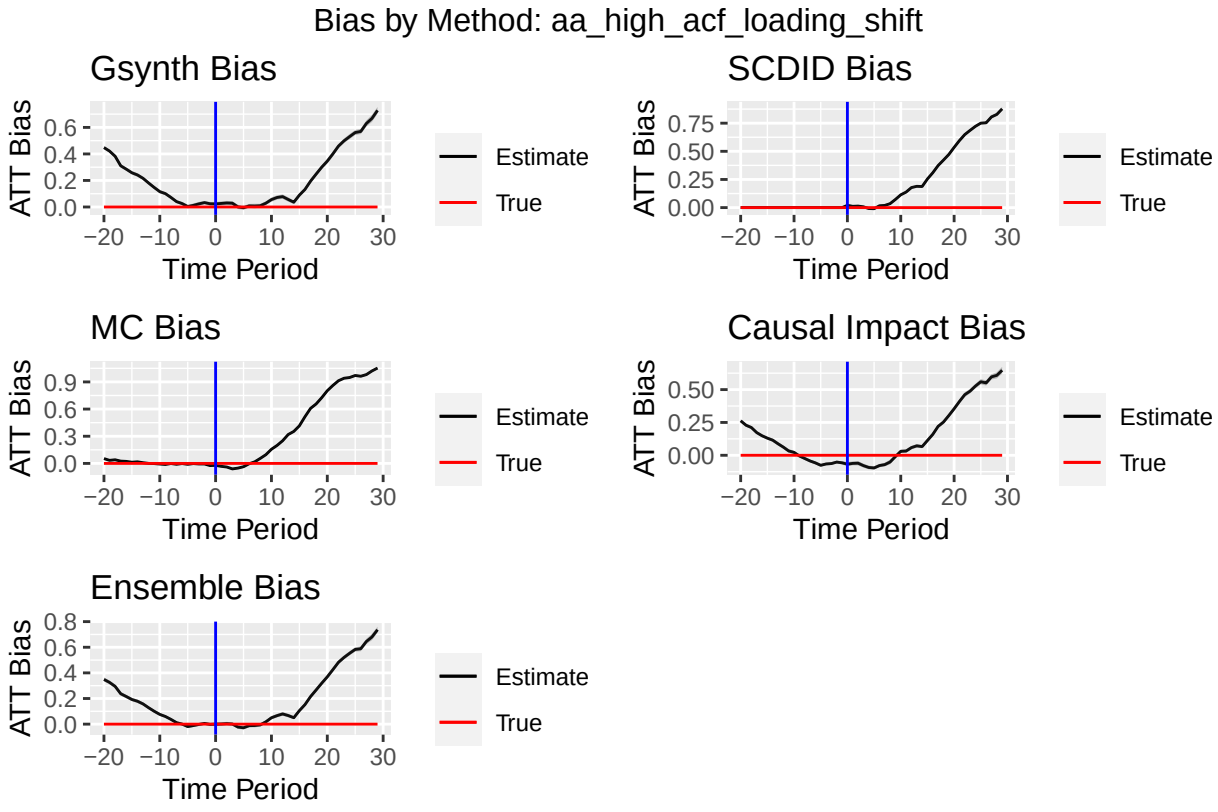
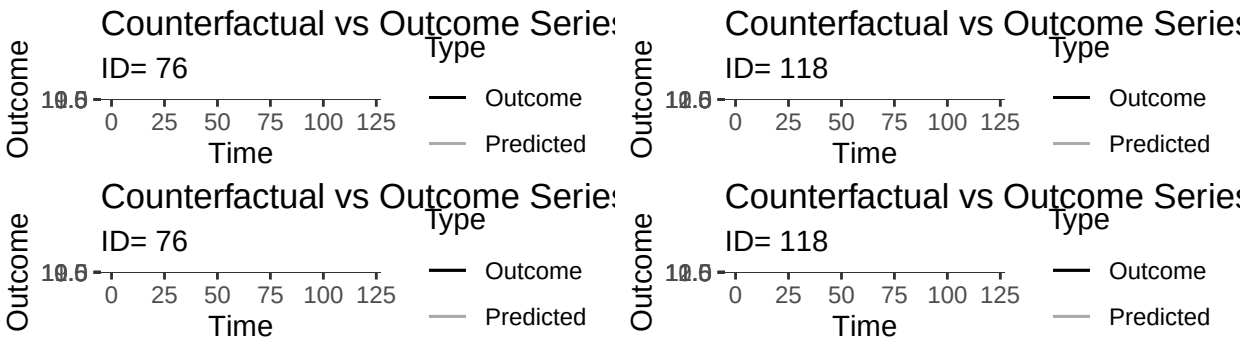
DGP Variations

For Loop Over DGPs

```
## [1] "aa_high_acf_loading_shift"
## [1] "aa_high_acf"
## [1] "aa_low_acf_sel_covariate_shift"
## [1] "aa_low_acf"
## [1] "aa_noisy_factors_load_shift_lowacf"
## [1] "aa_noisy_factors_load_shift"
## [1] "aa_noisy_factors_lowacf"
## [1] "aa_noisy_factors"
## [1] "ab_decay_het_loading_shift"
## [1] "ab_decay_het"
## [1] "ab_decay_impact_het_loading_shift"
## [1] "ab_decay_impact_het"
## [1] "ab_impact_het_loading_shift"
## [1] "ab_impact_het"
## [1] "ab_no_het_loading_shift"
## [1] "ab_no_het"
```

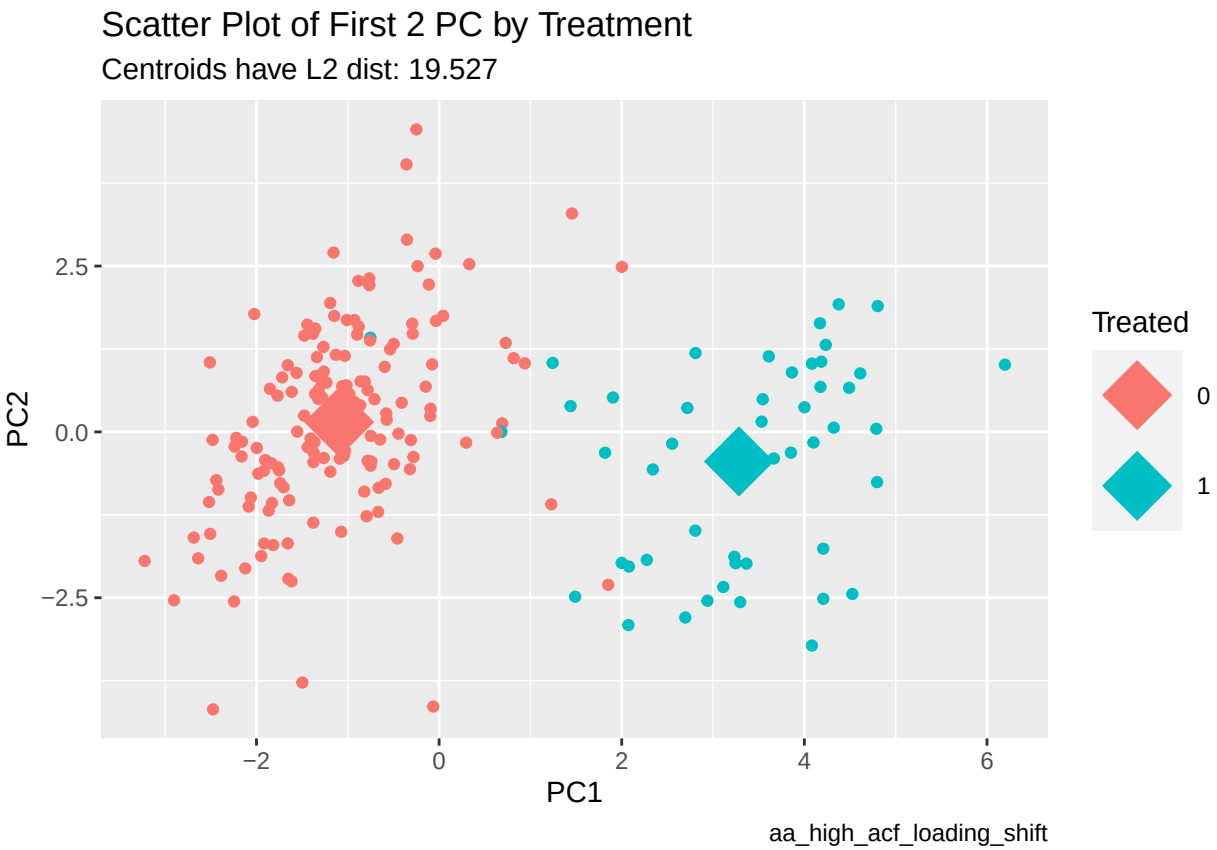


Notes:




```
## Registered S3 method overwritten by 'quantmod':
##   method            from
##   as.zoo.data.frame zoo
```

```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50    -4.67   63.3 1.60e- 5 2.06e- 5
## 2 diff~ val   0      1        150    50    -5.99   72.8 7.37e- 8 1.11e- 7
## 3 diff~ val   0      1        150    50     0.634 105.  5.27e- 1 5.27e- 1
## 4 e_ac~ val   0      1        150    50    -1.51   73.2 1.34e- 1 1.51e- 1
## 5 entr~ val   0      1        150    50    14.9    50.6 4.34e-20 9.76e-20
## 6 line~ val   0      1        150    50    -6.71   54.9 1.11e- 8 2.00e- 8
## 7 spike val   0      1        150    50    25.0   144.  2.20e-54 1.98e-53
## 8 trend val   0      1        150    50   -25.0    65.4 3.61e-35 1.08e-34
```

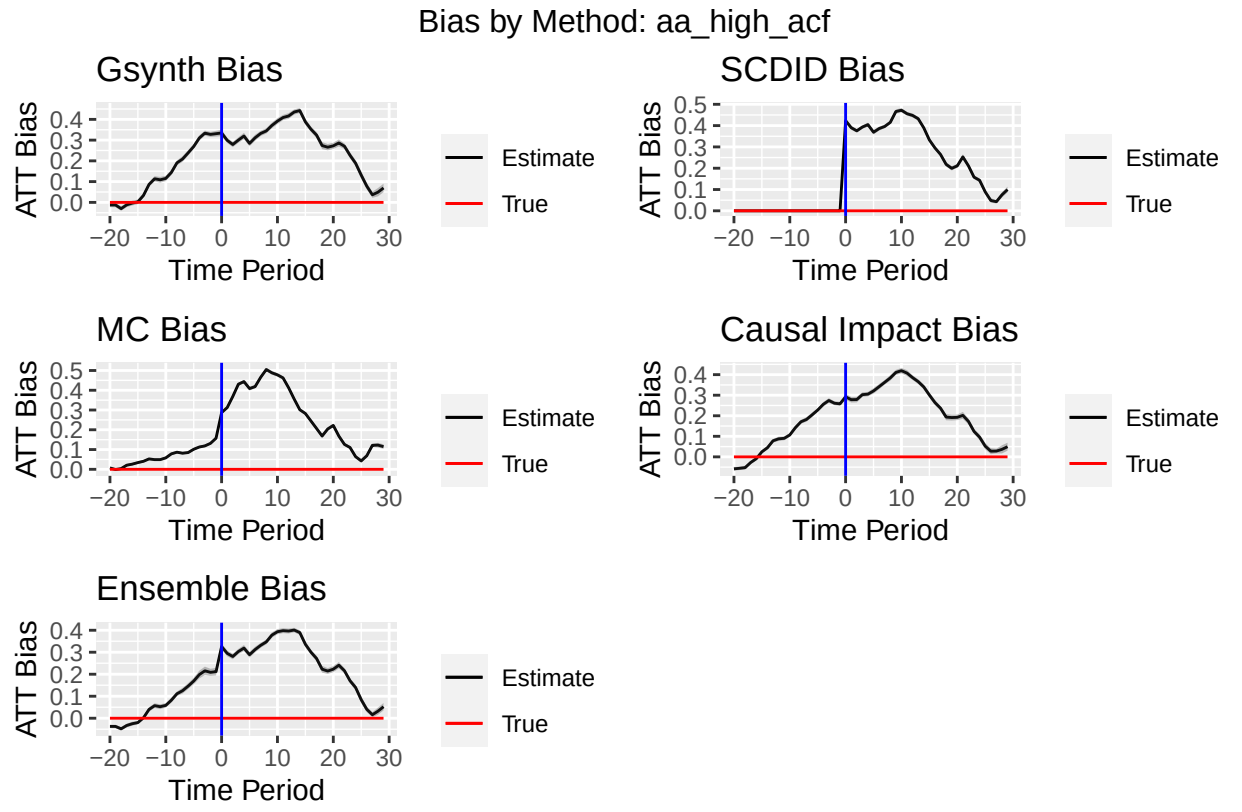
```
## 9 x_ac~ val   0      1        150    50   -26.4    76.9 2.44e-40 1.10e-39
## # ... with 1 more variable: p.adj.signif <chr>
```

Metrics by Method

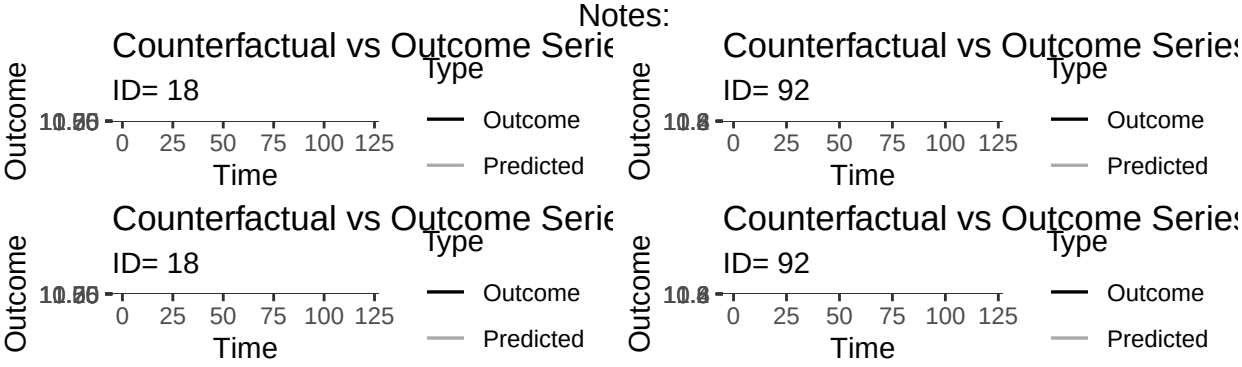
aa_high_acf_loading_shift

Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.920	1.000	1.000	0.560	0.980
1	0.960	1.000	1.000	0.700	1.000
2	1.000	1.000	0.980	0.660	1.000
3	1.000	1.000	1.000	0.720	0.980
4	0.980	1.000	1.000	0.580	0.980
rmse					
0	0.374	0.427	0.377	0.315	0.368
1	0.410	0.437	0.404	0.318	0.398
2	0.435	0.463	0.431	0.336	0.422
3	0.444	0.467	0.454	0.347	0.430
4	0.440	0.483	0.478	0.370	0.433
bias					
0	0.023	0.020	−0.022	−0.068	−0.000
1	0.027	0.012	−0.032	−0.062	0.001
2	0.030	0.014	−0.040	−0.060	0.004
3	0.029	0.007	−0.061	−0.079	0.001
4	0.001	−0.008	−0.052	−0.093	−0.023

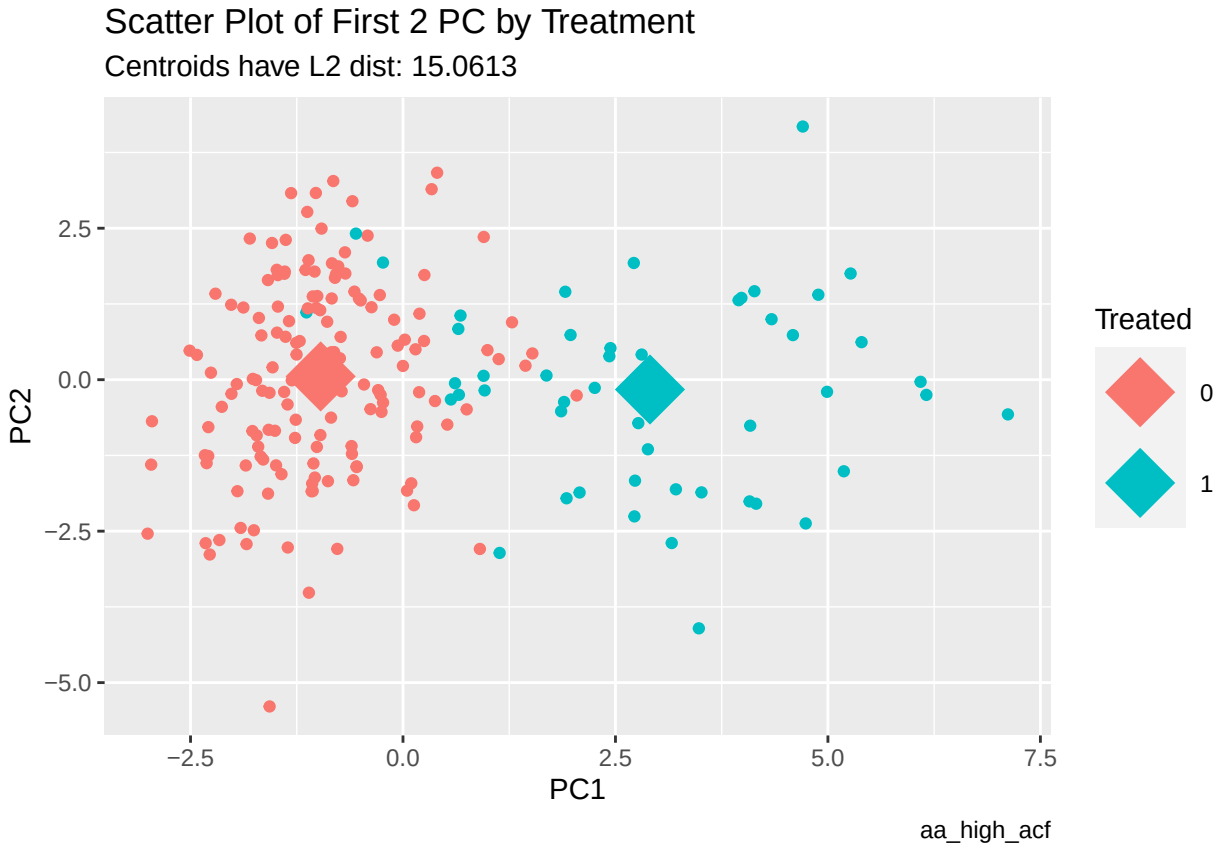
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50     1.77   63.4 8.15e- 2 1.05e- 1
## 2 diff~ val   0      1        150    50    -1.43   84.5 1.58e- 1 1.78e- 1
## 3 diff~ val   0      1        150    50     1.91  100.  5.95e- 2 8.92e- 2
## 4 e_ac~ val   0      1        150    50    -0.210  75.2 8.35e- 1 8.35e- 1
## 5 entr~ val   0      1        150    50     9.78   50.5 3.03e-13 6.82e-13
## 6 line~ val   0      1        150    50    -8.57   57.5 7.40e-12 1.33e-11
## 7 spike val   0      1        150    50    15.9   117.  4.95e-31 4.45e-30
## 8 trend val   0      1        150    50   -15.2    57.2 1.04e-21 3.12e-21
## 9 x_ac~ val   0      1        150    50   -15.8    61.9 1.95e-23 8.77e-23
## # ... with 1 more variable: p.adj.signif <chr>
```

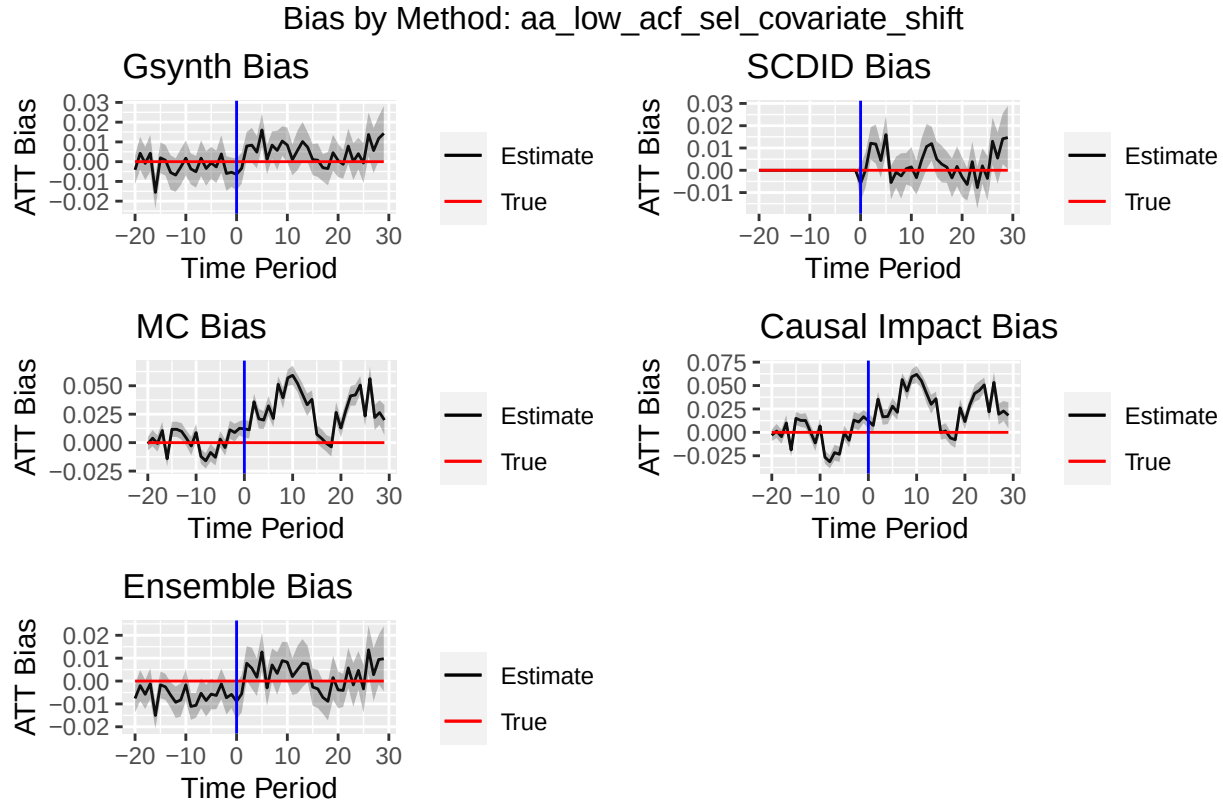
Metrics by Method

aa_high_acf

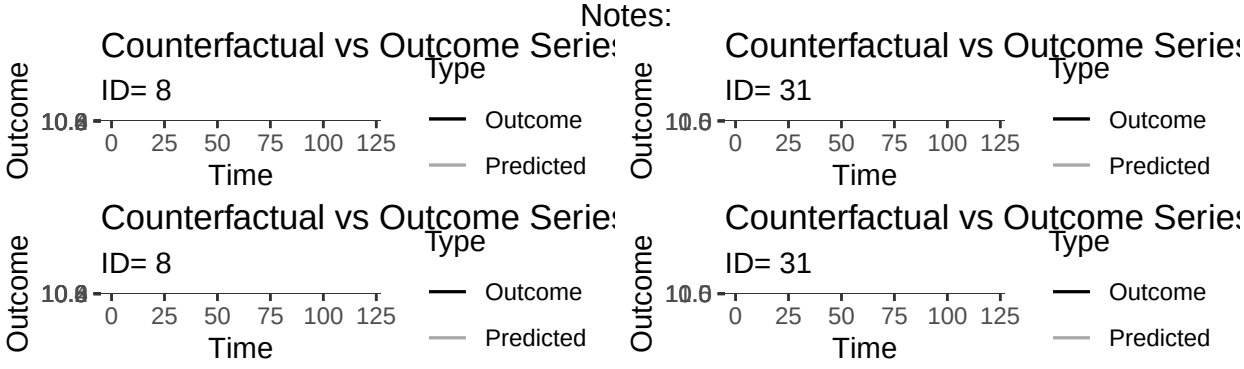
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.000	0.000	0.000	0.000	0.000
1	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000
rmse					
0	0.624	0.667	0.525	0.500	0.585
1	0.545	0.623	0.546	0.498	0.531

2	0.534	0.623	0.588	0.497	0.526
3	0.581	0.647	0.640	0.517	0.564
4	0.583	0.649	0.664	0.509	0.566
bias					
0	0.334	0.424	0.287	0.292	0.326
1	0.299	0.390	0.312	0.278	0.295
2	0.279	0.375	0.368	0.279	0.281
3	0.300	0.393	0.431	0.303	0.303
4	0.320	0.405	0.444	0.305	0.319

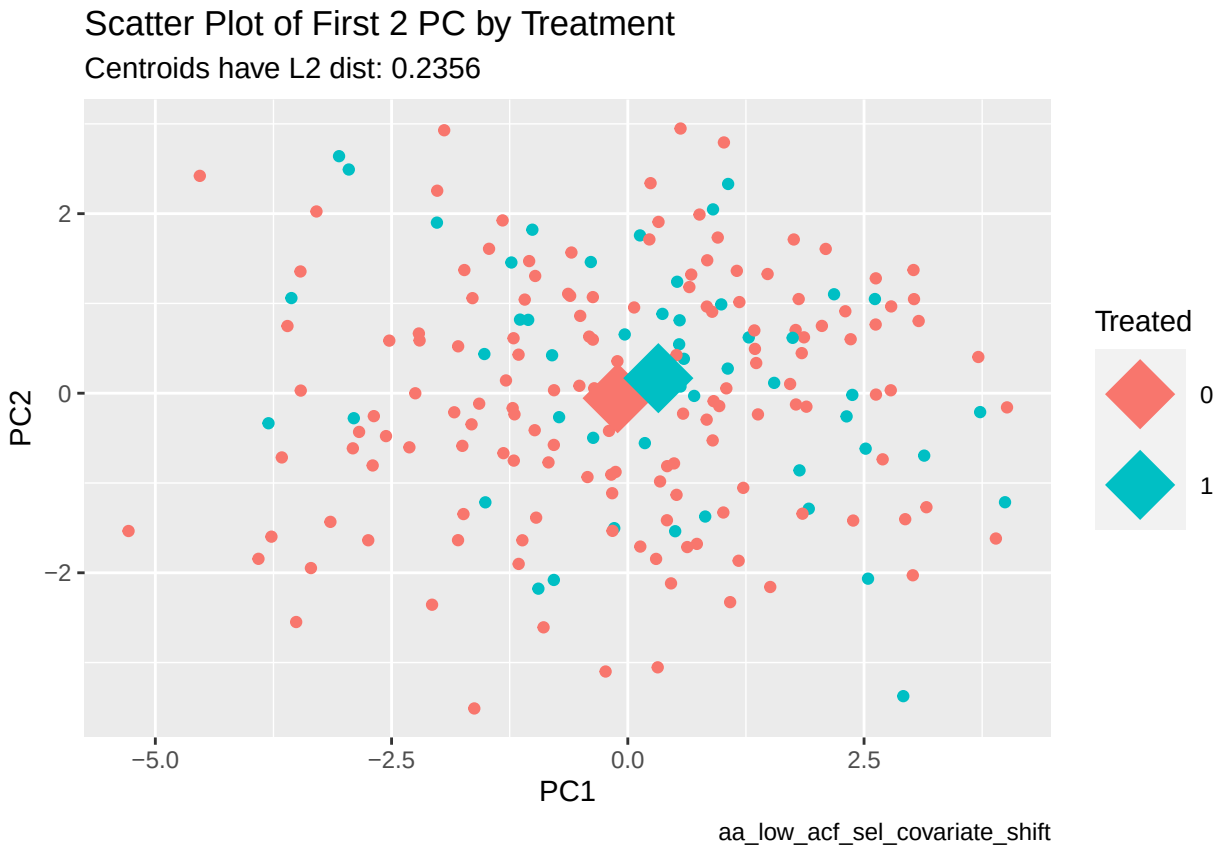
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df       p  p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>   <dbl>  <dbl>
## 1 curv~ val   0      1        150    50    -0.759  83.2 0.45    0.660
## 2 diff~ val   0      1        150    50     0.815  74.2 0.418   0.660
## 3 diff~ val   0      1        150    50     0.518  74.0 0.606   0.682
## 4 e_ac~ val   0      1        150    50     0.656  86.3 0.513   0.660
## 5 entr~ val   0      1        150    50    -0.309  87.3 0.758   0.758
## 6 line~ val   0      1        150    50     2.74  103.  0.00733 0.0660
## 7 spike val   0      1        150    50    -1.05   83.8 0.297   0.660
## 8 trend val   0      1        150    50     1.49  106.  0.14    0.546
## 9 x_ac~ val   0      1        150    50     1.35   90.8 0.182   0.546
## # ... with 1 more variable: p.adj.signif <chr>
```

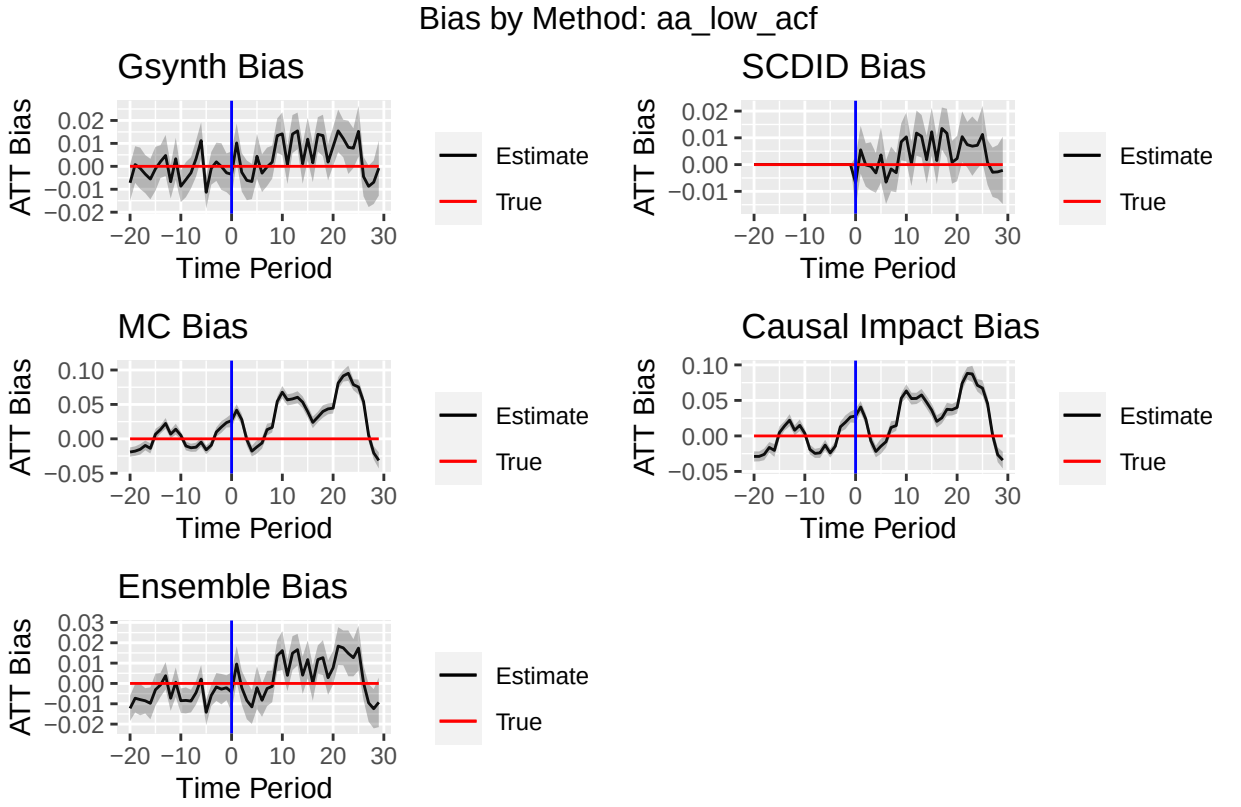
Metrics by Method

aa_low_acf_sel_covariate_shift

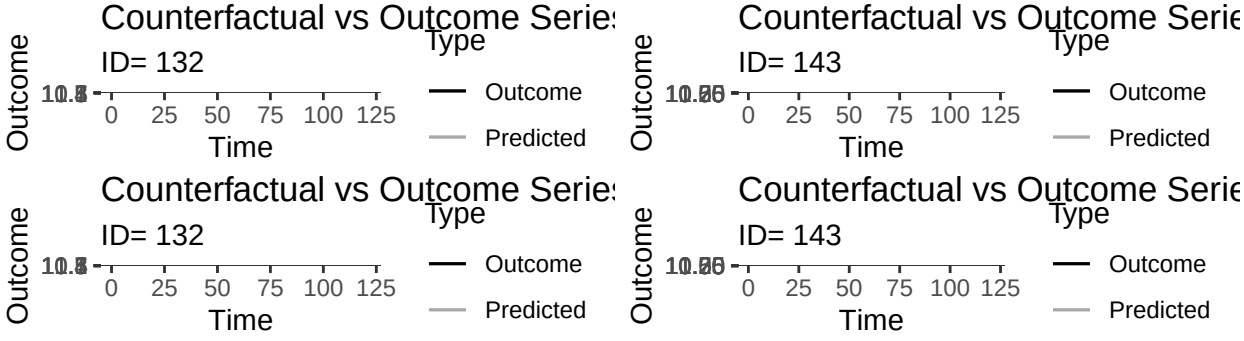
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.920	0.920	0.940	0.900	0.940
1	0.960	0.940	0.900	0.940	0.980
2	0.980	0.960	0.780	0.760	0.980
3	0.920	0.920	0.900	0.900	0.920
4	0.960	0.960	0.900	0.920	0.960
rmse					
0	0.199	0.200	0.201	0.207	0.199
1	0.204	0.206	0.207	0.213	0.205

2	0.205	0.205	0.211	0.218	0.204
3	0.199	0.201	0.203	0.209	0.199
4	0.207	0.208	0.213	0.220	0.207
bias					
0	−0.006	−0.006	0.012	0.012	−0.009
1	−0.003	0.000	0.011	0.007	−0.006
2	0.008	0.012	0.036	0.035	0.008
3	0.008	0.012	0.021	0.017	0.006
4	0.005	0.004	0.020	0.017	0.002

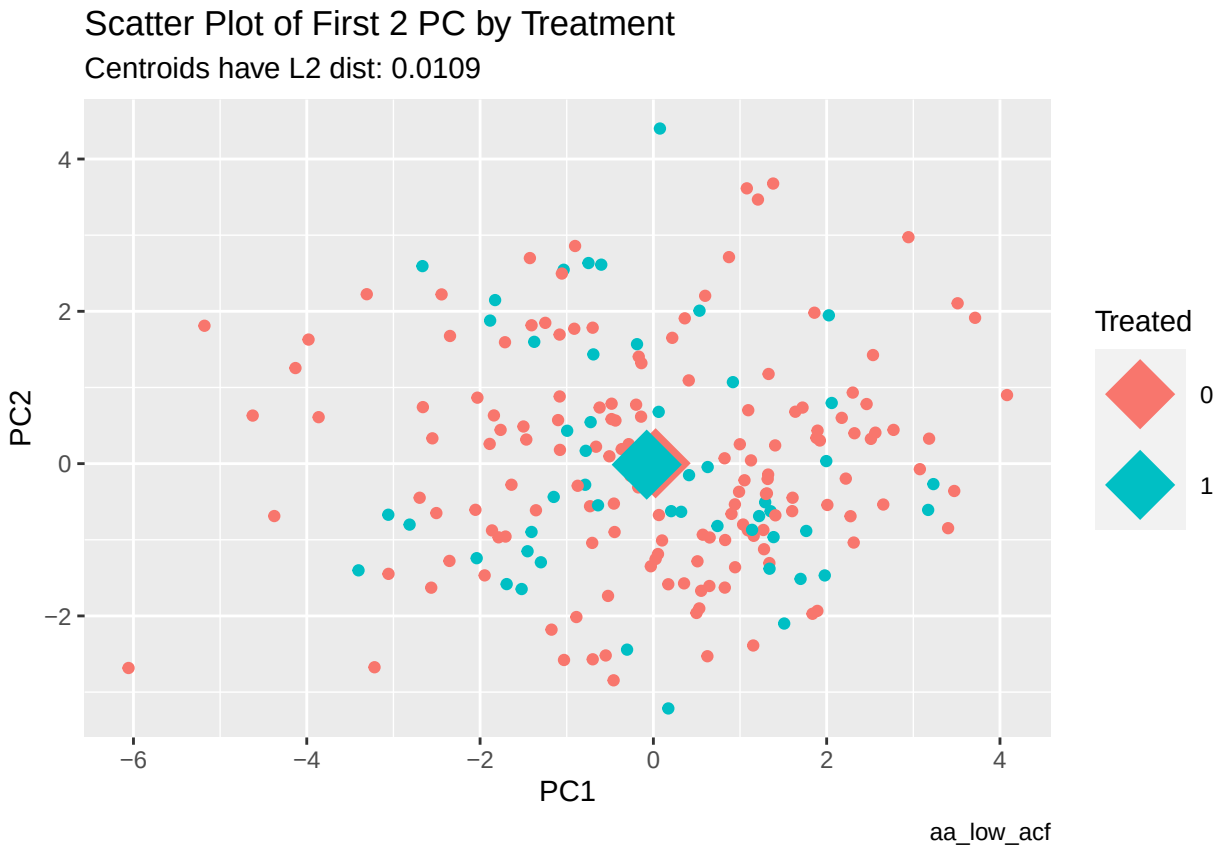
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df     p p.adj p.adj.signif
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl> <dbl> <dbl> <chr>
## 1 curv~ val   0      1        150    50    0.178   85.8 0.859 0.966 ns
## 2 diff~ val   0      1        150    50   -0.221  103.  0.826 0.966 ns
## 3 diff~ val   0      1        150    50   -0.572   87.7 0.569 0.966 ns
## 4 e_ac~ val   0      1        150    50    0.0253  90.7 0.98  0.98  ns
## 5 entr~ val   0      1        150    50    0.755   74.8 0.453 0.966 ns
## 6 line~ val   0      1        150    50    0.811   85.1 0.419 0.966 ns
## 7 spike val   0      1        150    50    0.608   86.2 0.545 0.966 ns
## 8 trend val   0      1        150    50   -0.188   82.4 0.851 0.966 ns
## 9 x_ac~ val   0      1        150    50   -0.195   92.2 0.846 0.966 ns
```

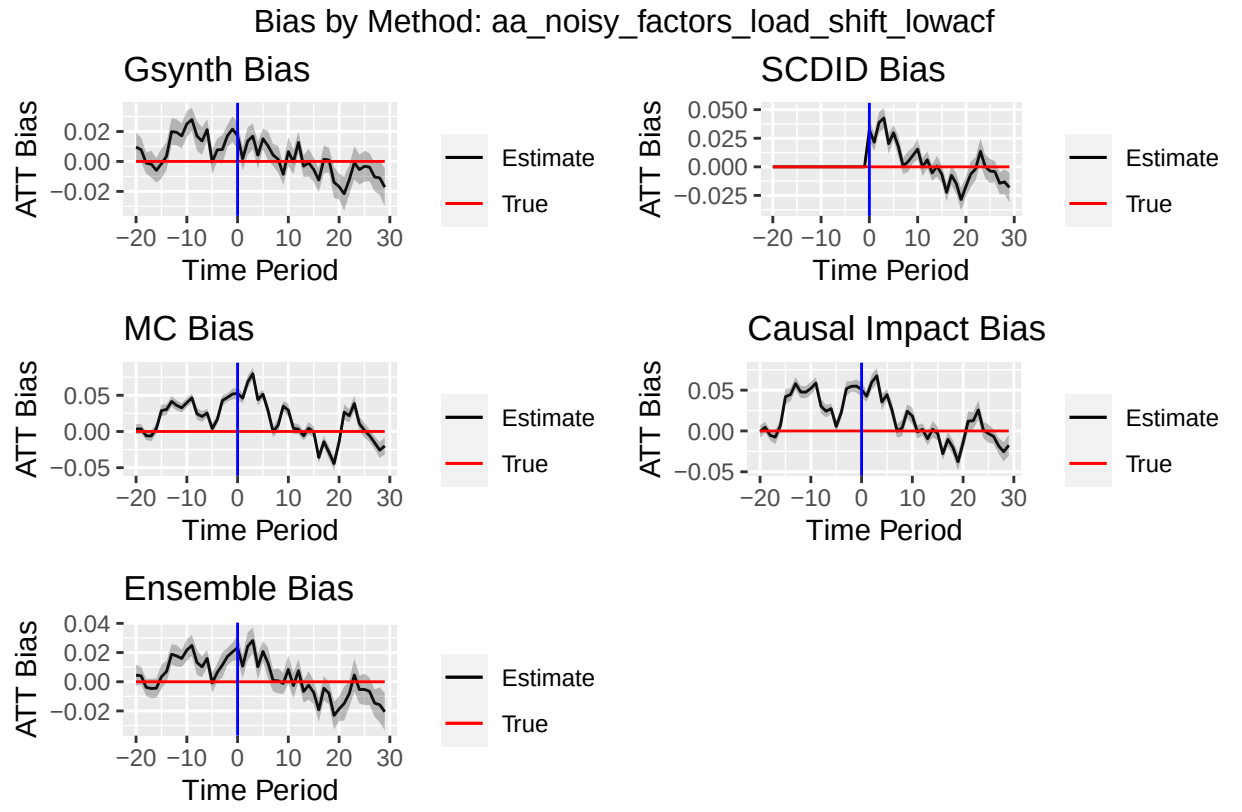
Metrics by Method

aa_low_acf

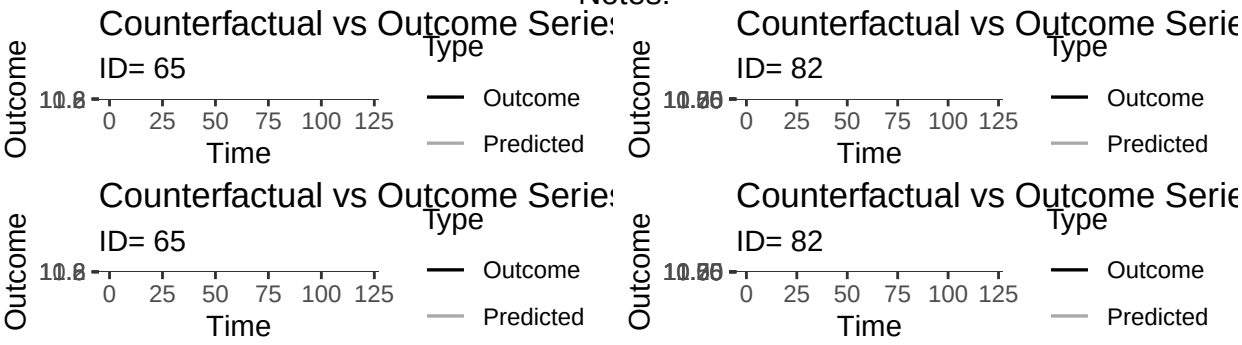
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.940	0.940	0.820	0.840	0.960
1	0.940	0.920	0.760	0.800	0.920
2	0.940	0.940	0.900	0.940	0.940
3	0.940	0.960	0.940	0.960	0.920
4	0.960	1.000	0.900	0.900	0.840
rmse					
0	0.209	0.213	0.214	0.221	0.210
1	0.209	0.210	0.216	0.222	0.209
2	0.203	0.203	0.210	0.217	0.203

3	0.204	0.207	0.208	0.215	0.205
4	0.203	0.205	0.208	0.215	0.204
bias					
0	−0.003	−0.007	0.027	0.028	−0.004
1	0.010	0.006	0.042	0.041	0.010
2	−0.003	−0.000	0.028	0.024	−0.002
3	−0.006	−0.001	−0.001	−0.007	−0.008
4	−0.007	−0.003	−0.018	−0.022	−0.012

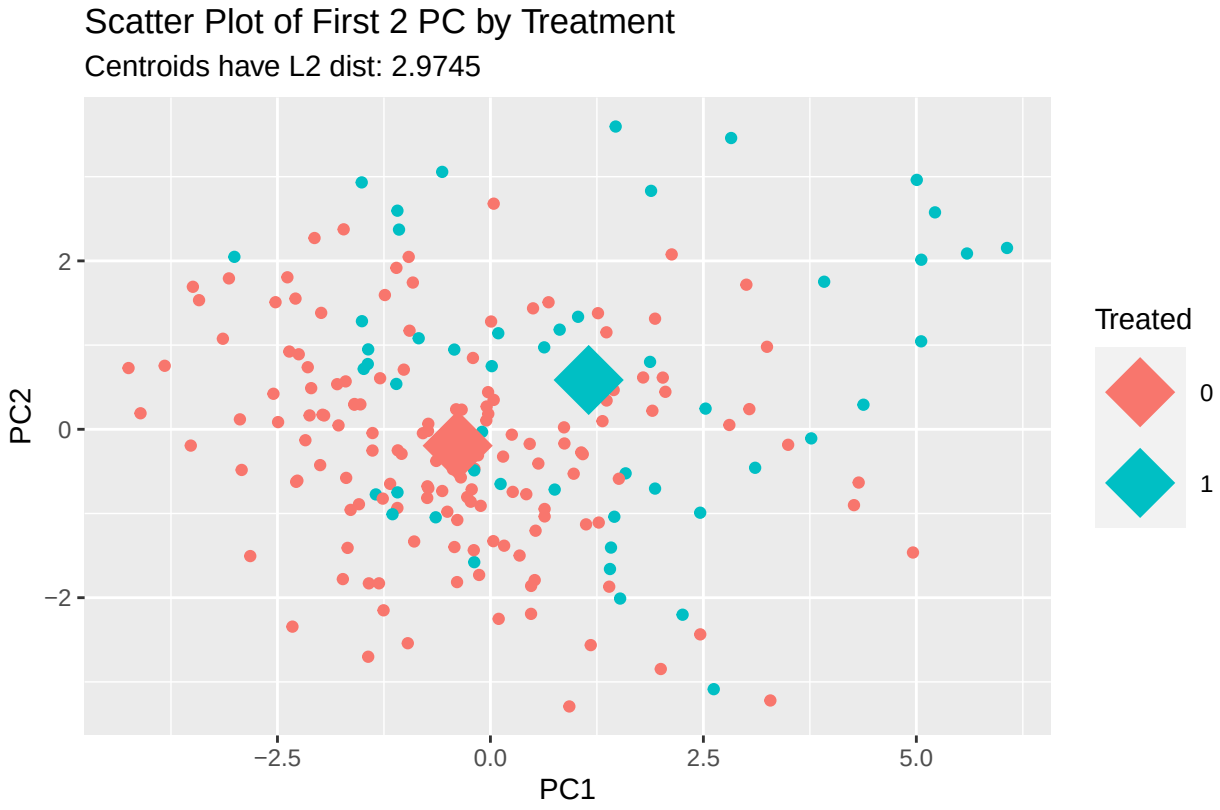
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df       p   p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>   <dbl>   <dbl>
## 1 curv~ val   0      1        150    50     2.89   96.5 4.73e-3 7.10e-3
## 2 diff~ val   0      1        150    50    -1.80   74.6 7.57e-2 8.52e-2
## 3 diff~ val   0      1        150    50    -0.957  73.4 3.42e-1 3.42e-1
## 4 e_ac~ val   0      1        150    50    -2.09   78.0 4.03e-2 5.18e-2
## 5 entr~ val   0      1        150    50     3.65   56.9 5.63e-4 1.27e-3
## 6 line~ val   0      1        150    50    -3.67   94.0 4.00e-4 1.20e-3
## 7 spike val   0      1        150    50     3.15   75.2 2.37e-3 4.27e-3
## 8 trend val   0      1        150    50    -4.67   61.6 1.67e-5 7.51e-5
## 9 x_ac~ val   0      1        150    50    -4.96   75.2 4.28e-6 3.85e-5
## # ... with 1 more variable: p.adj.signif <chr>
```

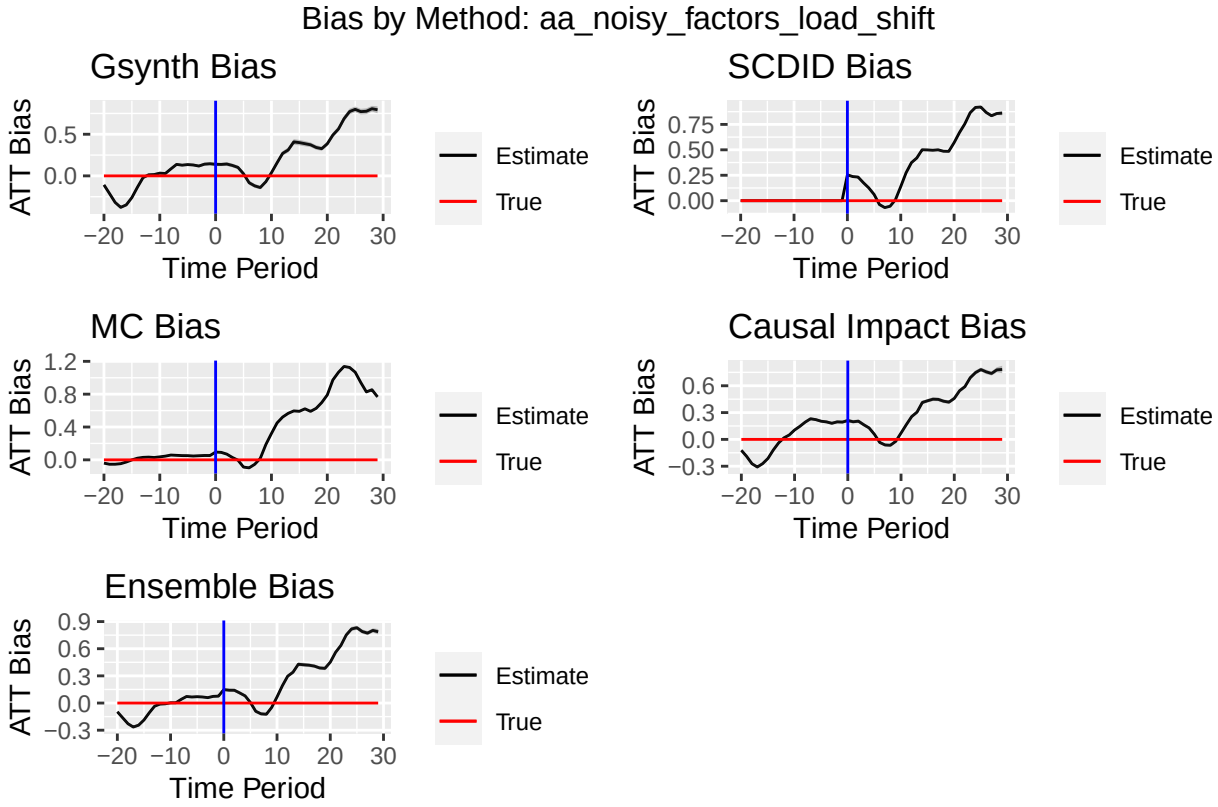
Metrics by Method

aa_noisy_factors_load_shift_lowacf

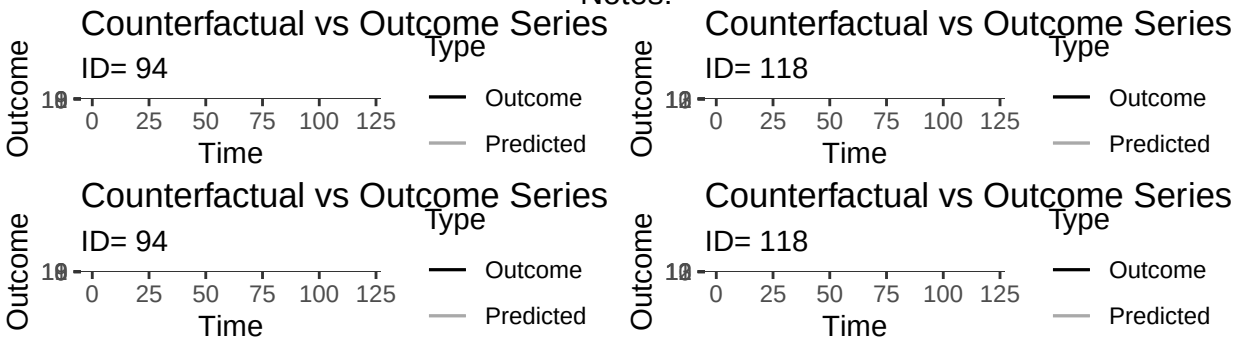
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.920	0.880	0.680	0.760	0.900
1	0.940	0.900	0.700	0.820	0.920
2	0.920	0.760	0.440	0.600	0.820
3	0.920	0.740	0.260	0.440	0.820
4	0.960	0.940	0.760	0.840	0.940
rmse					
0	0.212	0.215	0.220	0.237	0.213
1	0.210	0.211	0.216	0.232	0.209

2	0.215	0.220	0.230	0.243	0.216
3	0.212	0.214	0.228	0.241	0.212
4	0.213	0.215	0.224	0.235	0.213
bias					
0	0.017	0.032	0.053	0.051	0.023
1	0.002	0.021	0.046	0.043	0.011
2	0.014	0.039	0.068	0.060	0.024
3	0.017	0.043	0.080	0.068	0.028
4	0.004	0.020	0.044	0.035	0.010

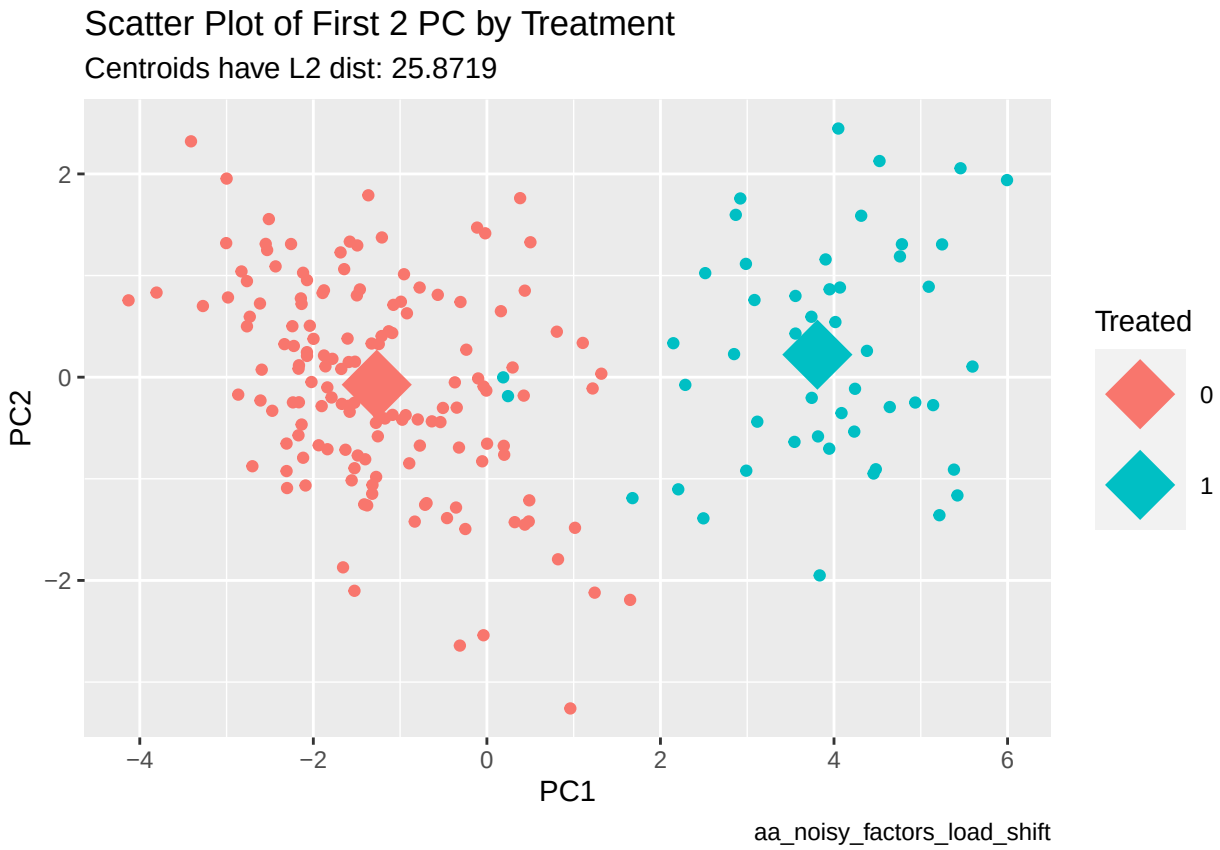
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50     -7.15  57.4 1.76e- 9 2.26e- 9
## 2 diff~ val   0      1        150    50    -19.9   75.1 1.06e-31 1.91e-31
## 3 diff~ val   0      1        150    50     -5.15  89.5 1.55e- 6 1.55e- 6
## 4 e_ac~ val   0      1        150    50    -19.5   91.2 2.32e-34 5.22e-34
## 5 entr~ val   0      1        150    50     20.3   61.9 4.58e-29 6.87e-29
## 6 line~ val   0      1        150    50     -6.31  57.8 4.27e- 8 4.80e- 8
## 7 spike val   0      1        150    50     23.1  183.  3.08e-56 2.77e-55
## 8 trend val   0      1        150    50    -25.2   85.6 2.65e-41 7.95e-41
## 9 x_ac~ val   0      1        150    50    -29.0  120.  6.66e-56 3.00e-55
## # ... with 1 more variable: p.adj.signif <chr>
```

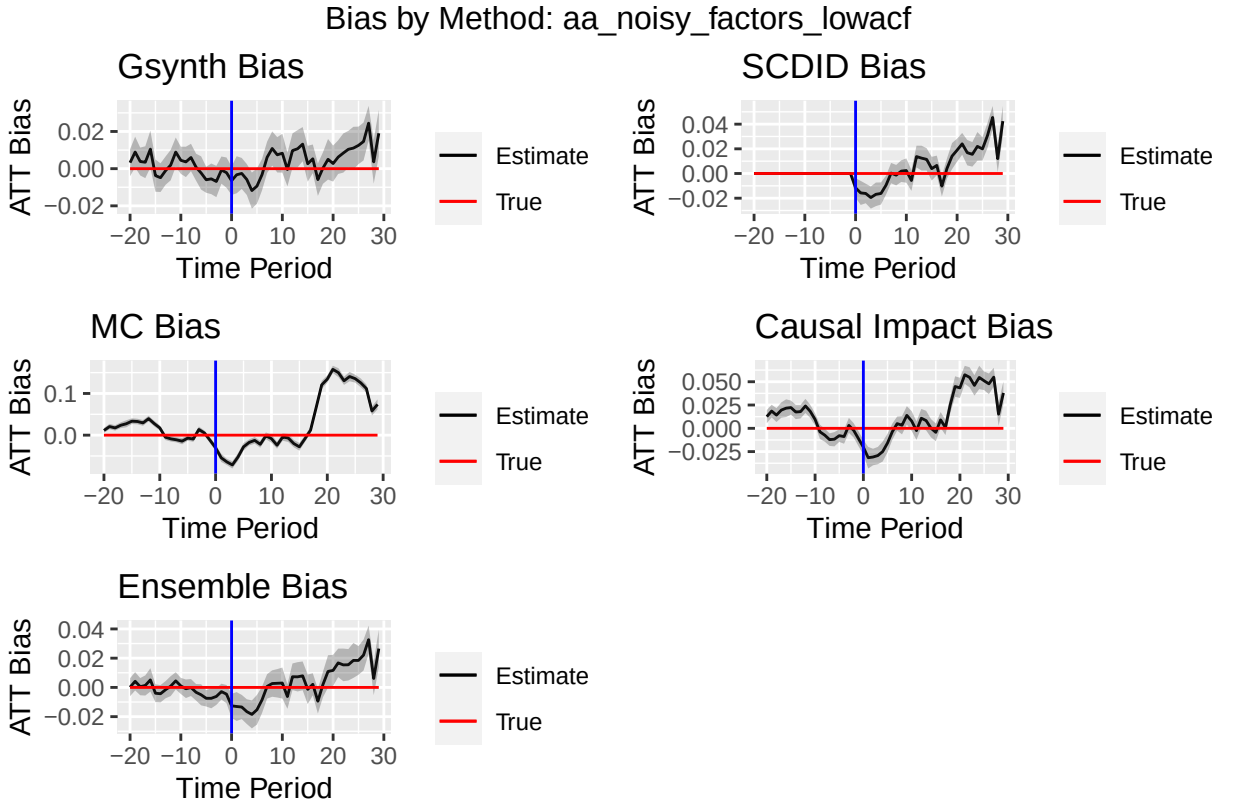
Metrics by Method

aa_noisy_factors_load_shift

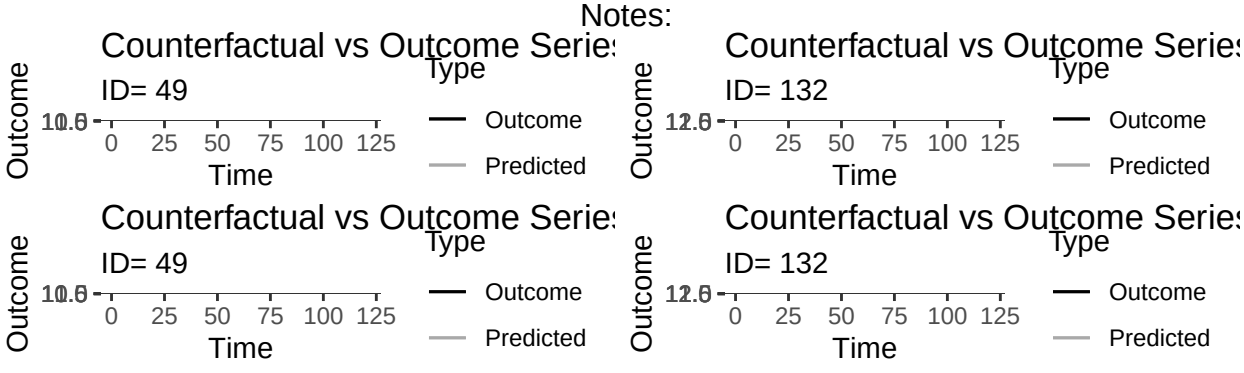
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.340	0.000	0.700	0.120	0.260
1	0.440	0.000	0.900	0.120	0.360
2	0.500	0.020	0.980	0.200	0.520
3	0.620	0.180	1.000	0.400	0.760
4	0.780	0.840	1.000	0.700	0.940
rmse					
0	0.439	0.522	0.411	0.512	0.440
1	0.452	0.532	0.466	0.516	0.455

2	0.484	0.551	0.493	0.541	0.483
3	0.519	0.547	0.557	0.541	0.511
4	0.561	0.574	0.616	0.555	0.550
bias					
0	0.139	0.254	0.095	0.211	0.148
1	0.137	0.237	0.091	0.197	0.142
2	0.142	0.232	0.070	0.204	0.141
3	0.125	0.176	0.029	0.164	0.111
4	0.102	0.126	−0.004	0.128	0.079

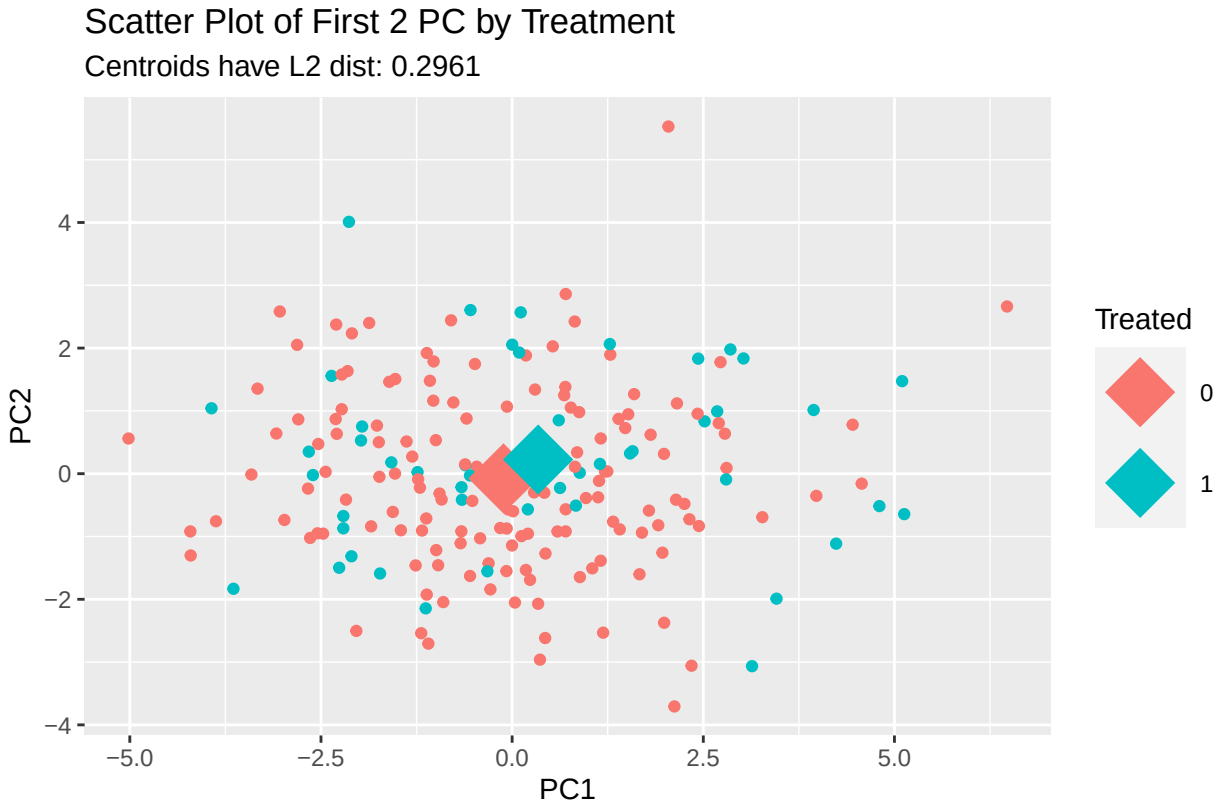
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```



aa_noisy_factors_lowacf

```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df       p p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>   <dbl> <dbl>
## 1 curv~ val   0      1        150    50   -2.35    87.5 0.0213  0.192
## 2 diff~ val   0      1        150    50   -0.347   78.0 0.729   0.923
## 3 diff~ val   0      1        150    50    0.0974  79.0 0.923   0.923
## 4 e_ac~ val   0      1        150    50    0.136   83.4 0.892   0.923
## 5 entr~ val   0      1        150    50    1.33    75.6 0.187   0.421
## 6 line~ val   0      1        150    50   -0.935   80.5 0.353   0.530
## 7 spike val   0      1        150    50    1.72    79.5 0.089   0.33
## 8 trend val   0      1        150    50   -1.62    75.2 0.11    0.33
## 9 x_ac~ val   0      1        150    50   -1.12    73.5 0.268   0.482
## # ... with 1 more variable: p.adj.signif <chr>
```

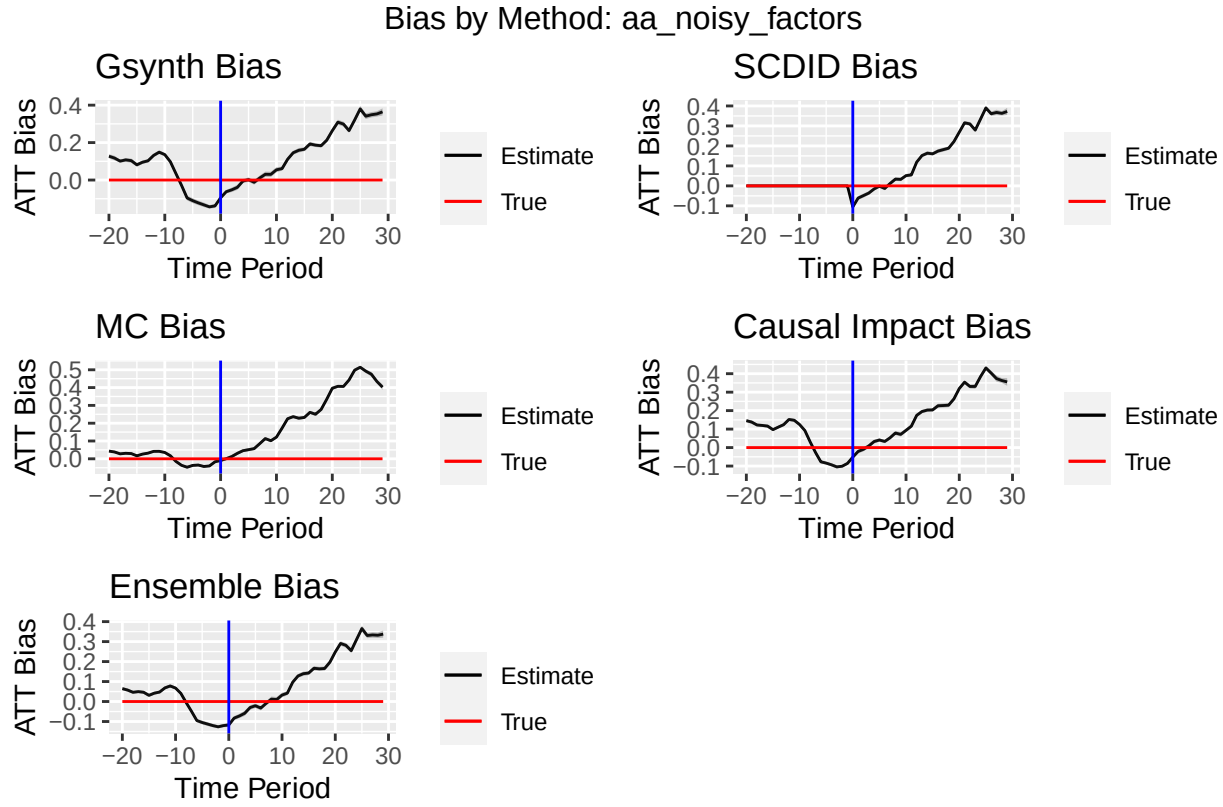
Metrics by Method

aa_noisy_factors_lowacf

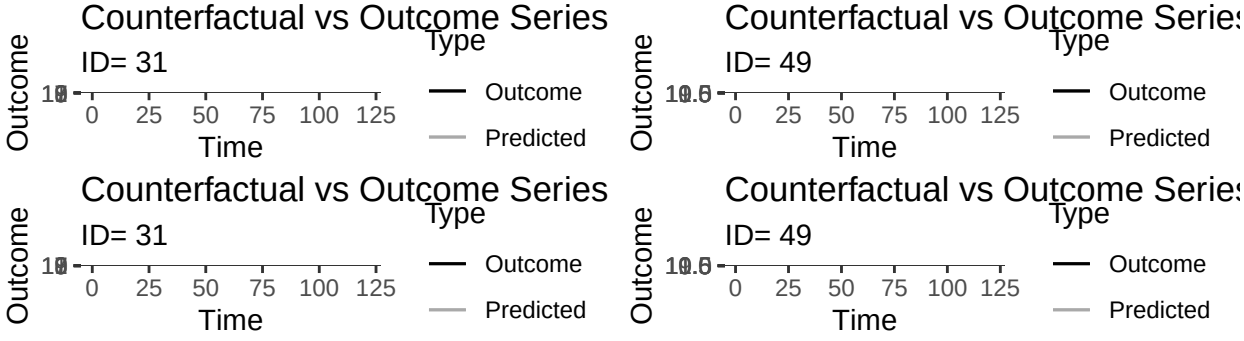
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.940	0.900	0.860	0.940	0.900
1	0.940	0.900	0.560	0.720	0.900
2	0.980	0.920	0.500	0.860	0.960
3	0.960	0.940	0.500	0.880	0.940
4	0.940	0.940	0.600	0.880	0.940
rmse					
0	0.216	0.221	0.222	0.232	0.216
1	0.215	0.216	0.221	0.233	0.212

2	0.215	0.215	0.234	0.233	0.213
3	0.221	0.227	0.245	0.243	0.221
4	0.221	0.230	0.231	0.241	0.220
bias					
0	−0.006	−0.012	−0.030	−0.020	−0.013
1	−0.003	−0.016	−0.054	−0.032	−0.013
2	−0.003	−0.016	−0.064	−0.031	−0.013
3	−0.006	−0.019	−0.071	−0.029	−0.017
4	−0.012	−0.017	−0.053	−0.025	−0.018

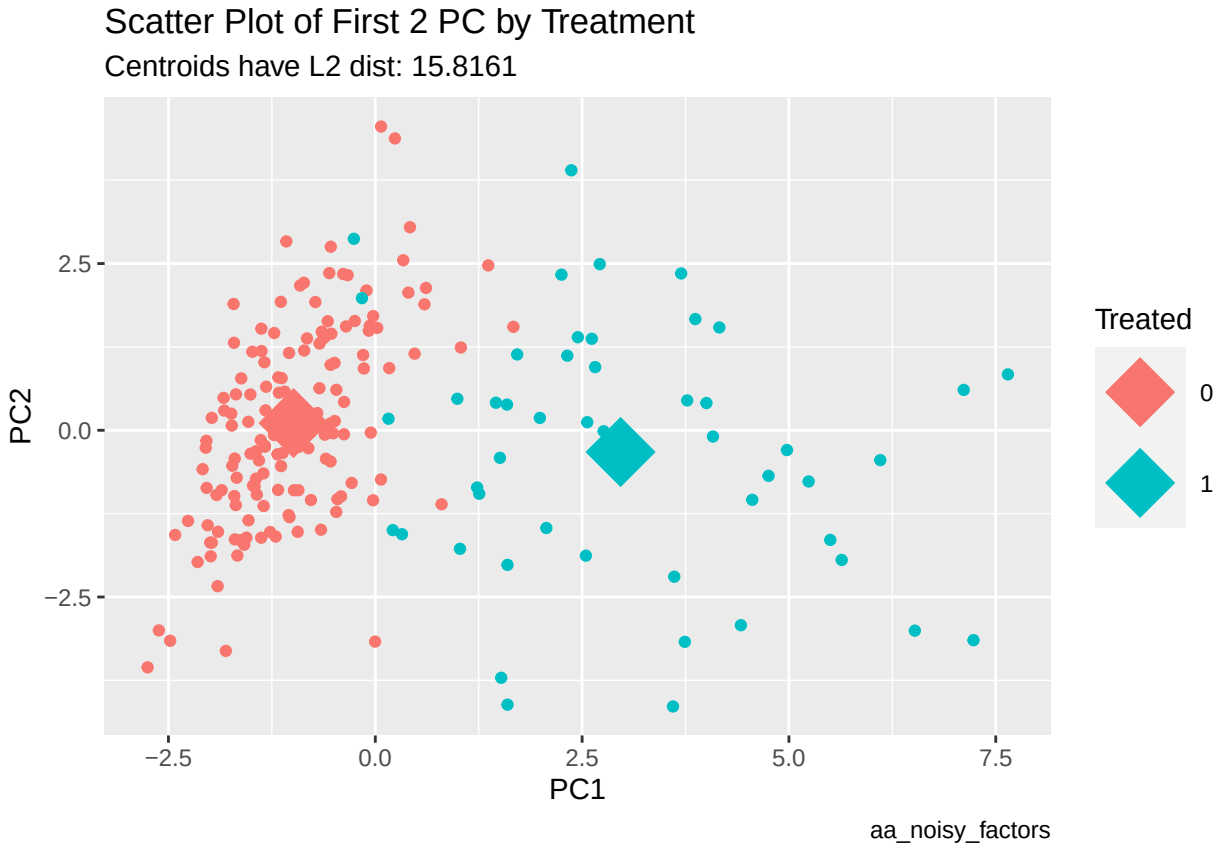
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50   -10.1    52.7 5.66e-14 1.27e-13
## 2 diff~ val   0      1        150    50    -2.39   74.0 1.94e- 2 2.49e- 2
## 3 diff~ val   0      1        150    50     1.54   75.2 1.29e- 1 1.45e- 1
## 4 e_ac~ val   0      1        150    50    -2.75   74.2 7.53e- 3 1.13e- 2
## 5 entr~ val   0      1        150    50     7.62   50.2 6.24e-10 1.12e- 9
## 6 line~ val   0      1        150    50    -0.248  51.9 8.05e- 1 8.05e- 1
## 7 spike val   0      1        150    50    14.9    77.4 2.12e-24 1.91e-23
## 8 trend val   0      1        150    50   -14.7    53.7 1.80e-20 5.40e-20
## 9 x_ac~ val   0      1        150    50   -15.8    60.1 4.63e-23 2.08e-22
## # ... with 1 more variable: p.adj.signif <chr>
```

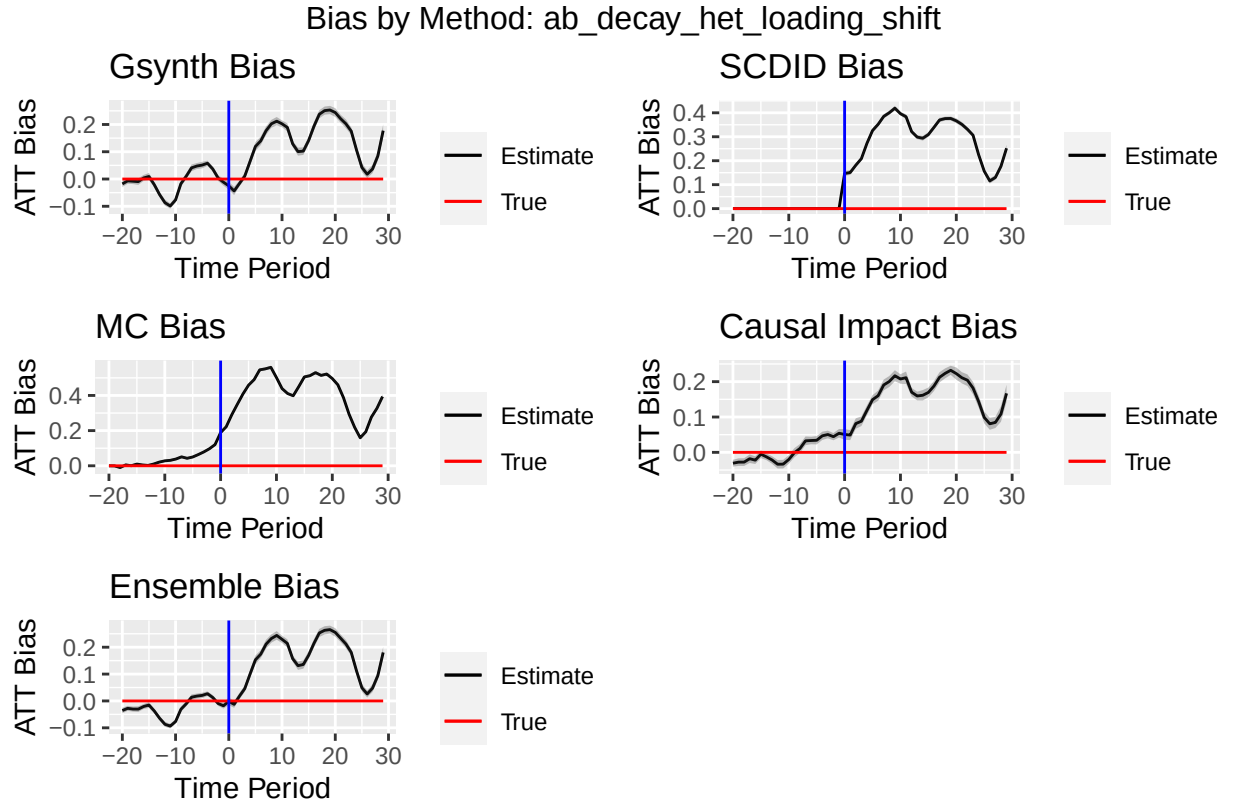
Metrics by Method

aa_noisy_factors

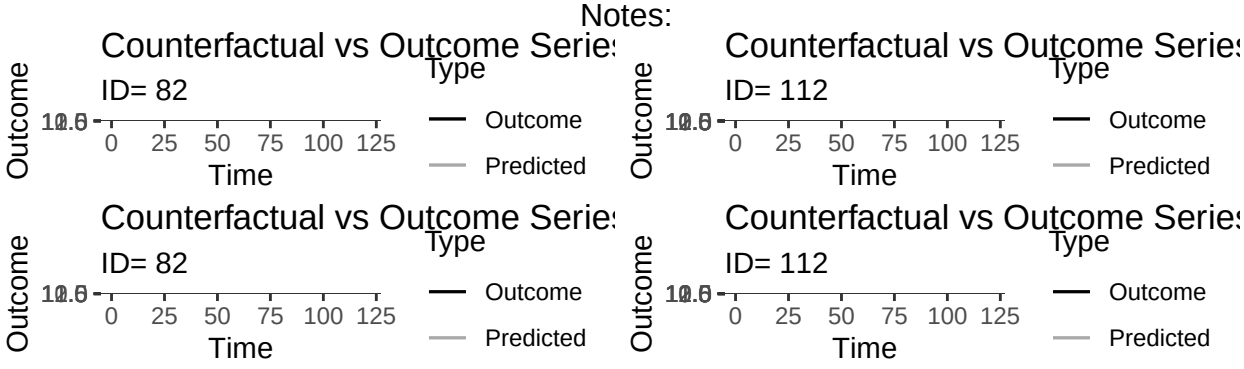
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.480	0.300	1.000	0.840	0.180
1	0.900	0.880	1.000	0.940	0.560
2	0.860	0.880	1.000	0.960	0.760
3	0.920	0.940	0.960	0.980	0.800
4	0.980	0.980	0.940	0.920	0.860
rmse					
0	0.335	0.337	0.285	0.308	0.331
1	0.350	0.346	0.299	0.305	0.339

2	0.344	0.339	0.294	0.298	0.331
3	0.339	0.338	0.311	0.294	0.329
4	0.313	0.316	0.309	0.293	0.303
bias					
0	−0.095	−0.105	−0.010	−0.052	−0.117
1	−0.062	−0.061	0.001	−0.021	−0.083
2	−0.052	−0.049	0.013	−0.009	−0.072
3	−0.039	−0.036	0.031	0.009	−0.059
4	−0.005	−0.015	0.046	0.033	−0.030

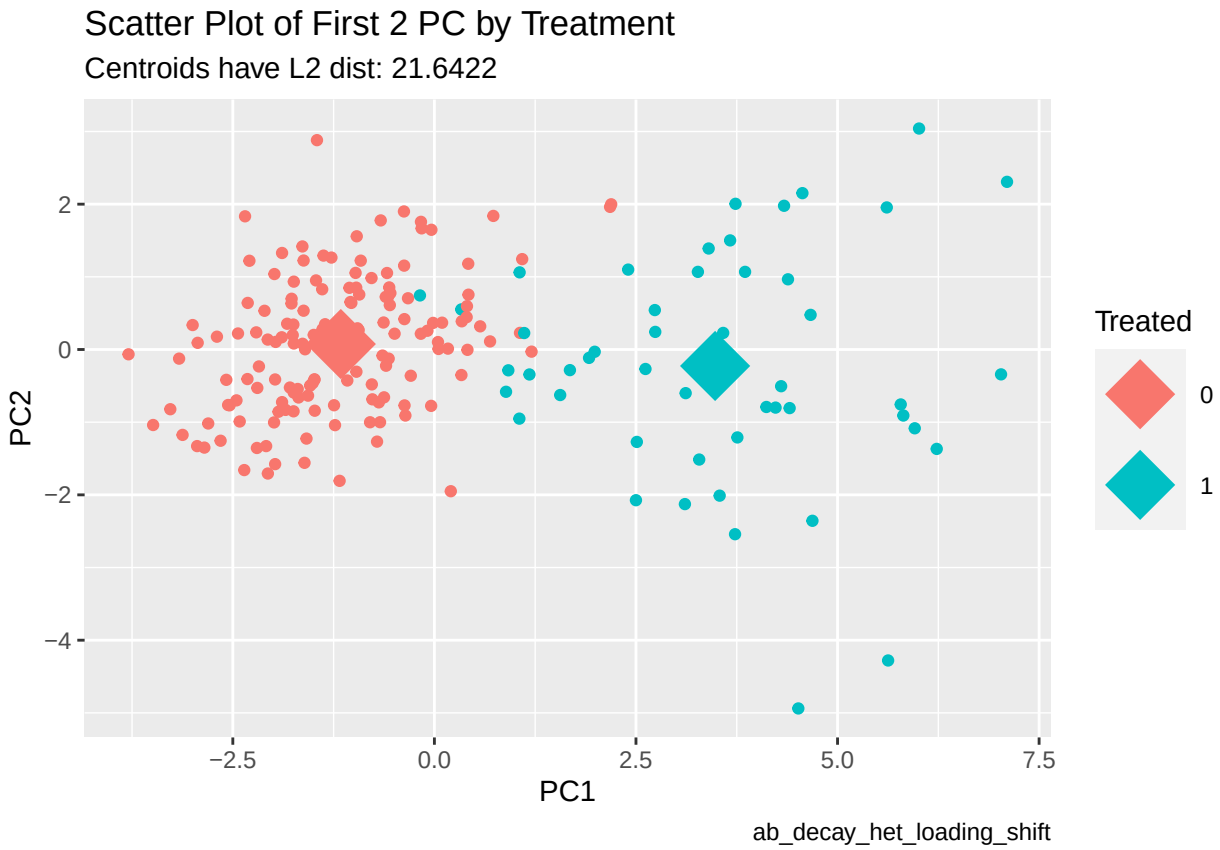
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50     -3.20  75.7 2.01e- 3 2.01e- 3
## 2 diff~ val   0      1        150    50    -10.8   60.3 1.09e-15 1.63e-15
## 3 diff~ val   0      1        150    50     -4.31  66.3 5.52e- 5 6.21e- 5
## 4 e_ac~ val   0      1        150    50    -12.1   69.8 7.67e-19 1.73e-18
## 5 entr~ val   0      1        150    50     12.3   56.7 1.29e-17 2.32e-17
## 6 line~ val   0      1        150    50     -9.79  63.9 2.50e-14 3.21e-14
## 7 spike val   0      1        150    50     18.4  111.  2.20e-35 1.98e-34
## 8 trend val   0      1        150    50    -15.2   59.9 3.22e-22 9.66e-22
## 9 x_ac~ val   0      1        150    50    -20.6   78.5 2.23e-33 1.00e-32
## # ... with 1 more variable: p.adj.signif <chr>
```

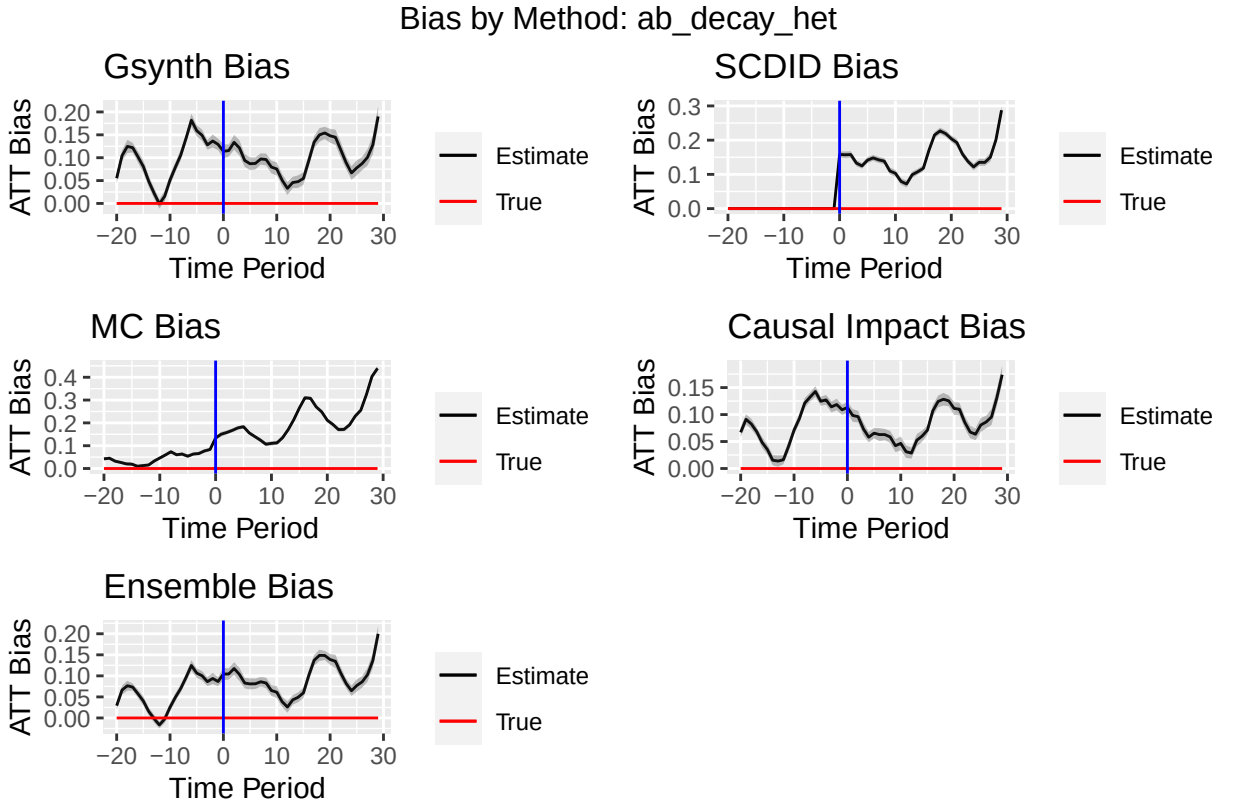
Metrics by Method

ab_decay_het_loading_shift

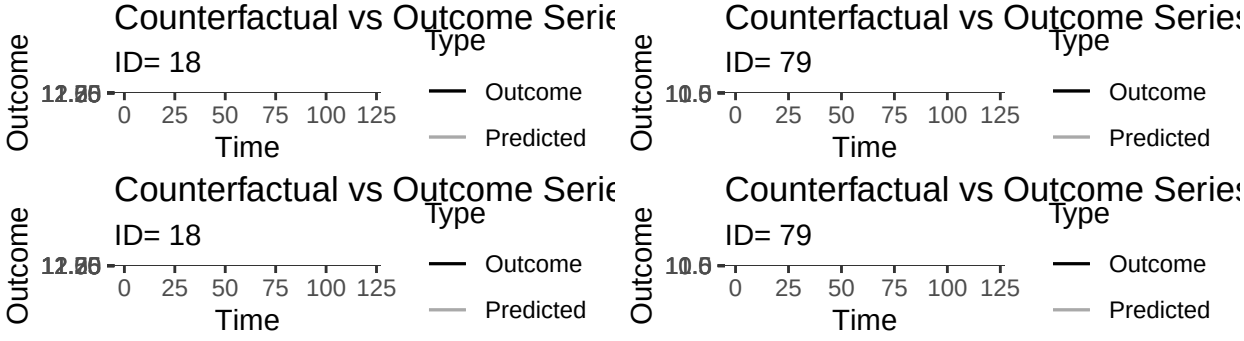
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.920	0.040	0.000	0.800	0.960
1	0.900	0.120	0.000	0.840	0.940
2	1.000	0.000	0.000	0.640	0.980
3	1.000	0.000	0.000	0.560	0.900
4	0.740	0.000	0.000	0.340	0.420
rmse					
0	0.353	0.378	0.409	0.337	0.343
1	0.365	0.383	0.433	0.342	0.351

2	0.363	0.419	0.484	0.360	0.358
3	0.358	0.426	0.511	0.352	0.355
4	0.352	0.449	0.539	0.371	0.356
bias					
0	−0.025	0.147	0.189	0.051	−0.001
1	−0.044	0.151	0.222	0.049	−0.013
2	−0.016	0.181	0.290	0.081	0.018
3	0.011	0.208	0.350	0.088	0.046
4	0.065	0.273	0.408	0.119	0.101

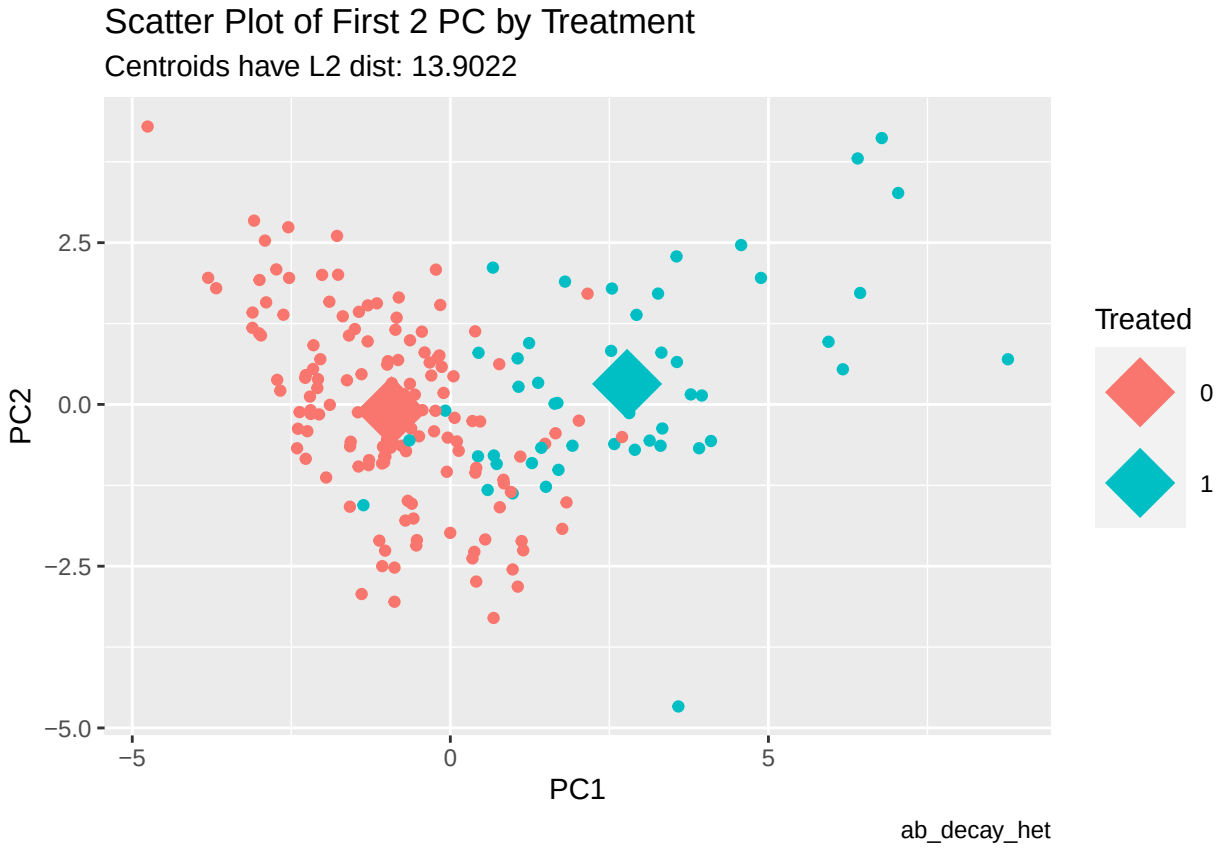
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50      4.31  71.2 5.22e- 5 5.87e- 5
## 2 diff~ val   0      1        150    50     -6.20 100.  1.28e- 8 1.92e- 8
## 3 diff~ val   0      1        150    50     -1.69  86.1 9.40e- 2 9.40e- 2
## 4 e_ac~ val   0      1        150    50     -7.35 116.  3.07e-11 5.53e-11
## 5 entr~ val   0      1        150    50      5.68  51.0 6.54e- 7 8.41e- 7
## 6 line~ val   0      1        150    50     -8.64  58.4 5.01e-12 1.13e-11
## 7 spike val   0      1        150    50     11.1   74.8 1.59e-17 7.15e-17
## 8 trend val   0      1        150    50    -11.0   55.1 1.67e-15 5.01e-15
## 9 x_ac~ val   0      1        150    50    -12.8   67.1 1.34e-19 1.21e-18
## # ... with 1 more variable: p.adj.signif <chr>
```

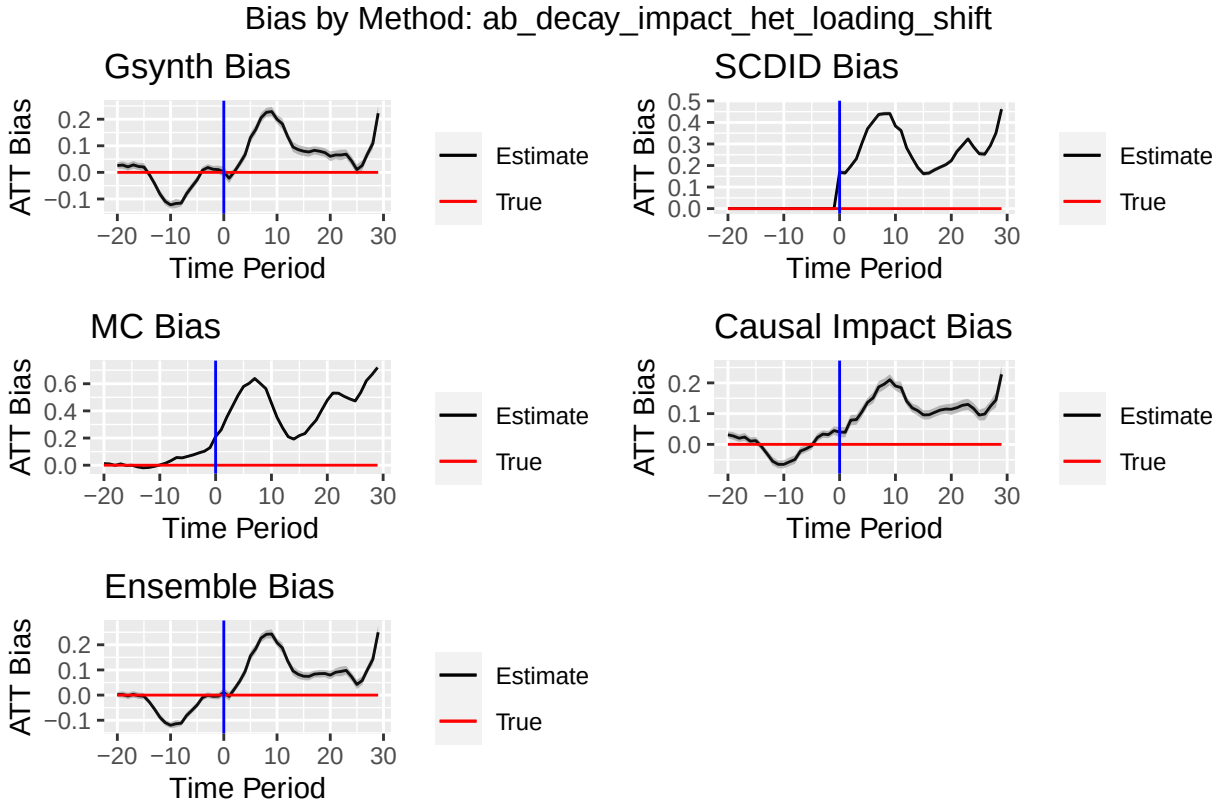
Metrics by Method

ab_decay_het

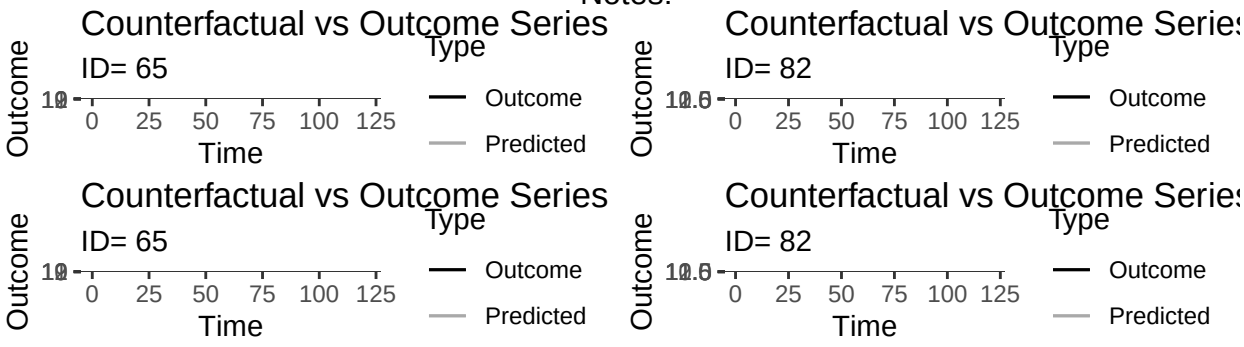
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.220	0.000	0.000	0.100	0.300
1	0.280	0.020	0.020	0.340	0.320
2	0.220	0.040	0.020	0.300	0.280
3	0.360	0.080	0.000	0.520	0.380
4	0.360	0.040	0.000	0.660	0.460
rmse					
0	0.312	0.342	0.309	0.299	0.304
1	0.320	0.362	0.333	0.299	0.313

2	0.353	0.365	0.335	0.292	0.335
3	0.347	0.338	0.333	0.274	0.325
4	0.314	0.319	0.343	0.261	0.298
bias					
0	0.114	0.158	0.134	0.113	0.104
1	0.115	0.157	0.150	0.098	0.104
2	0.134	0.158	0.158	0.096	0.117
3	0.121	0.133	0.167	0.073	0.103
4	0.094	0.125	0.178	0.058	0.083

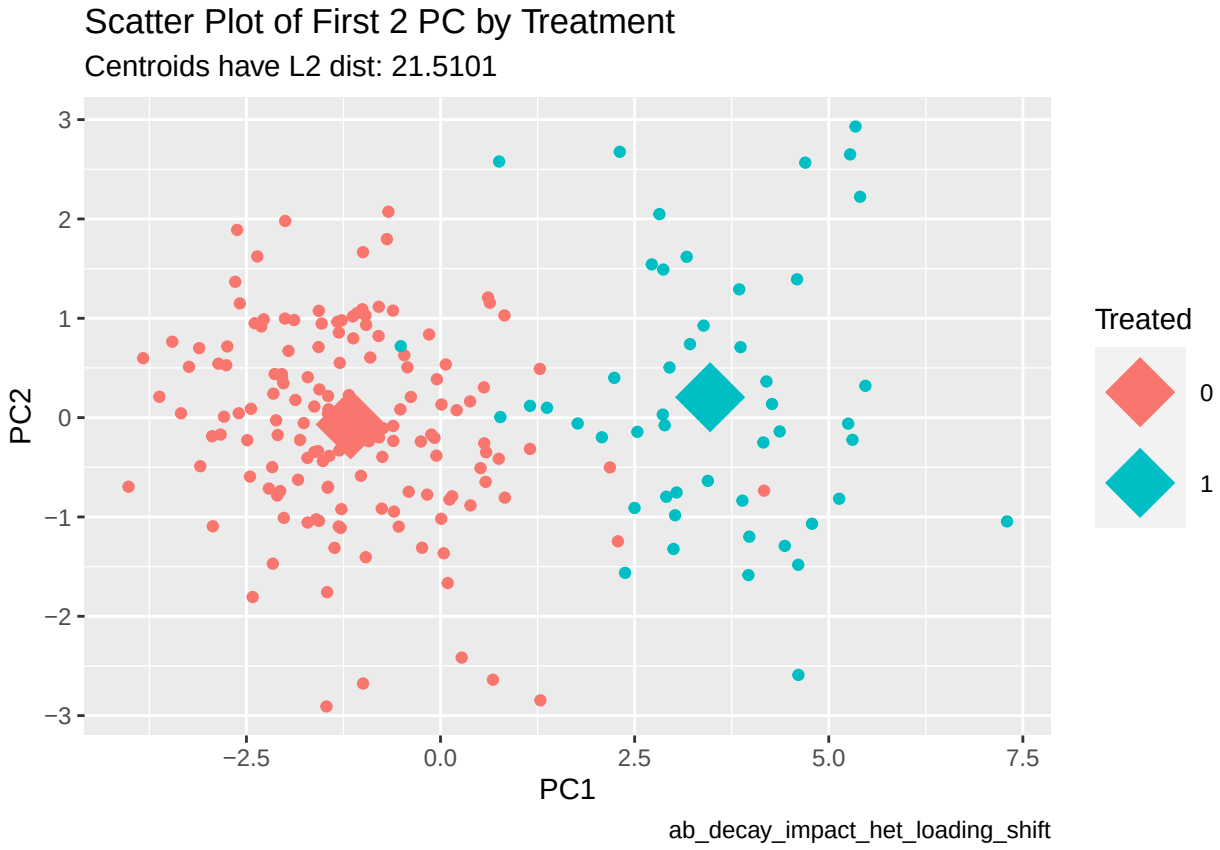
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50    -0.467 107.  6.42e- 1 6.42e- 1
## 2 diff~ val   0      1        150    50   -13.4    63.6 3.90e-20 5.85e-20
## 3 diff~ val   0      1        150    50    -3.02   73.8 3.51e- 3 3.95e- 3
## 4 e_ac~ val   0      1        150    50   -18.1    78.4 1.07e-29 3.21e-29
## 5 entr~ val   0      1        150    50    13.7    61.9 1.85e-20 3.33e-20
## 6 line~ val   0      1        150    50    -8.90   61.9 1.11e-12 1.43e-12
## 7 spike val   0      1        150    50    20.1   172.  6.38e-47 5.74e-46
## 8 trend val   0      1        150    50   -16.7    72.6 1.48e-26 3.33e-26
## 9 x_ac~ val   0      1        150    50   -22.7   103.  4.74e-42 2.13e-41
## # ... with 1 more variable: p.adj.signif <chr>
```

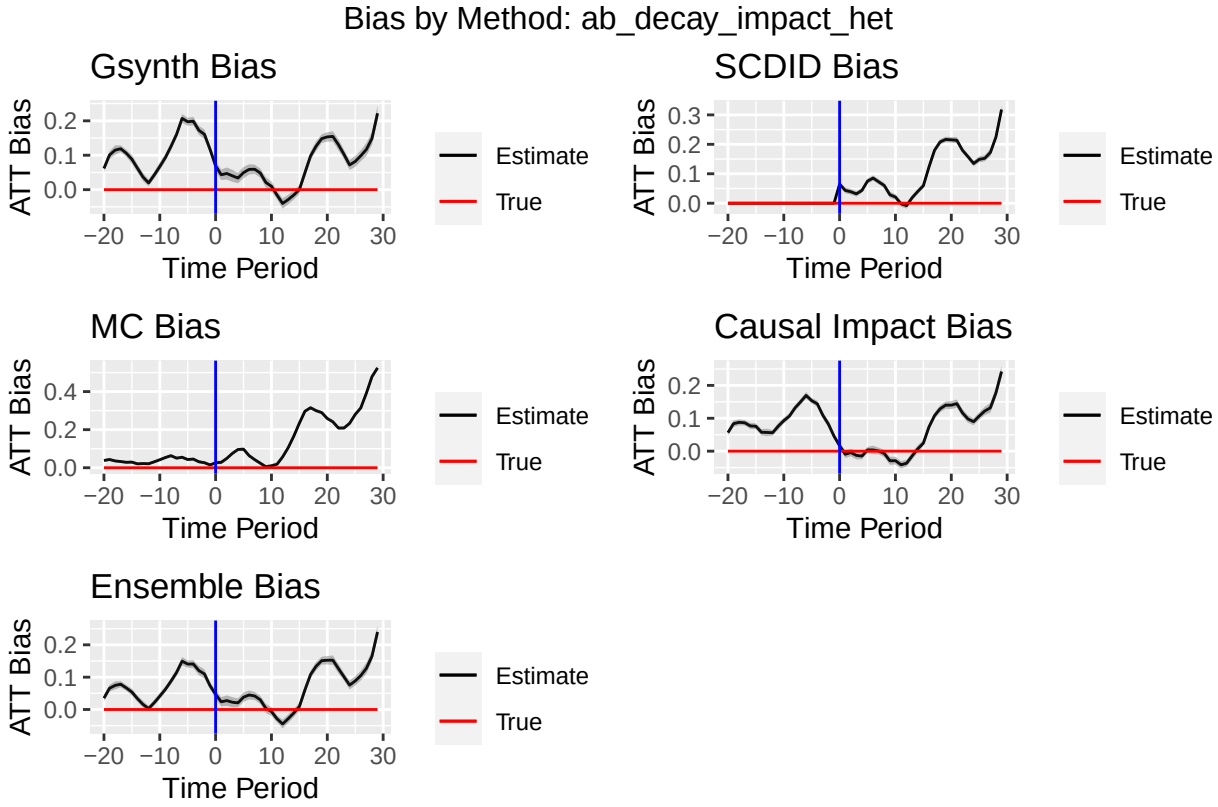
Metrics by Method

ab_decay_impact_het_loading_shift

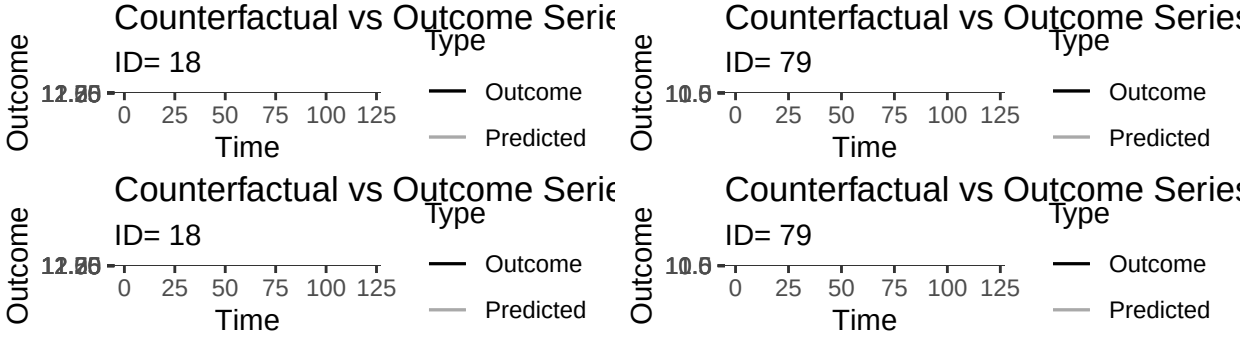
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.860	0.000	0.000	0.840	0.860
1	0.900	0.040	0.000	0.840	0.880
2	0.980	0.000	0.000	0.640	0.900
3	0.920	0.000	0.000	0.580	0.840
4	0.660	0.000	0.000	0.440	0.460
rmse					
0	0.346	0.397	0.430	0.337	0.335
1	0.355	0.404	0.479	0.339	0.343

2	0.359	0.445	0.559	0.356	0.354
3	0.362	0.466	0.613	0.349	0.358
4	0.362	0.497	0.676	0.367	0.363
bias					
0	0.002	0.169	0.211	0.040	0.010
1	−0.022	0.166	0.261	0.039	−0.005
2	0.003	0.197	0.353	0.079	0.024
3	0.034	0.231	0.433	0.080	0.055
4	0.067	0.304	0.513	0.106	0.094

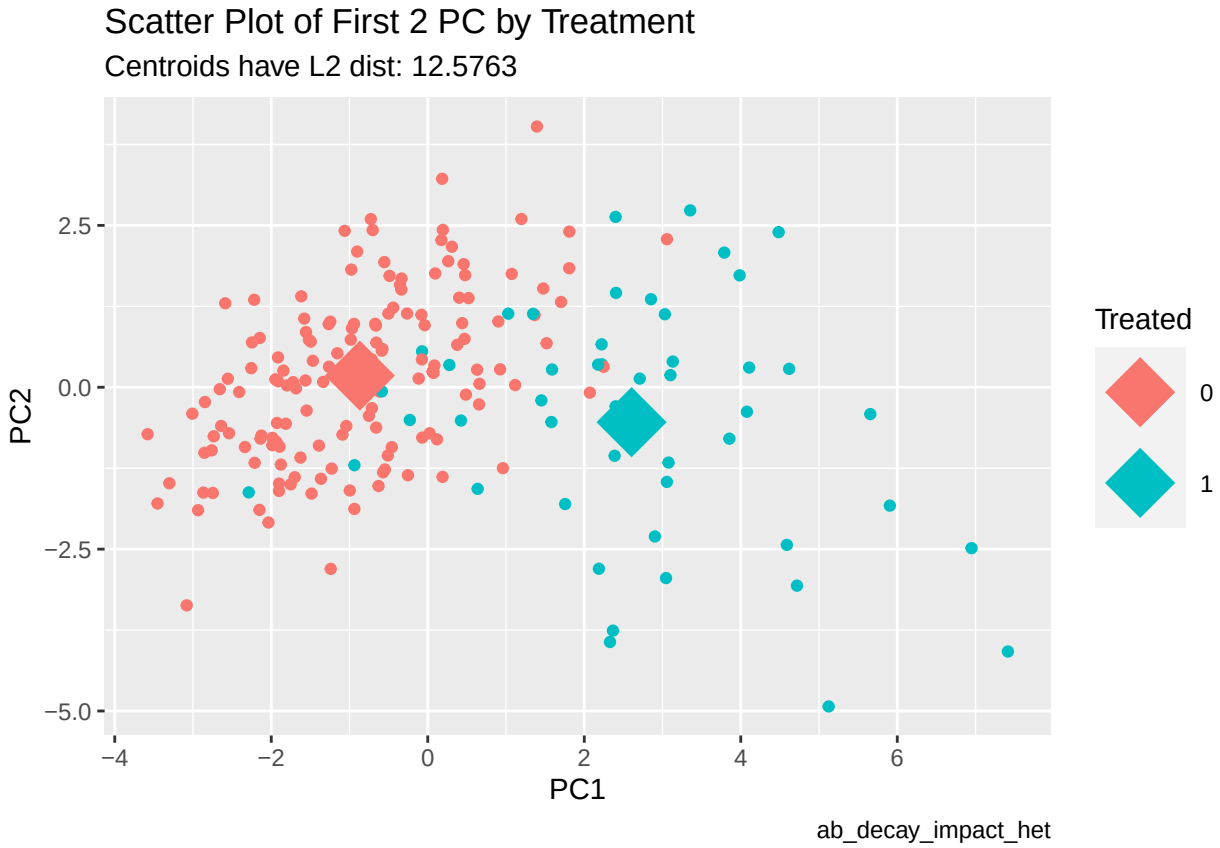
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50     0.431  72.4 6.68e- 1 6.68e- 1
## 2 diff~ val   0      1        150    50    -4.40   77.5 3.40e- 5 5.10e- 5
## 3 diff~ val   0      1        150    50    -0.999  82.6 3.21e- 1 3.61e- 1
## 4 e_ac~ val   0      1        150    50    -3.47   71.4 8.88e- 4 1.14e- 3
## 5 entr~ val   0      1        150    50     6.60   53.4 1.95e- 8 3.51e- 8
## 6 line~ val   0      1        150    50    -7.92   57.2 9.30e-11 2.09e-10
## 7 spike val   0      1        150    50    11.2    77.6 7.96e-18 3.58e-17
## 8 trend val   0      1        150    50   -12.0    57.1 3.59e-17 1.08e-16
## 9 x_ac~ val   0      1        150    50   -12.2    64.9 1.88e-18 1.69e-17
## # ... with 1 more variable: p.adj.signif <chr>
```

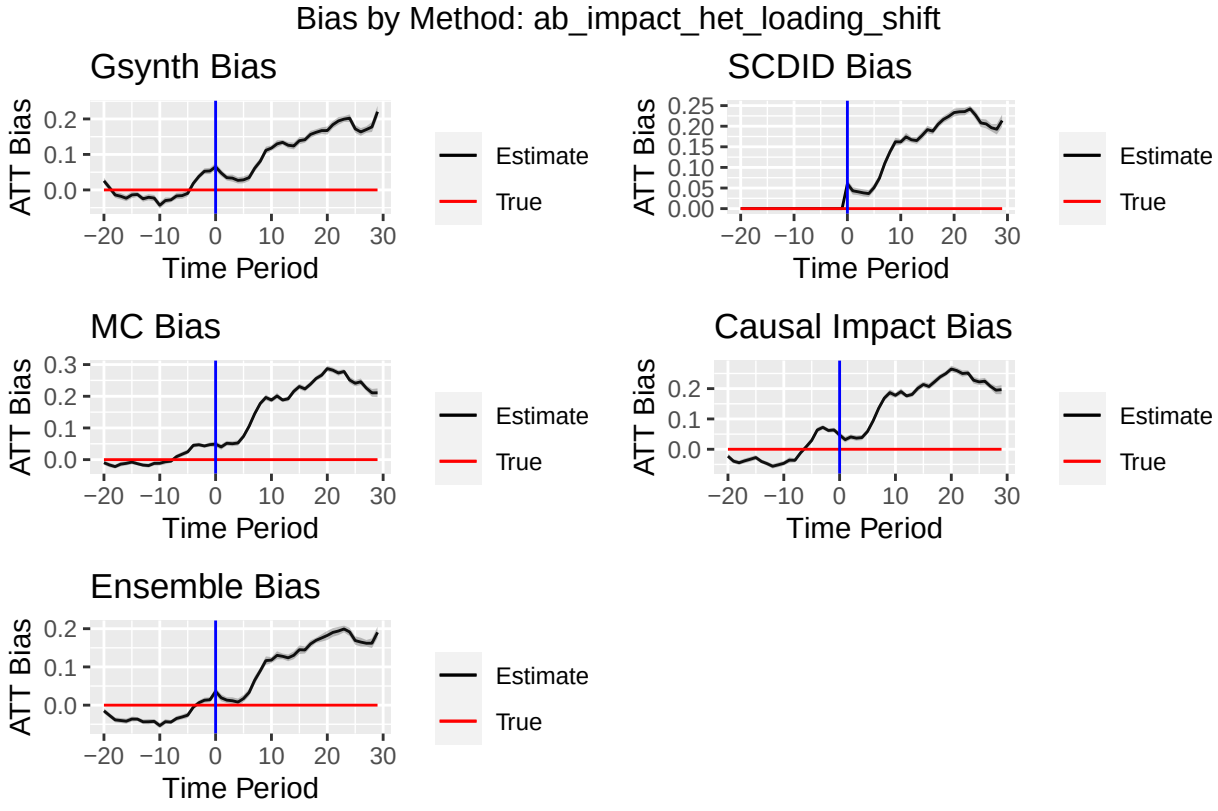
Metrics by Method

ab_decay_impact_het

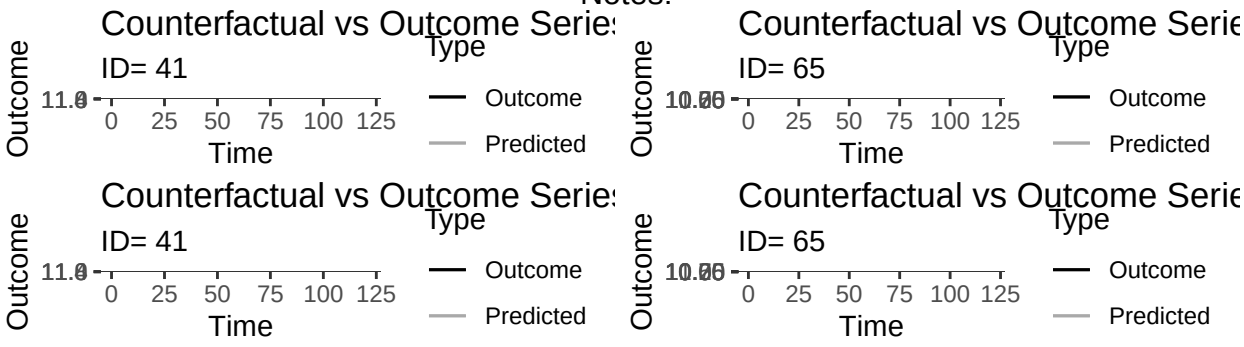
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.660	0.820	0.960	0.960	0.860
1	0.700	0.880	0.900	0.900	0.900
2	0.720	0.940	0.840	0.900	0.800
3	0.740	0.960	0.540	0.900	0.820
4	0.780	0.920	0.220	0.940	0.820
rmse					
0	0.315	0.309	0.277	0.276	0.301
1	0.296	0.312	0.283	0.272	0.289

2	0.305	0.307	0.287	0.268	0.293
3	0.299	0.305	0.285	0.270	0.288
4	0.287	0.295	0.292	0.258	0.278
bias					
0	0.069	0.065	0.026	0.017	0.047
1	0.043	0.044	0.028	−0.009	0.024
2	0.047	0.039	0.049	−0.004	0.028
3	0.040	0.032	0.075	−0.013	0.022
4	0.034	0.044	0.096	−0.015	0.020

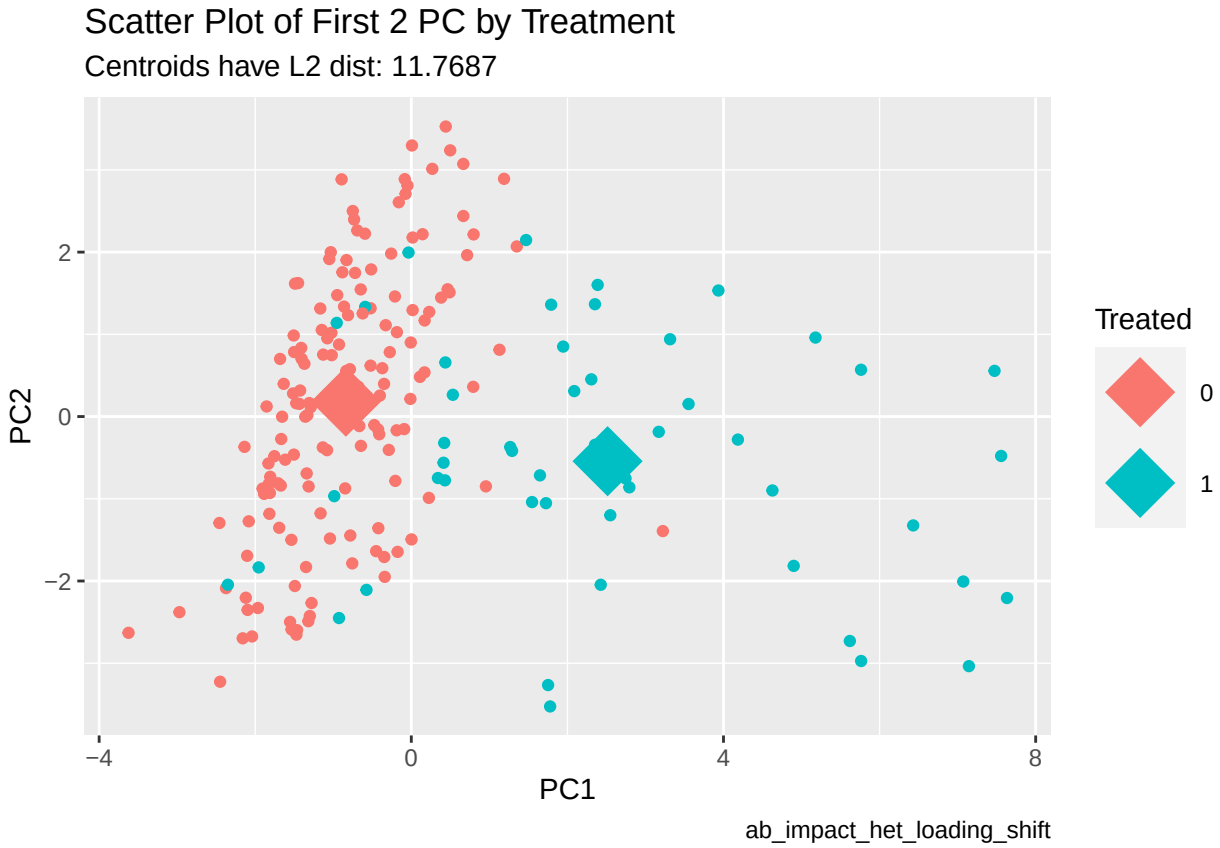
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50     -4.14  71.6 9.26e- 5 1.39e- 4
## 2 diff~ val   0      1        150    50     -1.98  87.4 5.06e- 2 6.51e- 2
## 3 diff~ val   0      1        150    50     -1.10  93.9 2.75e- 1 3.09e- 1
## 4 e_ac~ val   0      1        150    50     -1.02  83.0 3.13e- 1 3.13e- 1
## 5 entr~ val   0      1        150    50      6.21  49.5 1.08e- 7 1.94e- 7
## 6 line~ val   0      1        150    50    -10.0   63.7 1.06e-14 9.54e-14
## 7 spike val   0      1        150    50      8.90  71.1 3.48e-13 1.57e-12
## 8 trend val   0      1        150    50     -9.32  51.8 1.17e-12 3.40e-12
## 9 x_ac~ val   0      1        150    50     -9.08  55.3 1.51e-12 3.40e-12
## # ... with 1 more variable: p.adj.signif <chr>
```

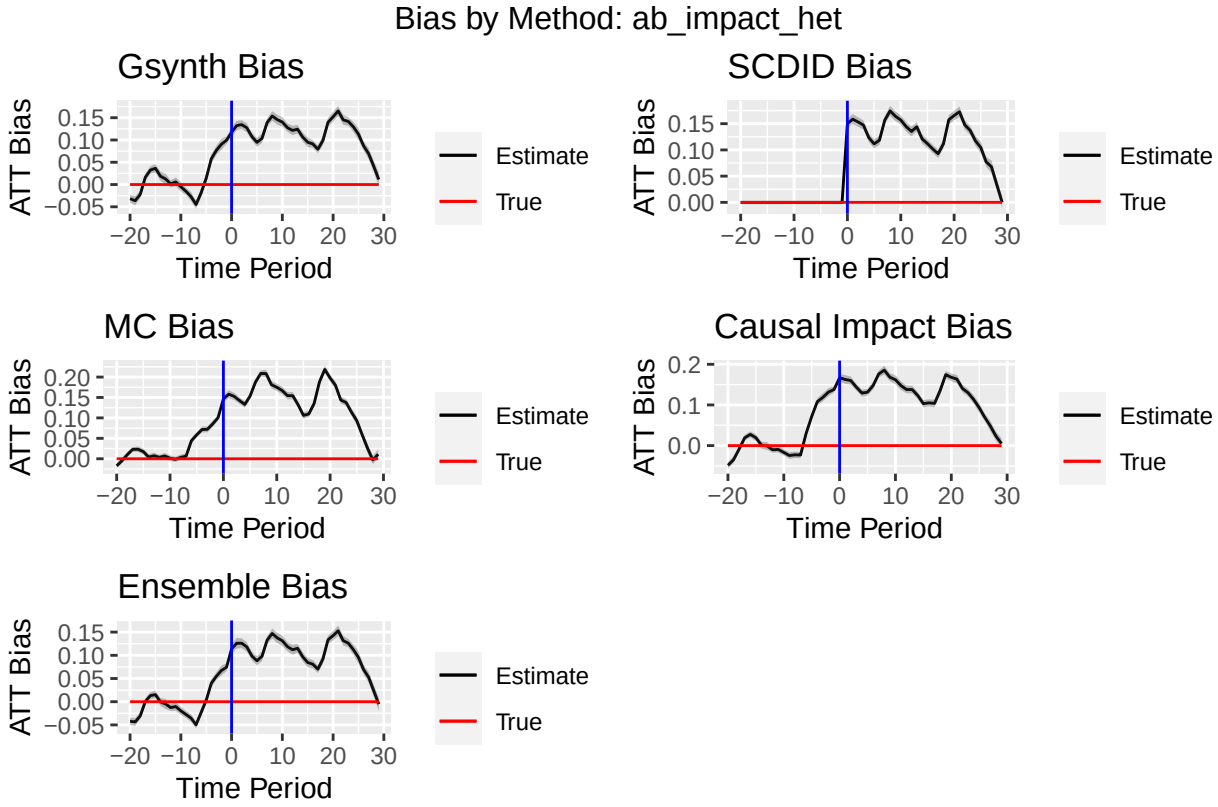
Metrics by Method

ab_impact_het_loading_shift

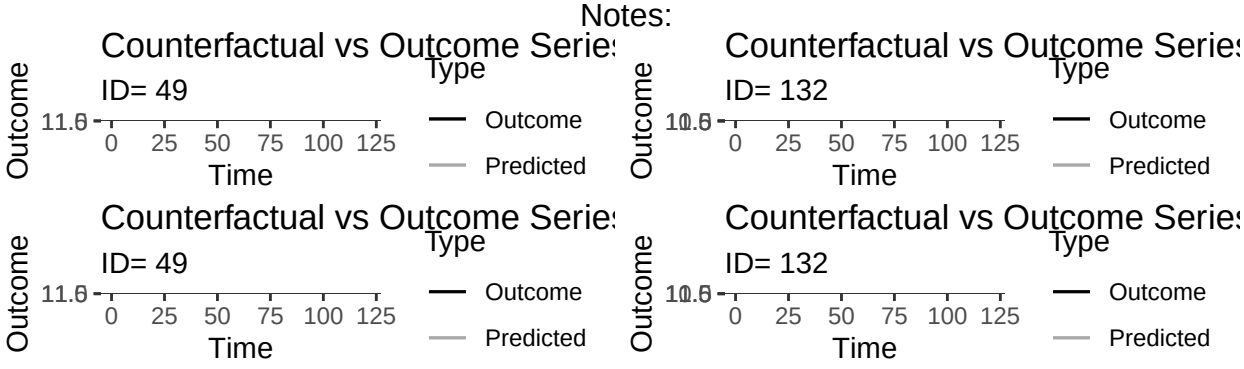
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.560	0.660	0.780	0.820	0.860
1	0.740	0.740	0.800	0.860	0.900
2	0.880	0.820	0.720	0.800	1.000
3	0.820	0.840	0.760	0.880	0.960
4	0.900	0.860	0.740	0.860	0.960
rmse					
0	0.236	0.239	0.239	0.242	0.229
1	0.237	0.240	0.242	0.244	0.233

2	0.227	0.241	0.249	0.246	0.229
3	0.244	0.250	0.256	0.258	0.242
4	0.254	0.259	0.263	0.268	0.253
bias					
0	0.065	0.060	0.049	0.047	0.036
1	0.048	0.043	0.040	0.032	0.019
2	0.034	0.041	0.052	0.041	0.013
3	0.033	0.038	0.050	0.037	0.012
4	0.027	0.036	0.053	0.039	0.008

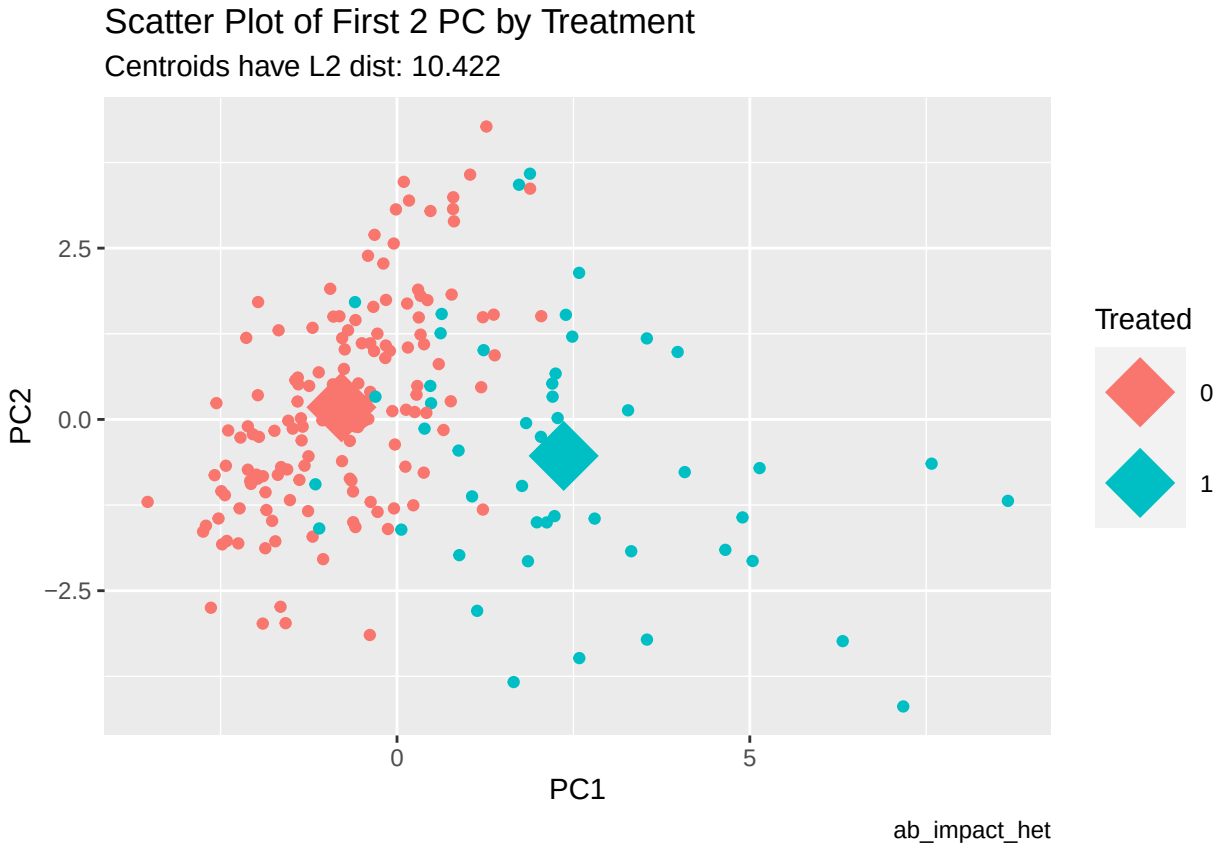
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50     -2.73  61.7 8.26e- 3 1.06e- 2
## 2 diff~ val   0      1        150    50     -2.84  89.2 5.60e- 3 8.40e- 3
## 3 diff~ val   0      1        150    50     -1.10  88.5 2.72e- 1 2.72e- 1
## 4 e_ac~ val   0      1        150    50     -2.56  88.3 1.23e- 2 1.38e- 2
## 5 entr~ val   0      1        150    50      4.66  51.4 2.28e- 5 4.10e- 5
## 6 line~ val   0      1        150    50     -6.74  62.4 5.77e- 9 1.30e- 8
## 7 spike val   0      1        150    50      9.78  73.1 6.60e-15 2.97e-14
## 8 trend val   0      1        150    50     -9.67  53.3 2.56e-13 7.68e-13
## 9 x_ac~ val   0      1        150    50    -10.5   60.3 2.80e-15 2.52e-14
## # ... with 1 more variable: p.adj.signif <chr>
```

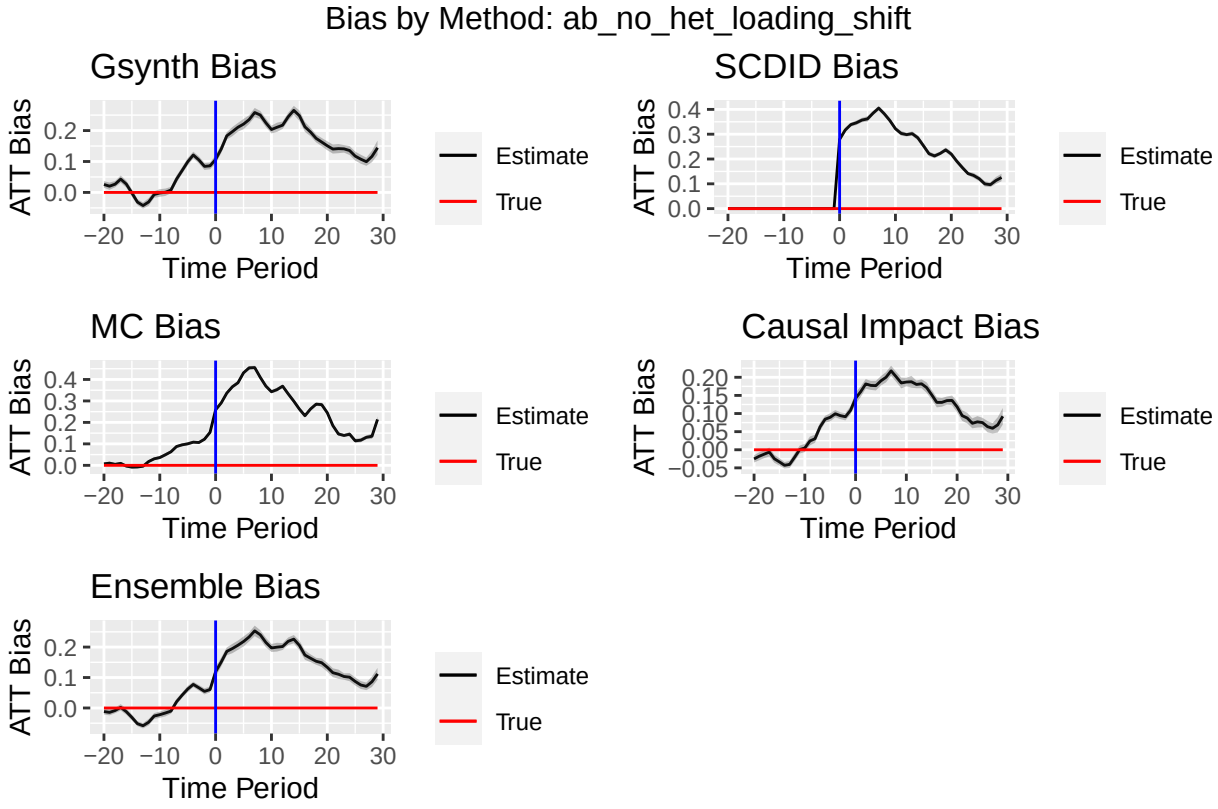
Metrics by Method

ab_impact_het

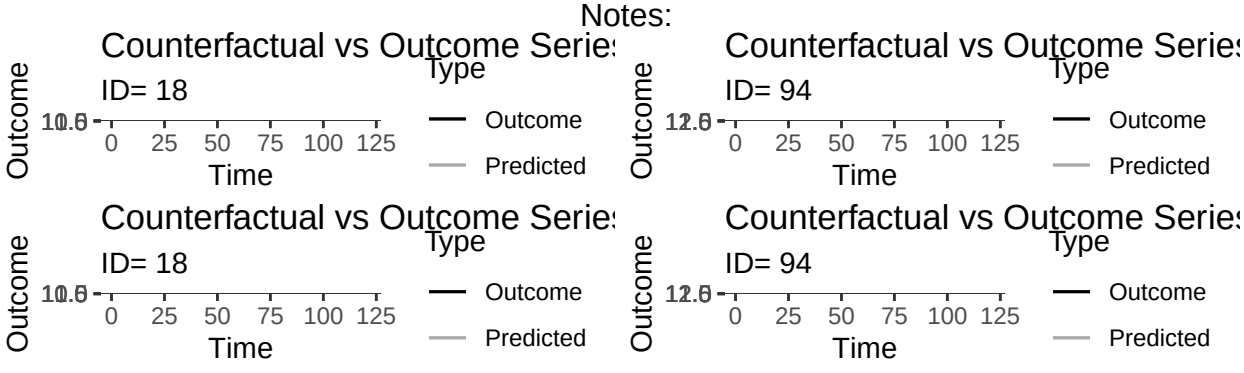
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.080	0.000	0.000	0.000	0.060
1	0.060	0.000	0.000	0.020	0.100
2	0.020	0.000	0.000	0.020	0.080
3	0.060	0.000	0.000	0.000	0.100
4	0.040	0.020	0.020	0.040	0.180
rmse					
0	0.260	0.279	0.269	0.294	0.257
1	0.276	0.294	0.292	0.304	0.273

2	0.280	0.295	0.289	0.306	0.276
3	0.278	0.290	0.280	0.297	0.273
4	0.265	0.276	0.276	0.284	0.261
bias					
0	0.117	0.150	0.146	0.167	0.114
1	0.132	0.159	0.158	0.163	0.126
2	0.134	0.153	0.153	0.160	0.126
3	0.127	0.147	0.143	0.144	0.118
4	0.108	0.124	0.133	0.129	0.098

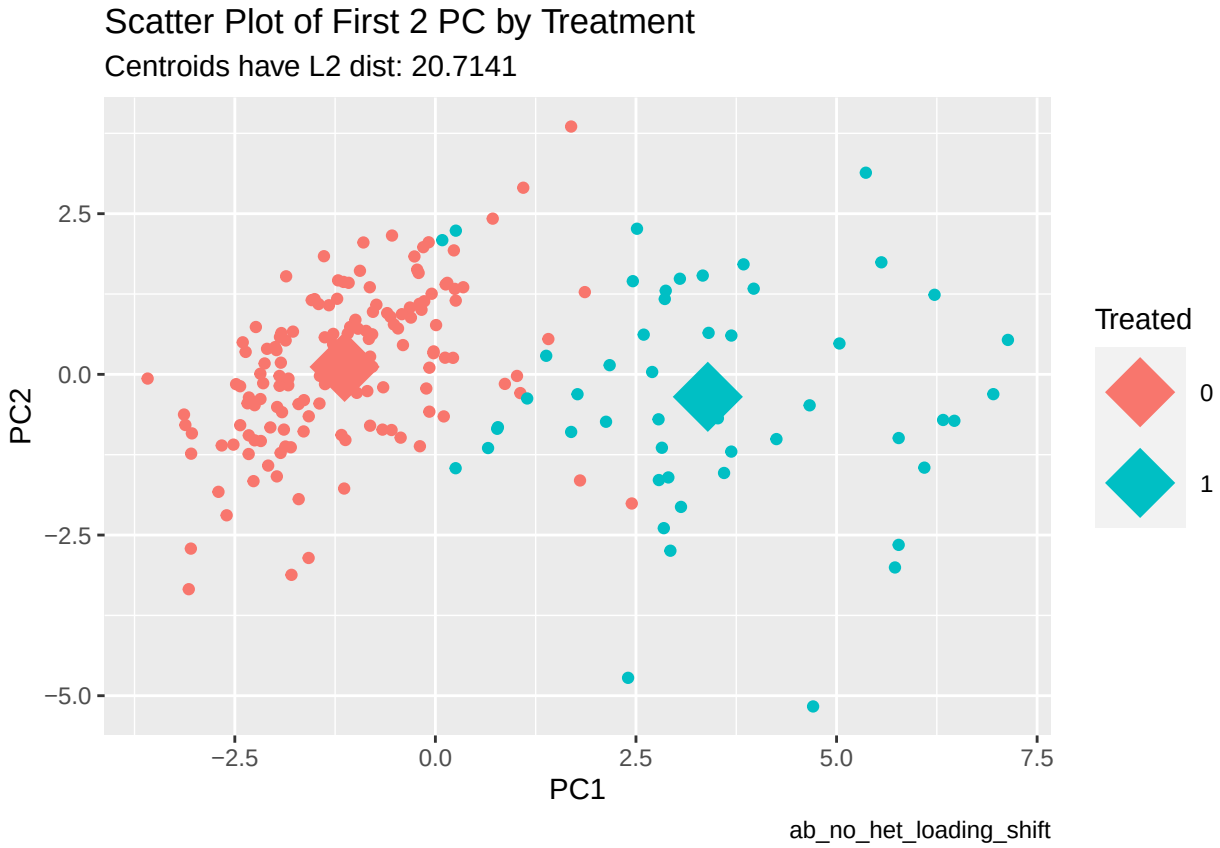
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50      7.43  88.2 6.57e-11 8.45e-11
## 2 diff~ val   0      1        150    50     -7.59  65.9 1.42e-10 1.60e-10
## 3 diff~ val   0      1        150    50     -4.10  77.9 1.02e- 4 1.02e- 4
## 4 e_ac~ val   0      1        150    50     -8.37  72.6 2.99e-12 4.48e-12
## 5 entr~ val   0      1        150    50     11.1   50.2 4.50e-15 1.01e-14
## 6 line~ val   0      1        150    50     -9.48  59.3 1.74e-13 3.13e-13
## 7 spike val   0      1        150    50     17.3   93.5 7.45e-31 6.70e-30
## 8 trend val   0      1        150    50    -14.5   55.6 1.50e-20 4.50e-20
## 9 x_ac~ val   0      1        150    50    -18.5   66.5 6.91e-28 3.11e-27
## # ... with 1 more variable: p.adj.signif <chr>
```

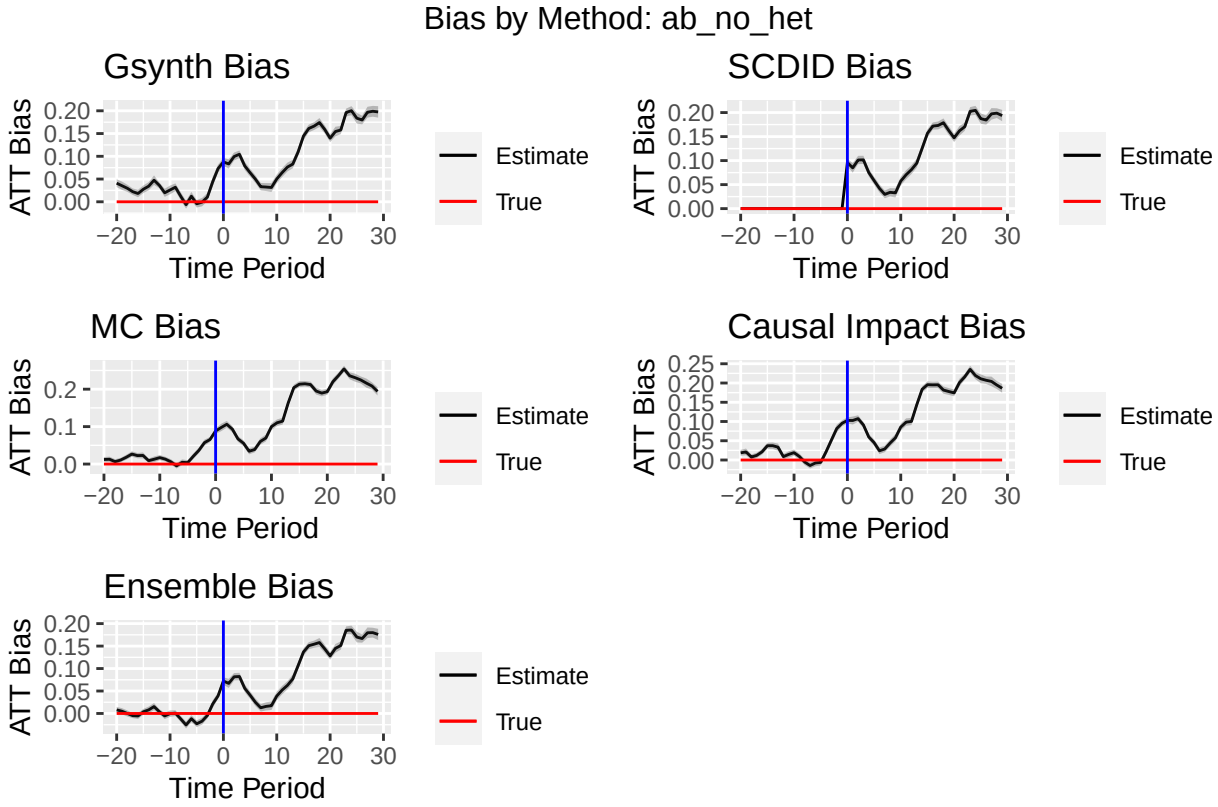
Metrics by Method

ab_no_het_loading_shift

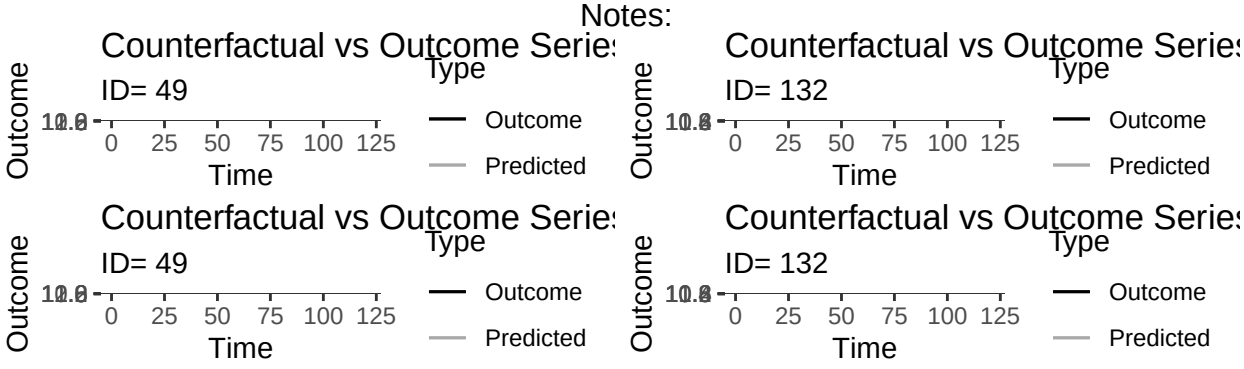
Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.340	0.000	0.000	0.060	0.240
1	0.060	0.000	0.000	0.060	0.060
2	0.000	0.000	0.000	0.000	0.000
3	0.060	0.000	0.000	0.020	0.040
4	0.020	0.000	0.000	0.020	0.000
rmse					
0	0.310	0.432	0.405	0.329	0.309
1	0.335	0.474	0.429	0.345	0.334

2	0.364	0.489	0.469	0.365	0.358
3	0.387	0.512	0.500	0.365	0.376
4	0.407	0.533	0.530	0.373	0.394
bias					
0	0.107	0.279	0.258	0.142	0.119
1	0.140	0.317	0.291	0.160	0.151
2	0.183	0.339	0.336	0.182	0.186
3	0.197	0.346	0.366	0.178	0.195
4	0.211	0.357	0.385	0.177	0.206

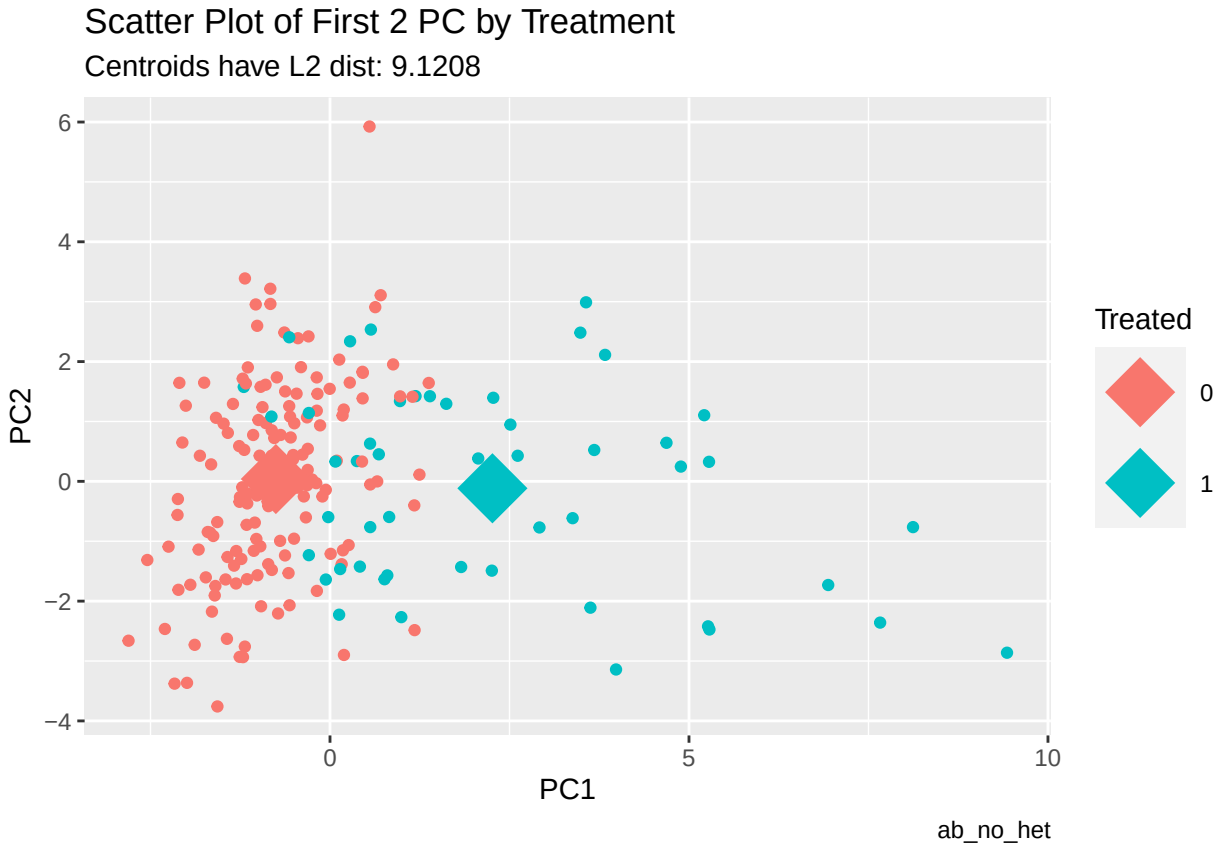
Notes:



Notes:




```
## `summarise()` ungrouping output (override with `.groups` argument)
```




```
## # A tibble: 9 x 11
##   vars  .y.   group1 group2    n1    n2 statistic    df        p    p.adj
##   <chr> <chr> <chr>  <chr>  <int> <int>     <dbl> <dbl>    <dbl>    <dbl>
## 1 curv~ val   0      1        150    50    -4.56   67.6 2.21e- 5 3.98e- 5
## 2 diff~ val   0      1        150    50    -0.446  88.9 6.56e- 1 6.56e- 1
## 3 diff~ val   0      1        150    50     1.14  103.  2.59e- 1 3.33e- 1
## 4 e_ac~ val   0      1        150    50    -1.04   81.3 3.01e- 1 3.39e- 1
## 5 entr~ val   0      1        150    50     4.01   49.5 2.05e- 4 3.08e- 4
## 6 line~ val   0      1        150    50    -6.89   59.4 4.02e- 9 9.04e- 9
## 7 spike val   0      1        150    50     6.99   68.8 1.43e- 9 4.29e- 9
## 8 trend val   0      1        150    50    -8.52   52.3 1.85e-11 8.33e-11
## 9 x_ac~ val   0      1        150    50    -8.98   59.8 1.09e-12 9.81e-12
## # ... with 1 more variable: p.adj.signif <chr>
```

Metrics by Method

ab_no_het

Method	gsynth	scdid	mc	causalimp	ensemble
coverage					
0	0.160	0.100	0.180	0.100	0.340
1	0.240	0.280	0.200	0.180	0.500
2	0.100	0.100	0.060	0.060	0.240
3	0.080	0.080	0.180	0.220	0.340
4	0.320	0.420	0.480	0.620	0.680
rmse					
0	0.236	0.240	0.235	0.248	0.229
1	0.245	0.246	0.248	0.255	0.238

2	0.248	0.250	0.248	0.256	0.240
3	0.250	0.249	0.245	0.251	0.240
4	0.241	0.242	0.237	0.240	0.233
bias					
0	0.088	0.096	0.088	0.103	0.072
1	0.083	0.085	0.098	0.103	0.067
2	0.099	0.101	0.106	0.107	0.082
3	0.104	0.102	0.093	0.091	0.082
4	0.079	0.075	0.067	0.060	0.056

Notes: