Normal GPD Quantile treatment effect
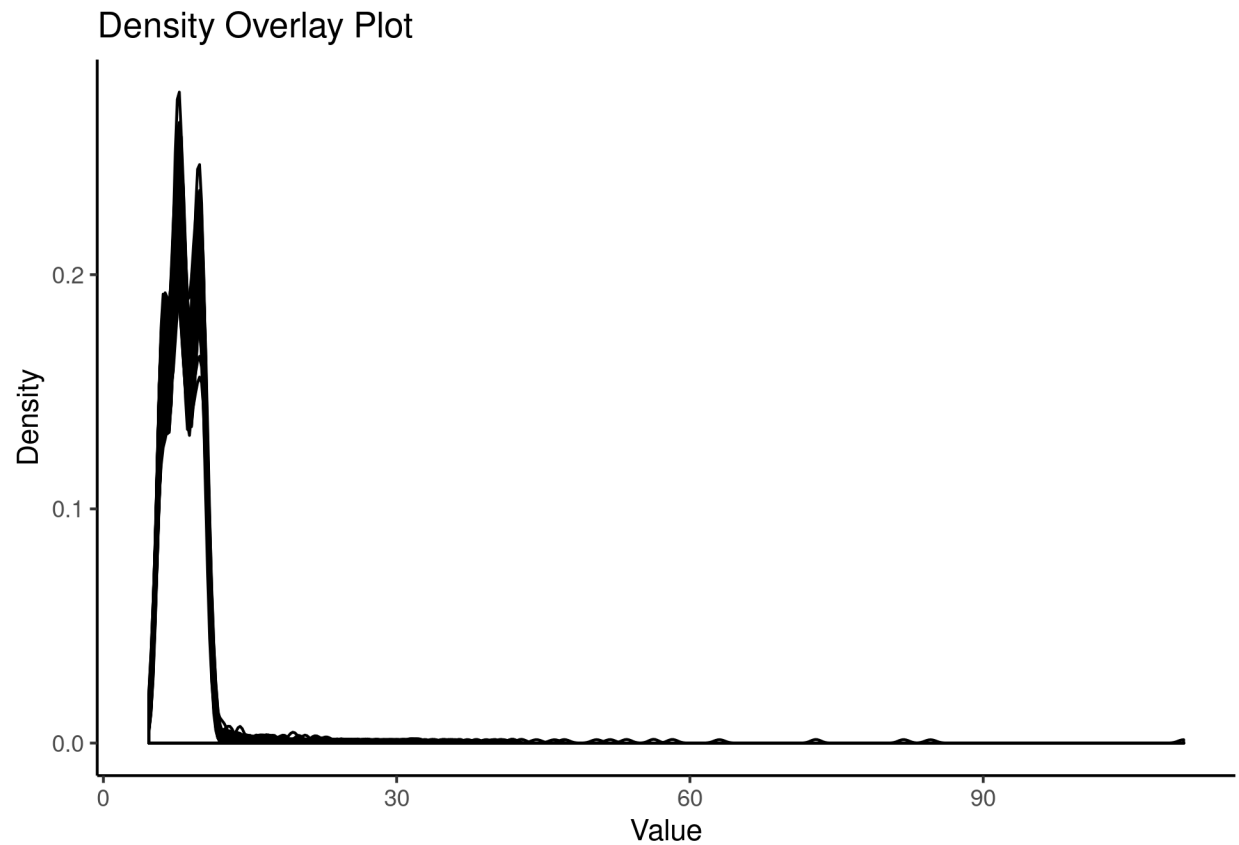
Arnab Aich

2023-10-01

Density Plots with Extreme Values
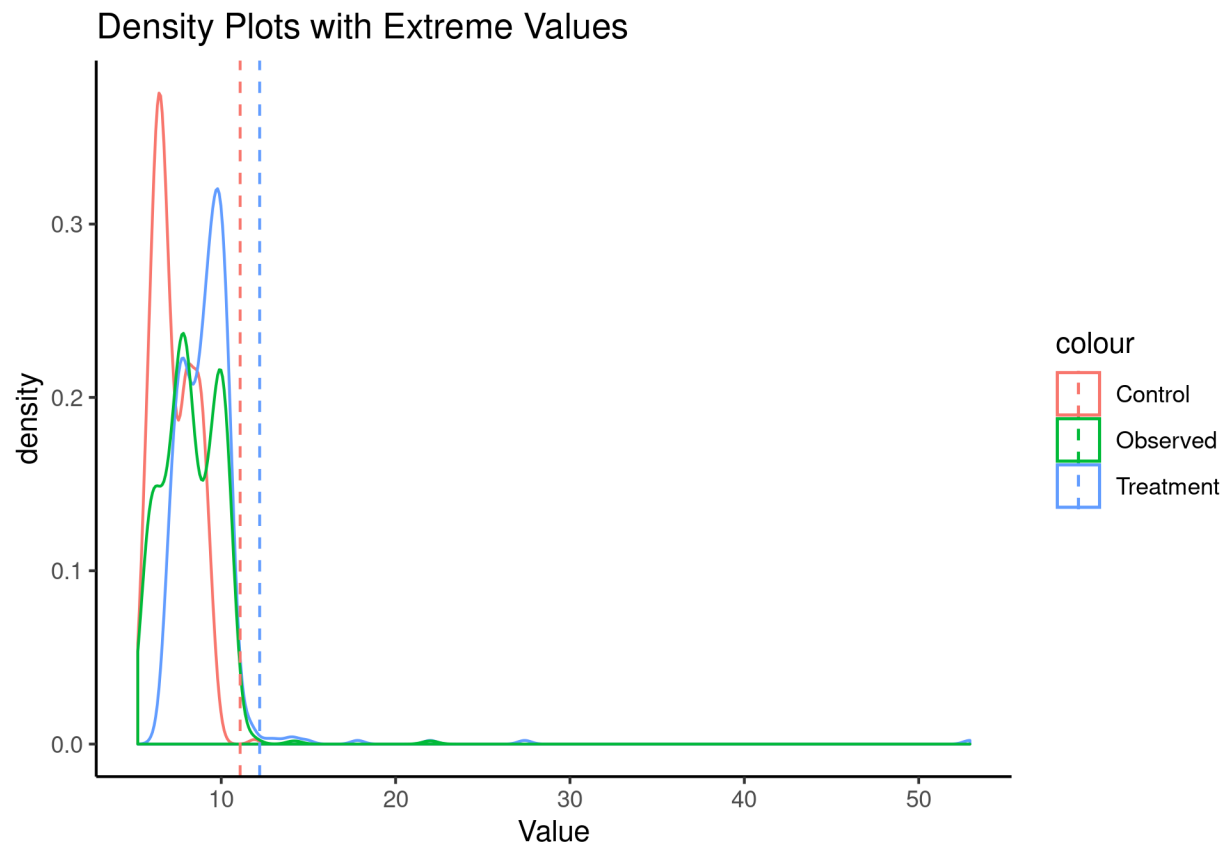
Density Plots without Extreme Values

Density Overlay Plot
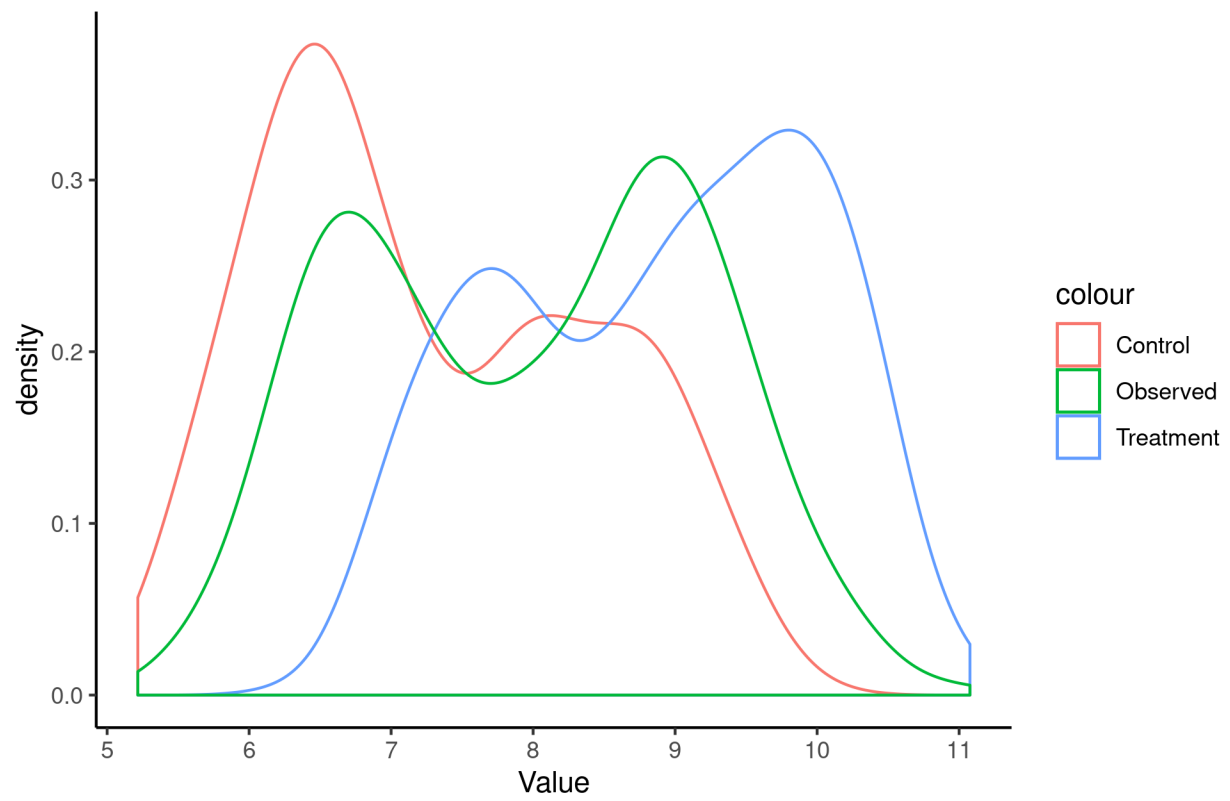

```
Final$Treatment$Mean_Int_Sq_error
```

```
[1] 0.01224585
```

```
Final$Treatment$estimated
```

```
        mu      eta        u    sigma       xi
1 9.051112 1.086256 13.69695 5.818436 0.24828
```

```
Final$Treatment$True
```

```
$weights
[1] 0.65 0.35
```

```
$mu
[1] 9.595473 7.547737
```

```
$eta
[1] 0.4 0.4
```

```
$u
      u1
12.2035
```
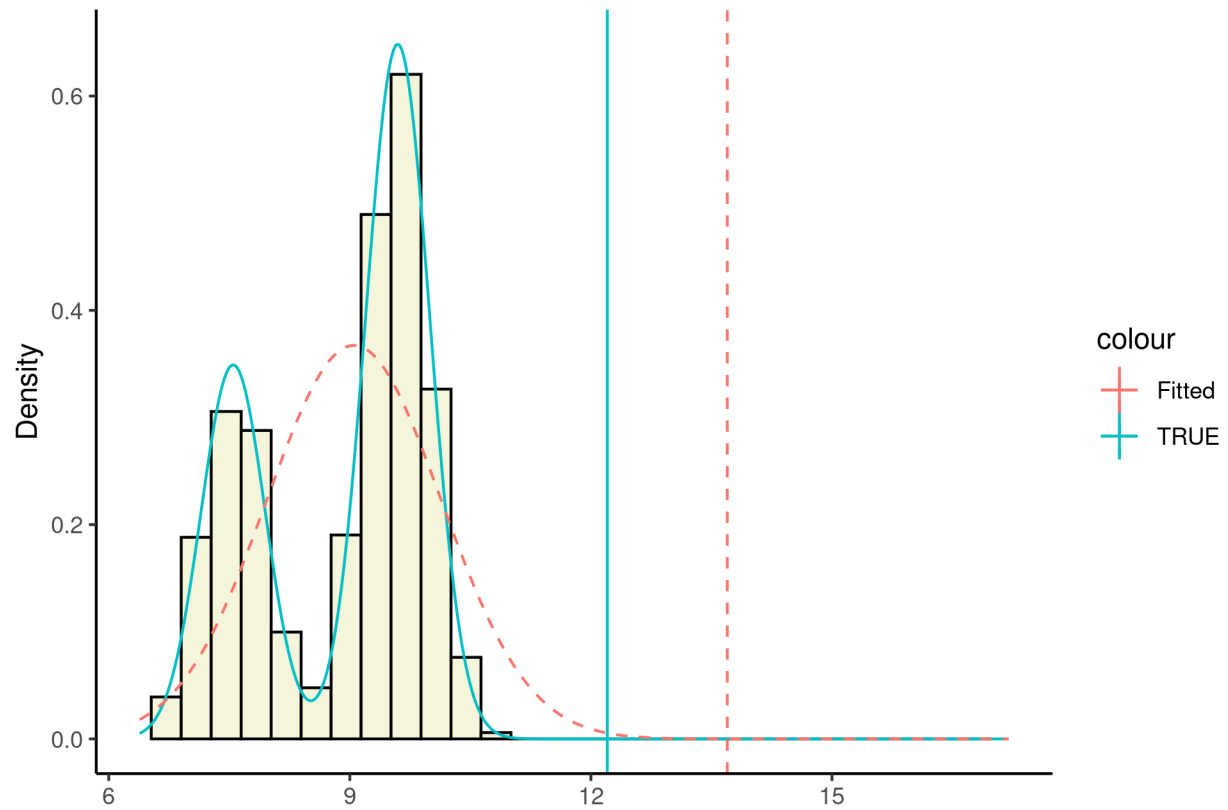
```
$sigma
[1] 4

$xi
[1] 0.3
```
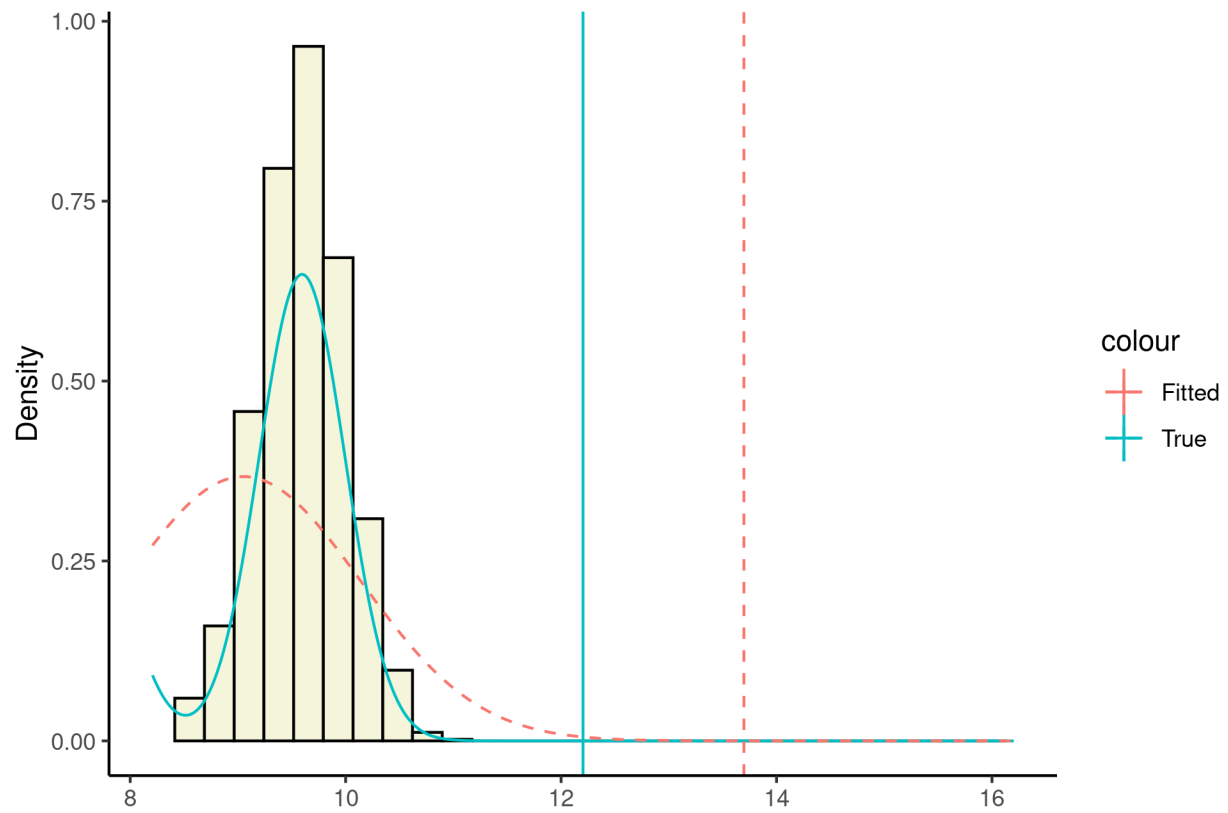
Final`$`Treatment`$`True_vs_Fitted

Final`$`Treatment`$`True_vs_Fitted_Zoomed

Final**$**Control**$**Mean_Int_Sq_error

[1] NaN

Final**$**Control**$**estimated

```
      mu      eta        u    sigma       xi
1 7.02406 0.978536 10.91904 2.743432 0.34252
```

Final**$**Control**$**True

```
$weights
[1] 0.55 0.45

$mu
[1] 6.321605 8.369341

$eta
[1] 0.3 0.3

$u
      u0
11.08416
```
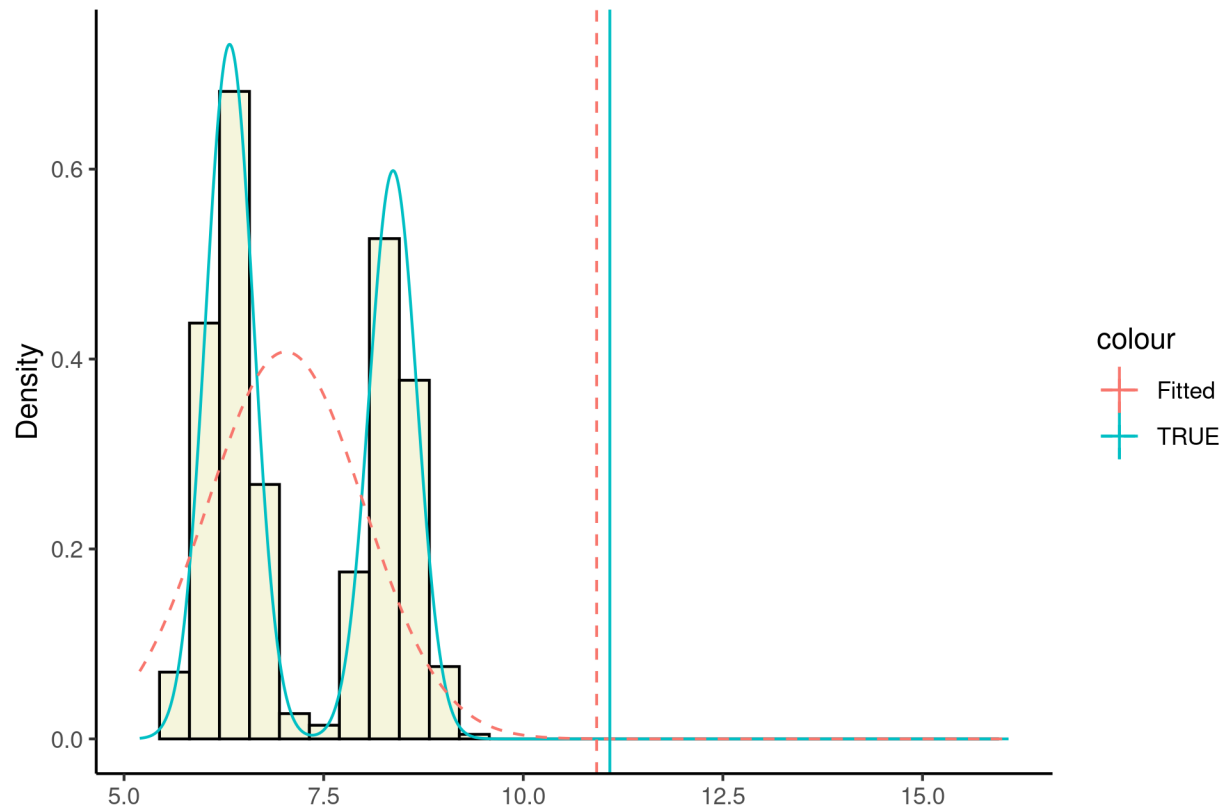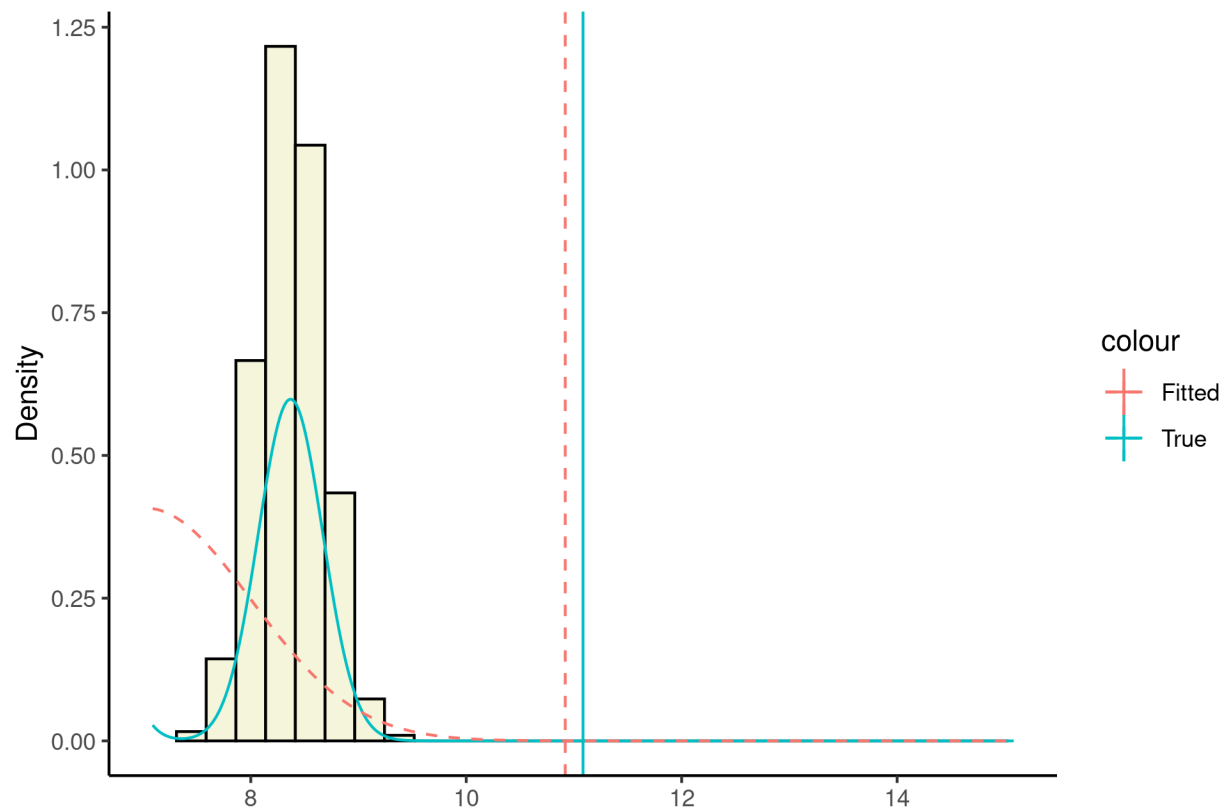
```
$sigma
[1] 3

$xi
[1] 0.4
```

Final$Control$True_vs_Fitted

Final$Control$True_vs_Fitted_Zoomed

```
[[1]]
                    True Estimated        Bias
Treated          6.773863  6.526155  0.2477081
Control          5.691112  4.751767  0.9393457
Treatment Effect 1.082751  1.774389 -0.6916375

[[2]]
                    True Estimated        Bias
Treated          7.113162  7.264261 -0.1510994
Control          5.926823  5.420453  0.5063696
Treatment Effect 1.186339  1.843808 -0.6574690

[[3]]
                    True Estimated        Bias
Treated          9.297995  9.057654  0.2403404
Control          6.703454  7.032124 -0.3286707
Treatment Effect 2.594541  2.025530  0.5690111

[[4]]
                     True Estimated         Bias
Treated          10.169067 10.915191 -0.74612461
Control           8.717604  8.649637  0.06796683
Treatment Effect  1.451463  2.265554 -0.81409145

[[5]]
                    True Estimated        Bias
```
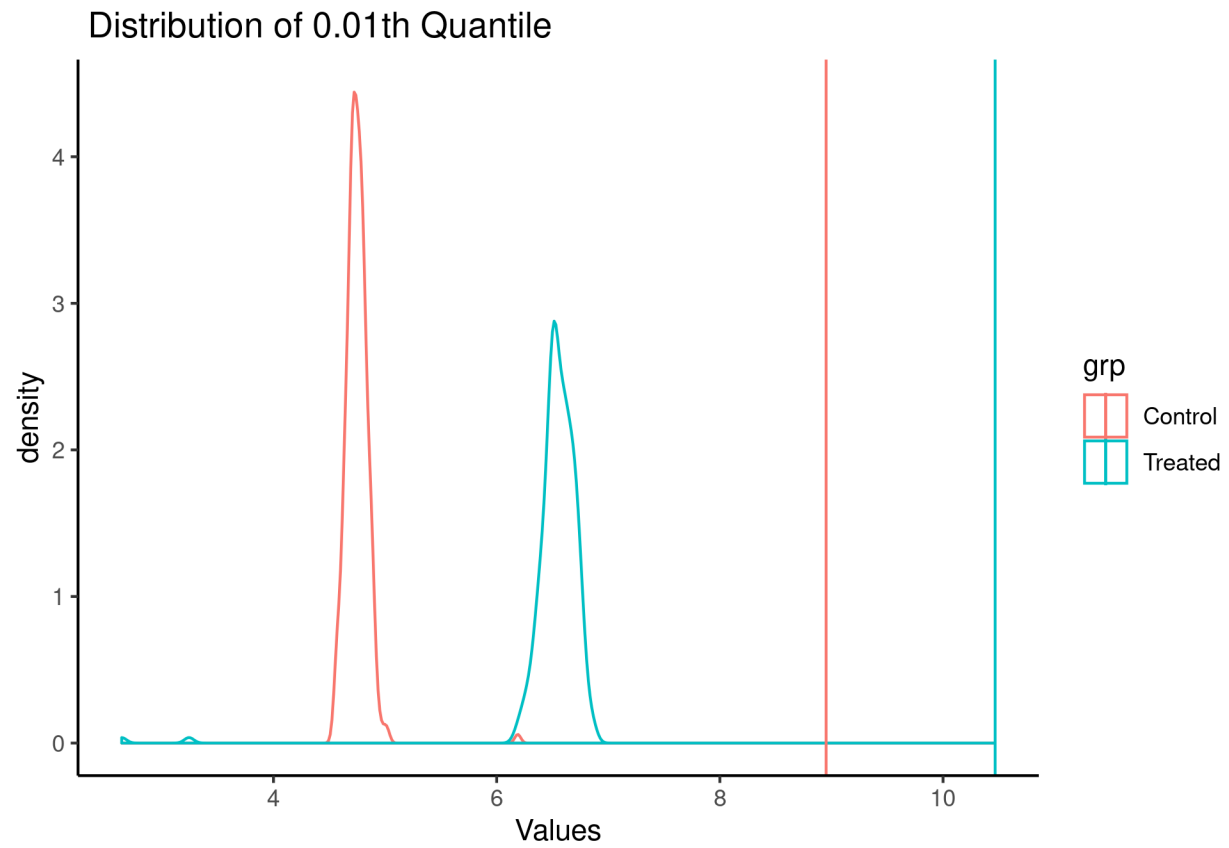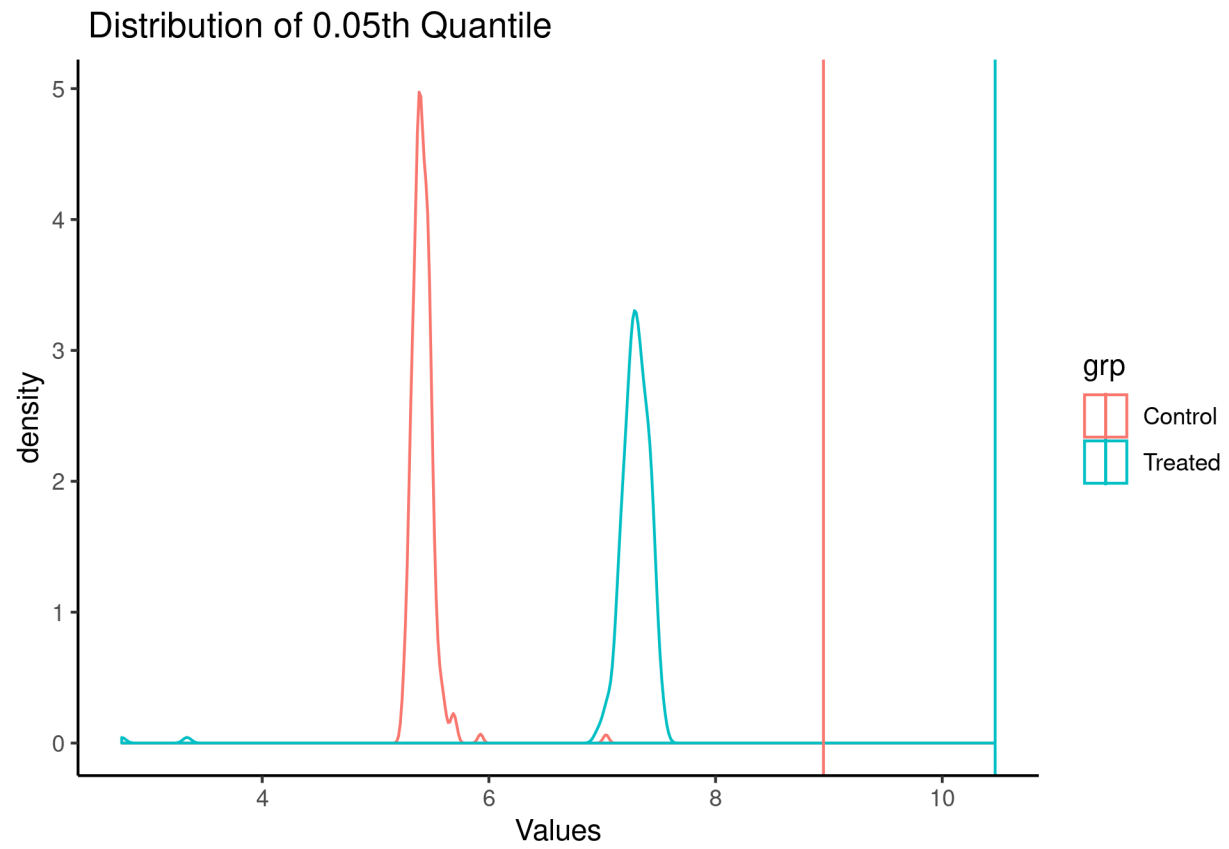
```
Treated          10.466656 11.787411 -1.3207549
Control           8.952089  9.341779 -0.3896898
Treatment Effect  1.514567  2.445632 -0.9310651
```
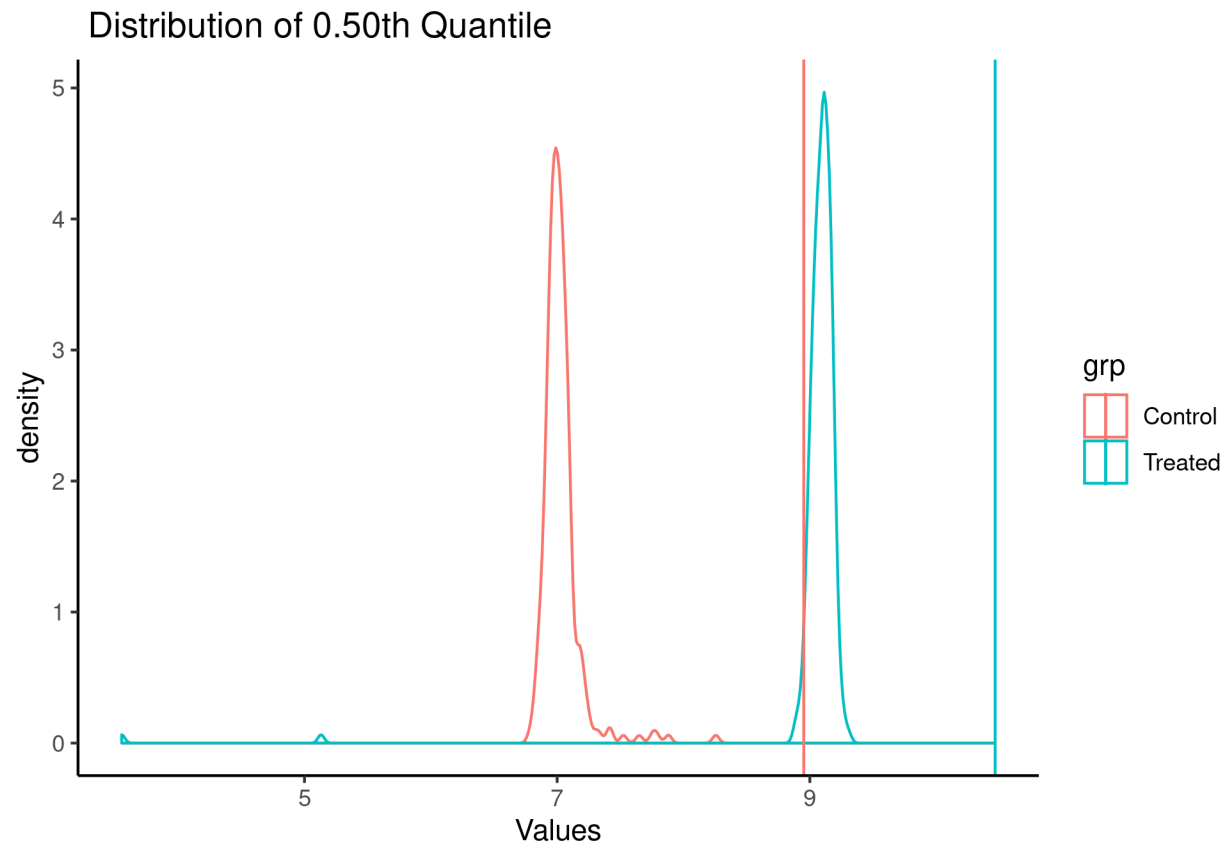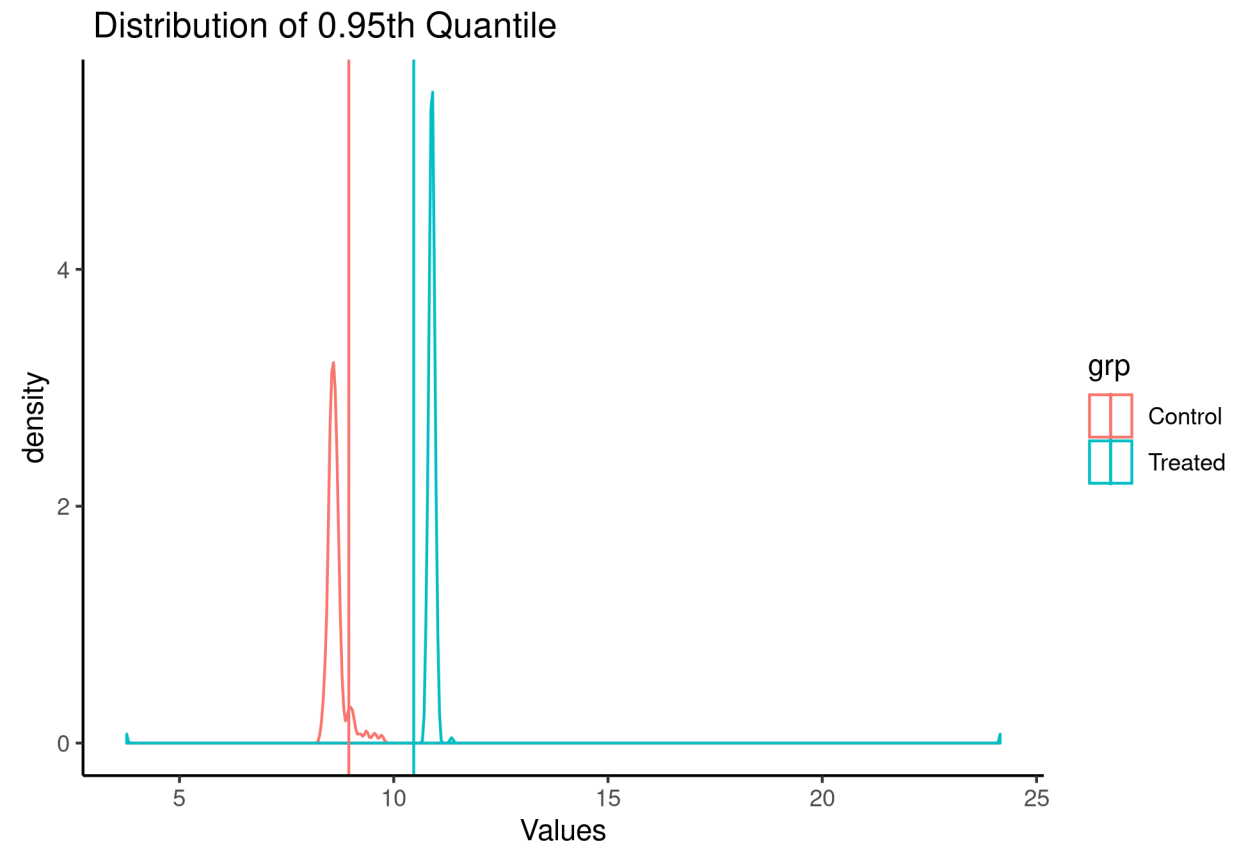
[[1]]

Distribution of 0.01th Quantile

[[2]]

Distribution of 0.05th Quantile

[[3]]

Distribution of 0.50th Quantile

[[4]]

Distribution of 0.95th Quantile

[[5]]

Distribution of 0.99th Quantile