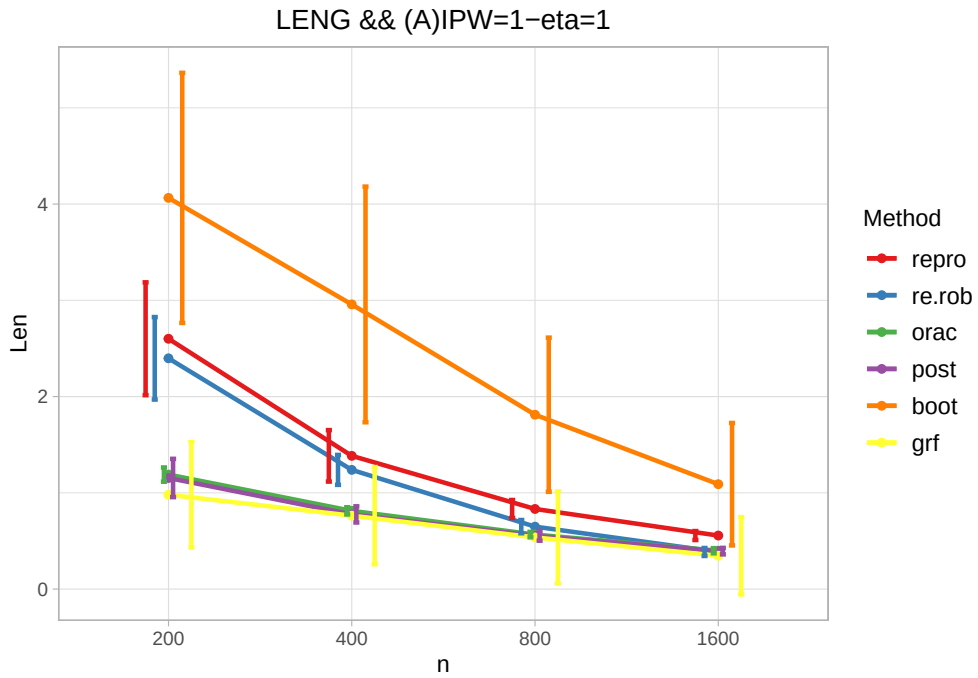
IPW transform + Eta1

```
transf = 1; etasetting = 1
out = results.prepare(transf, etasetting)
```


BIAS && (A)IPW=1−eta=1
Bias
1.0
0.5
0.0
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf

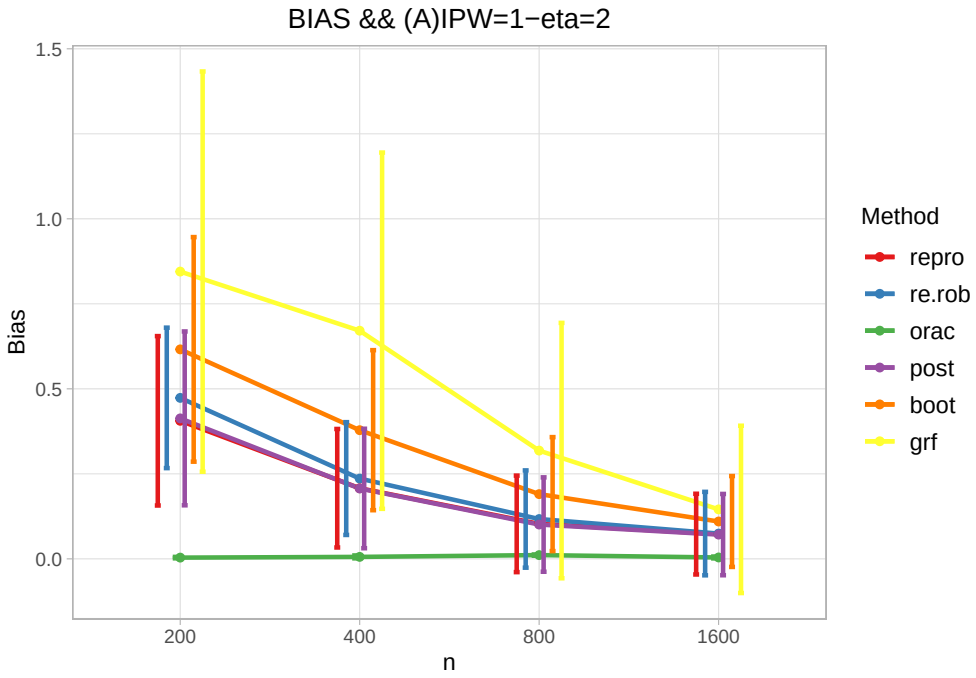

COVERAGE && (A)IPW=1−eta=1
Cov
1.00
0.75
0.50
0.25
0.00
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf

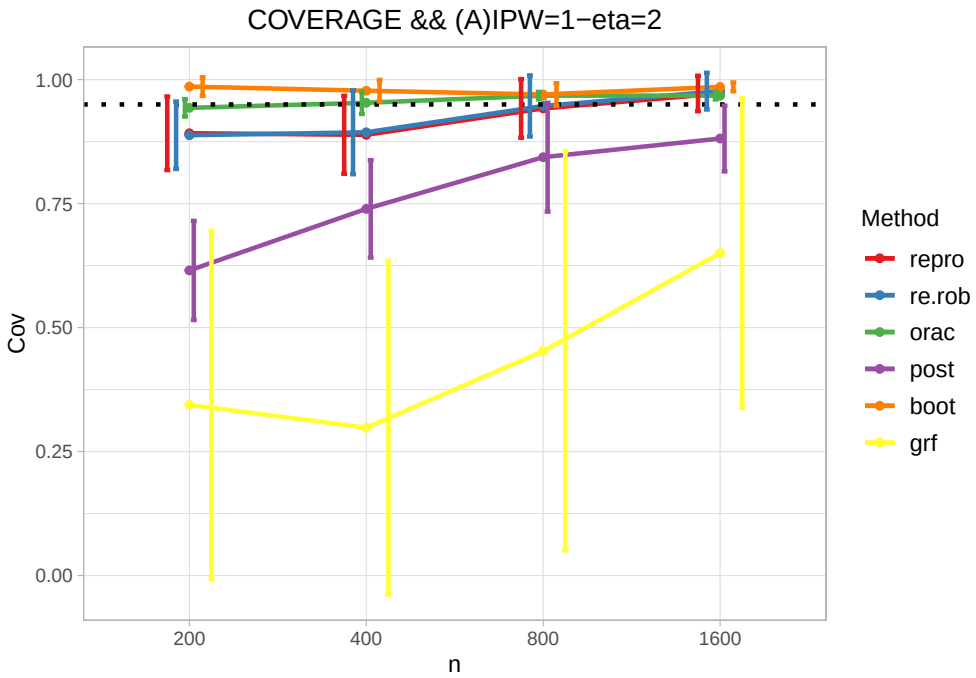


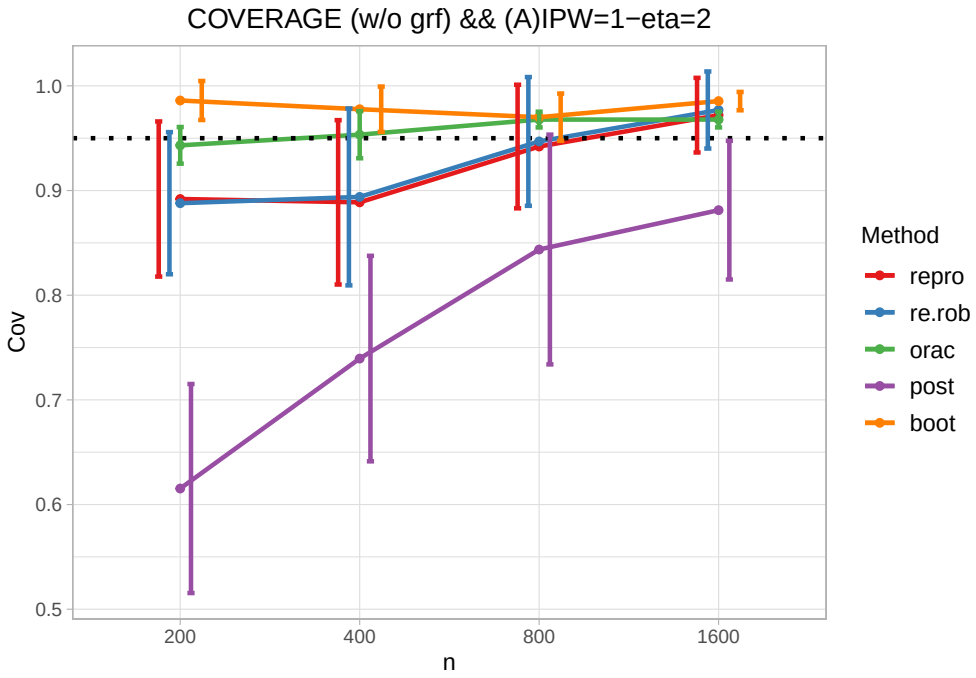


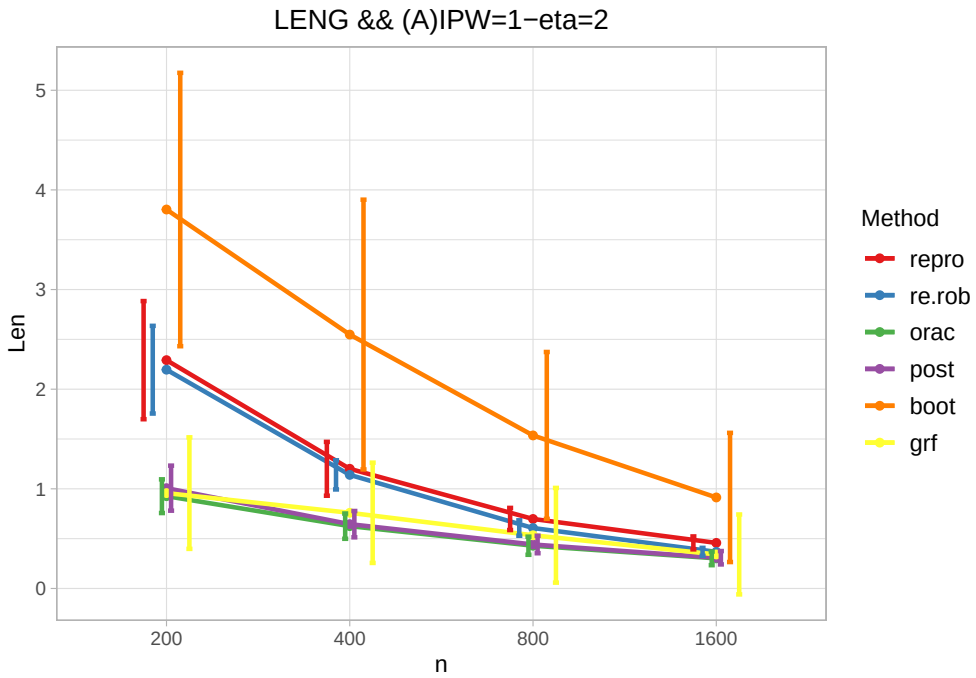
IPW transform + Eta2

```
transf = 1; etasetting = 2
out = results.prepare(transf, etasetting)
```


BIAS && (A)IPW=1−eta=2
Bias
1.5
1.0
0.5
0.0
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf

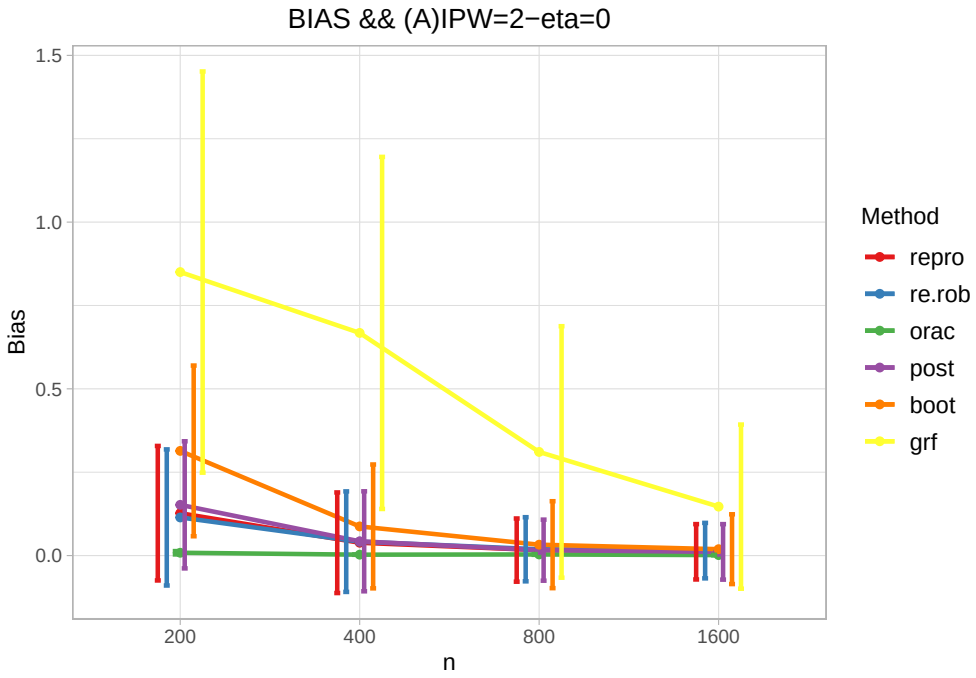

COVERAGE && (A)IPW=1−eta=2
Cov
1.00
0.75
0.50
0.25
0.00
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf

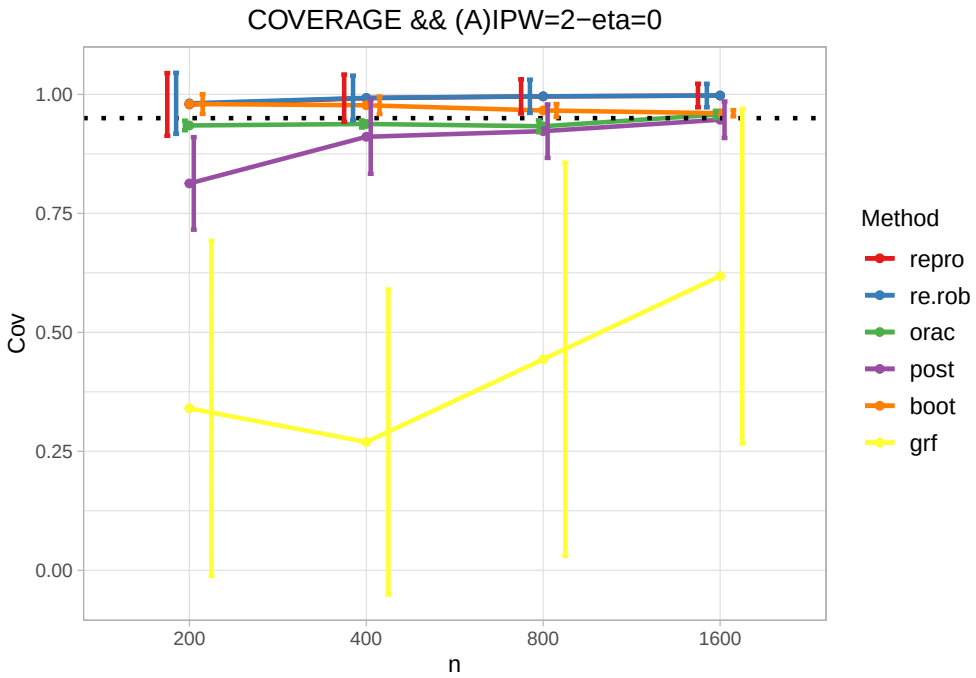


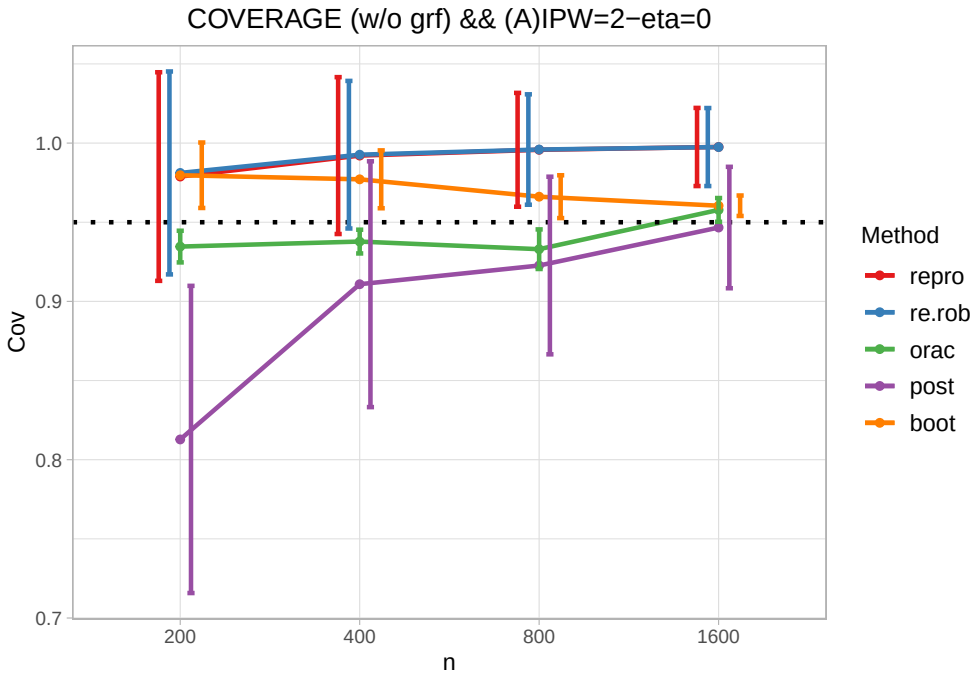


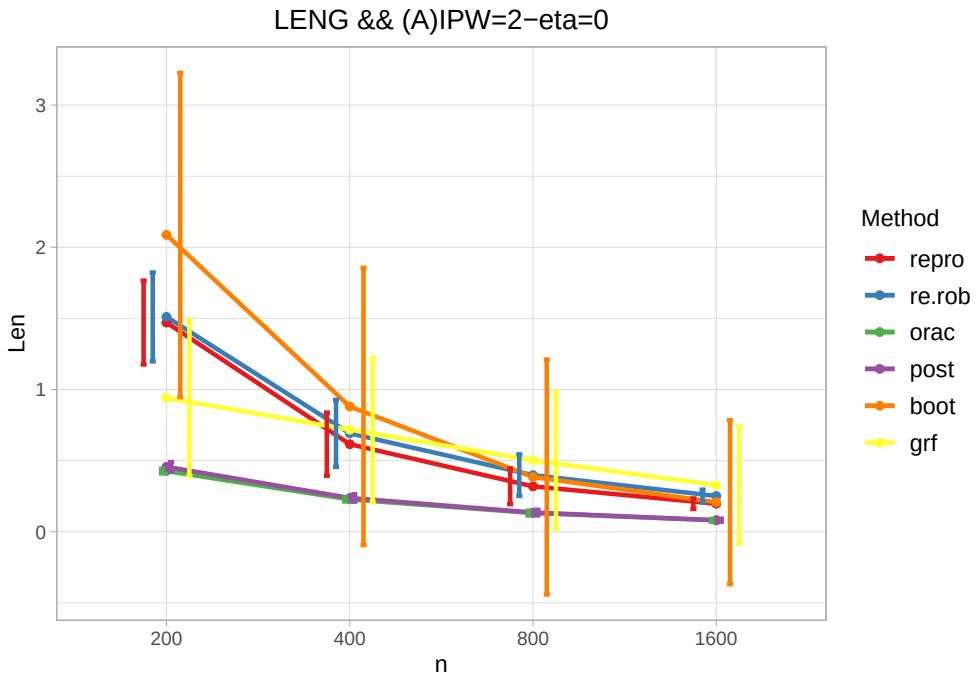
AIPW transform + Eta0

```
transf = 2; etasetting = 0
out = results.prepare.2(transf, etasetting)
```


BIAS && (A)IPW=2−eta=0
Bias
1.5
1.0
0.5
0.0
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf

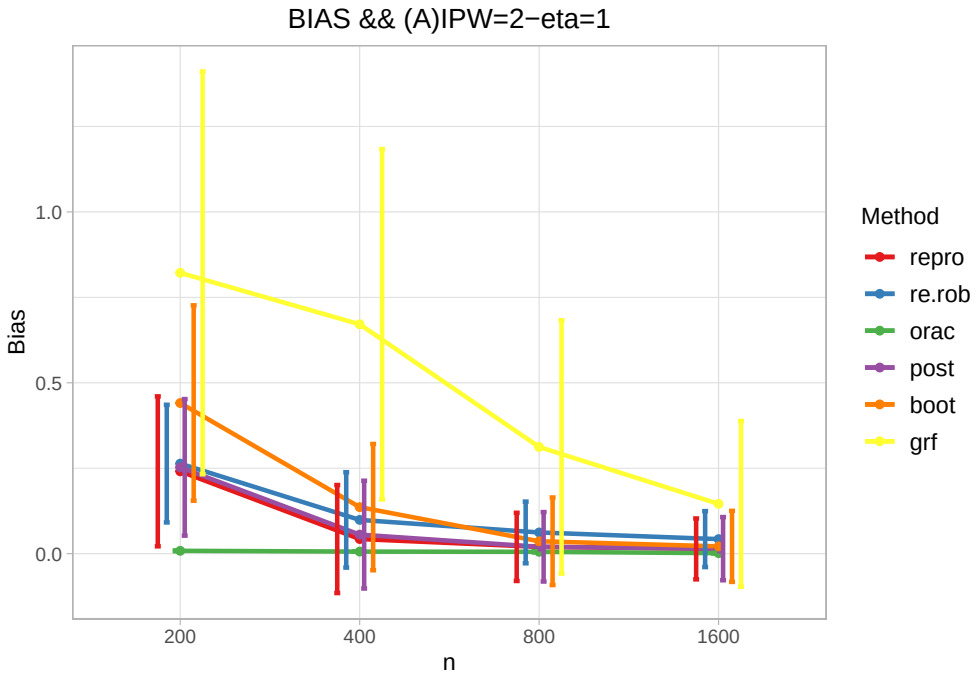

COVERAGE && (A)IPW=2−eta=0
Cov
1.00
0.75
0.50
0.25
0.00
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf

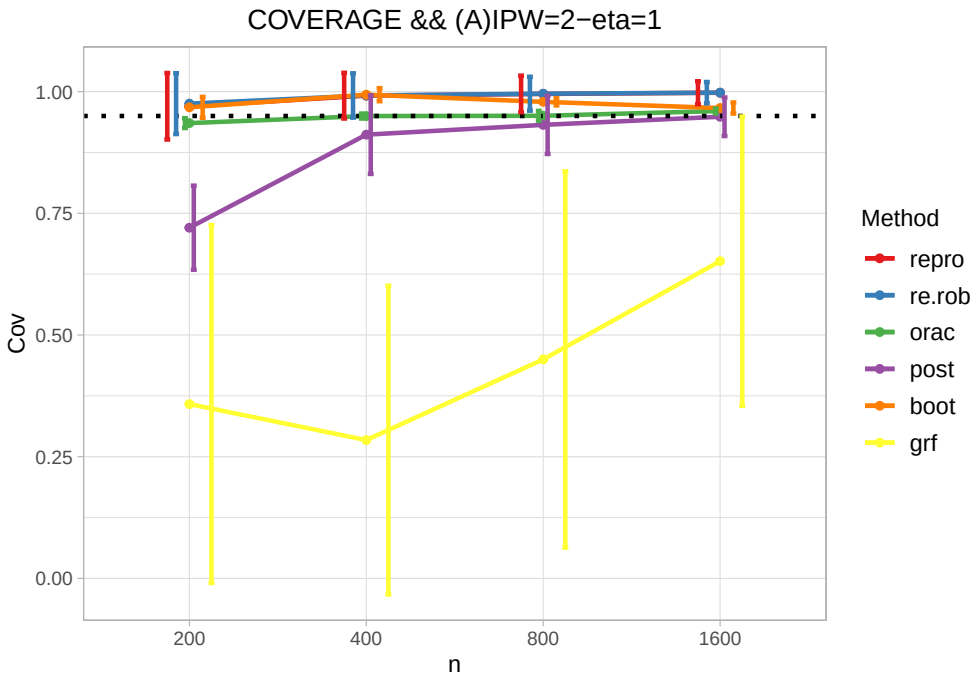


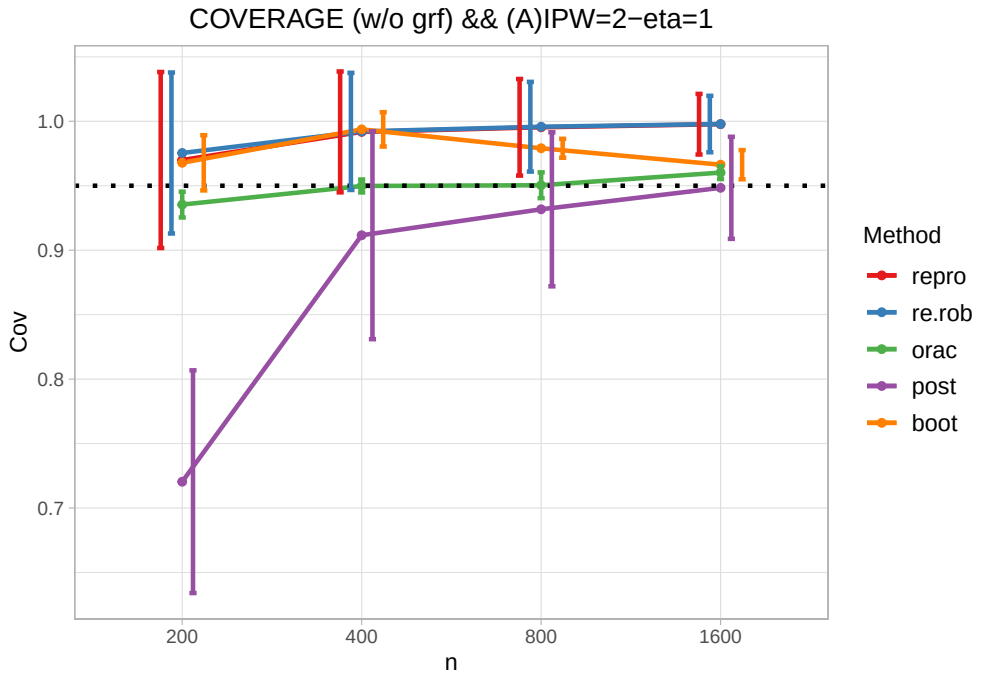


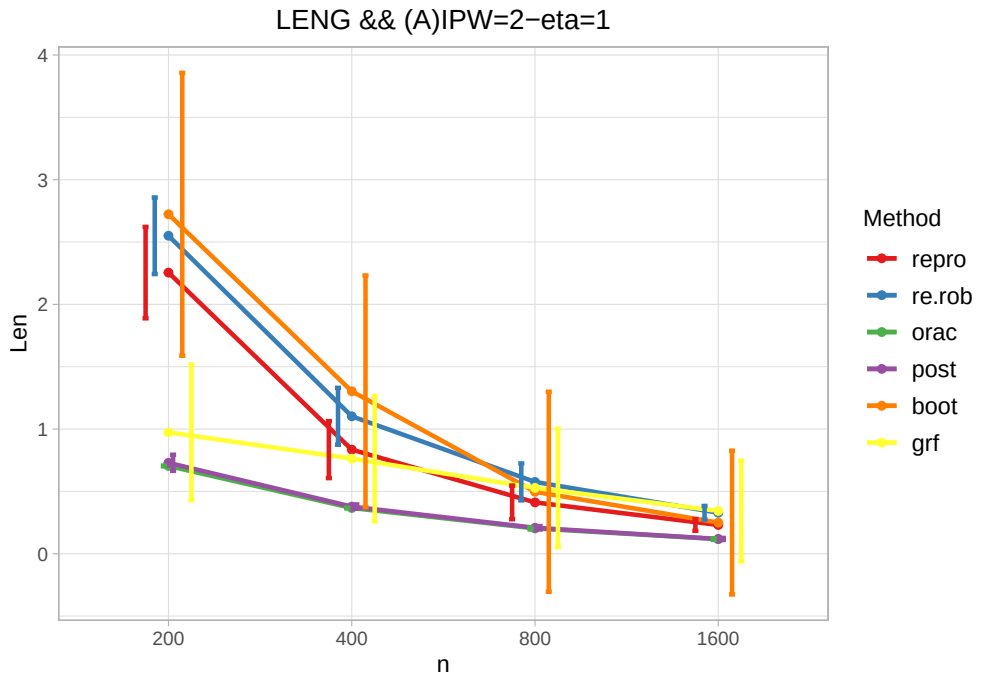
AIPW transform + Eta1

```
transf = 2; etasetting = 1
out = results.prepare.2(transf, etasetting)
```


BIAS && (A)IPW=2−eta=1
Bias
1.0
0.5
0.0
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf

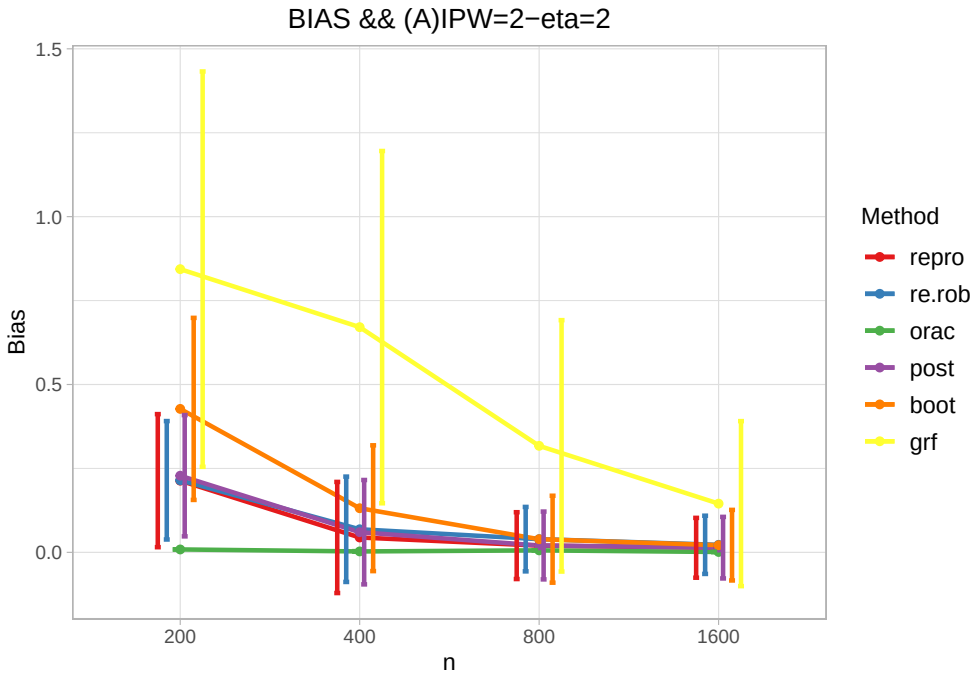

COVERAGE && (A)IPW=2−eta=1
Cov
1.00
0.75
0.50
0.25
0.00
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf

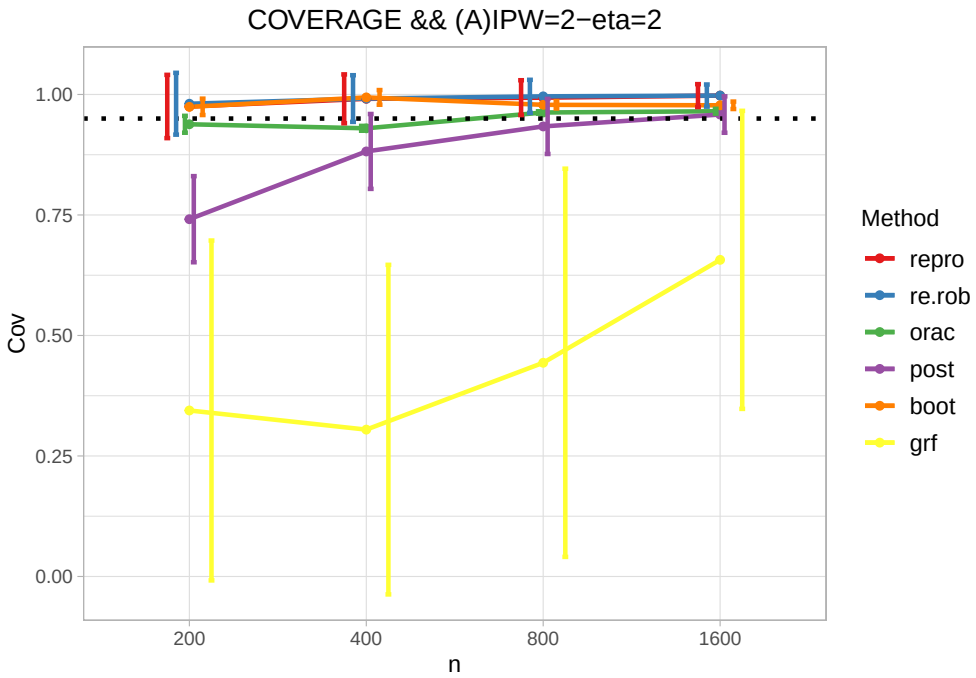


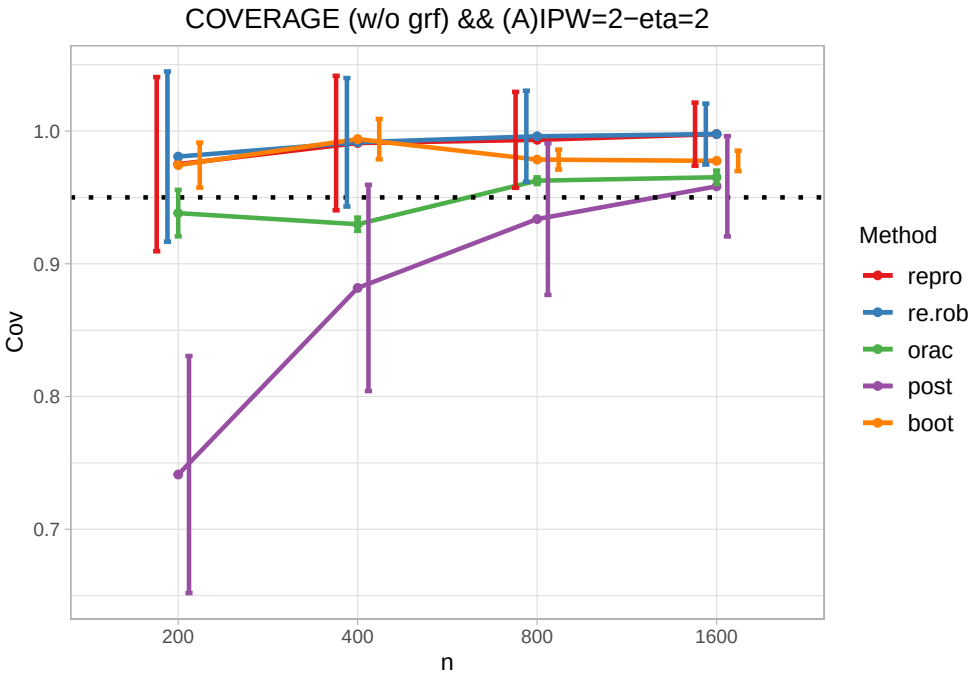


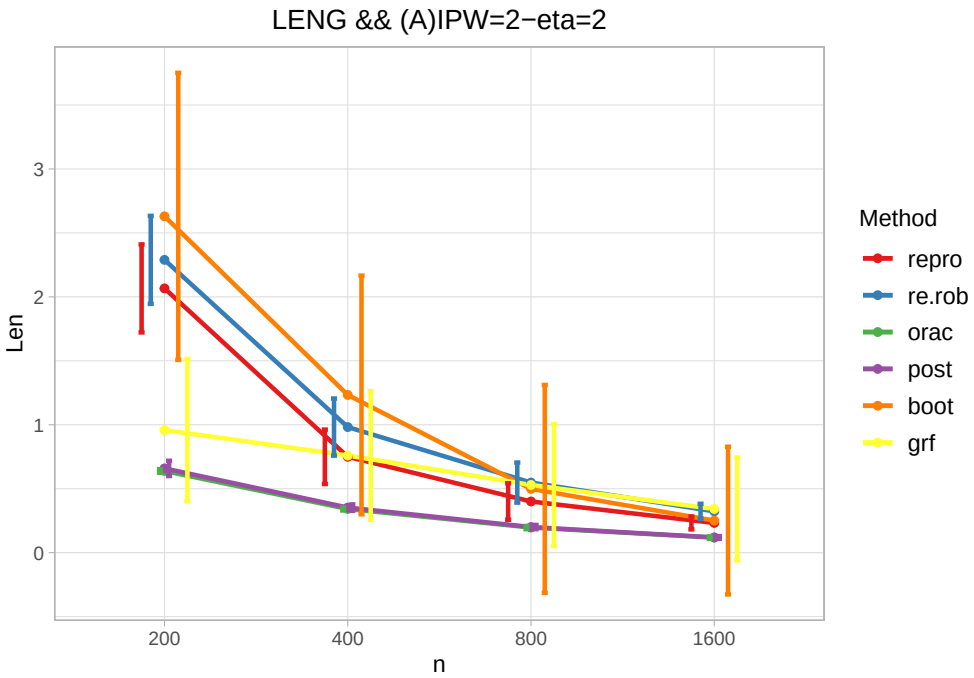
AIPW transform + Eta2

```
transf = 2; etasetting = 2
out = results.prepare.2(transf, etasetting)
```


BIAS && (A)IPW=2−eta=2
Bias
1.5
1.0
0.5
0.0
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf


COVERAGE && (A)IPW=2−eta=2
Cov
1.00
0.75
0.50
0.25
0.00
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf


COVERAGE (w/o grf) && (A)IPW=2−eta=2
Cov
1.0
0.9
0.8
0.7
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot


LENG && (A)IPW=2−eta=2
Len
3
2
1
0
200
400
800
1600
n
Method
repro
re.rob
orac
post
boot
grf