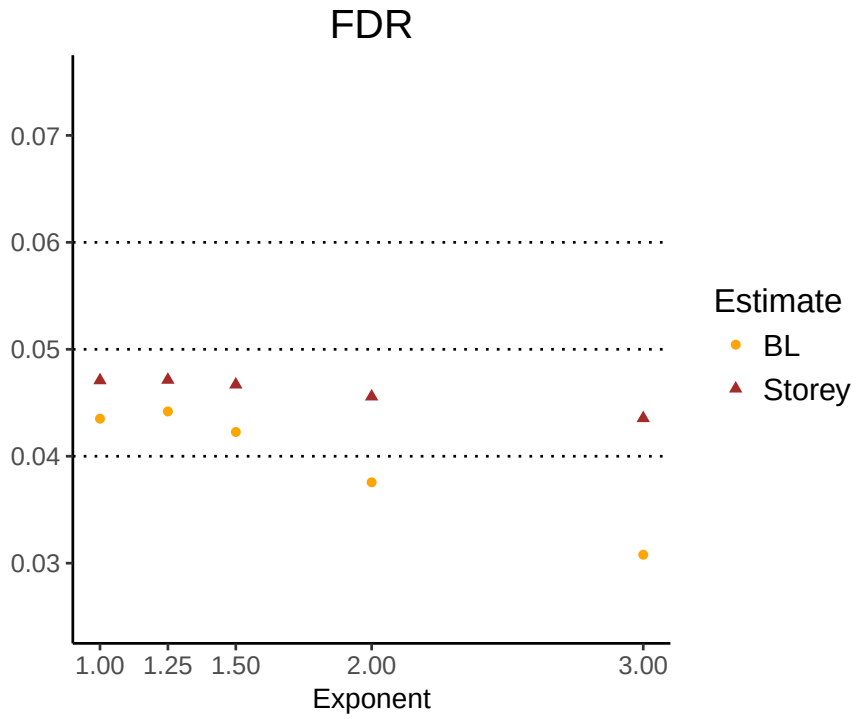
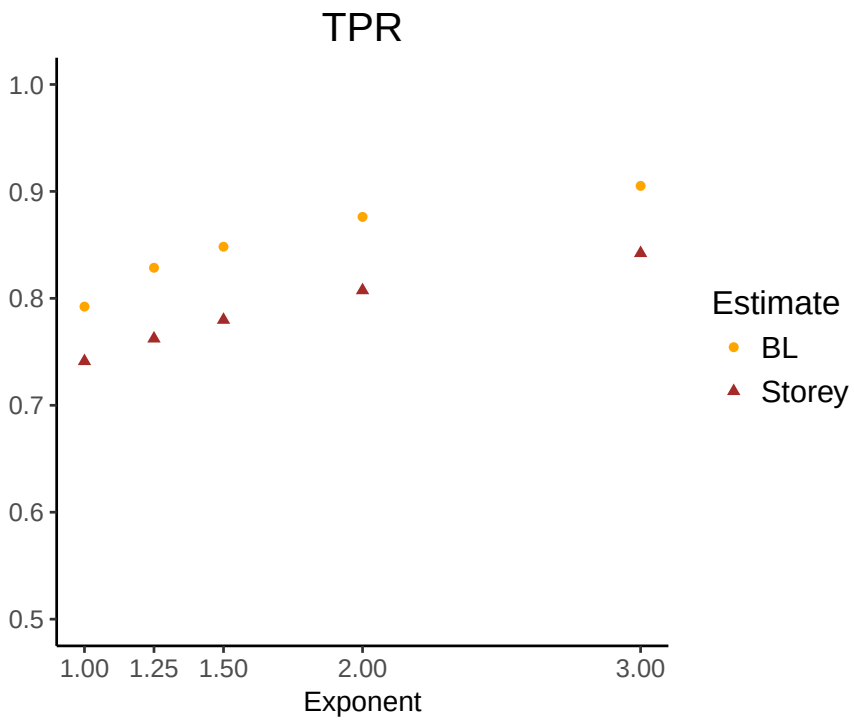
I considered functions like $\pi_0(x) = x^k$, with $k = \{1, 1.25, 1.5, 2, 3\}$ (so polynomial-ish). The tables/plots show their FDR and TPR in terms of k, i.e. the "degree."

1 Z statistics

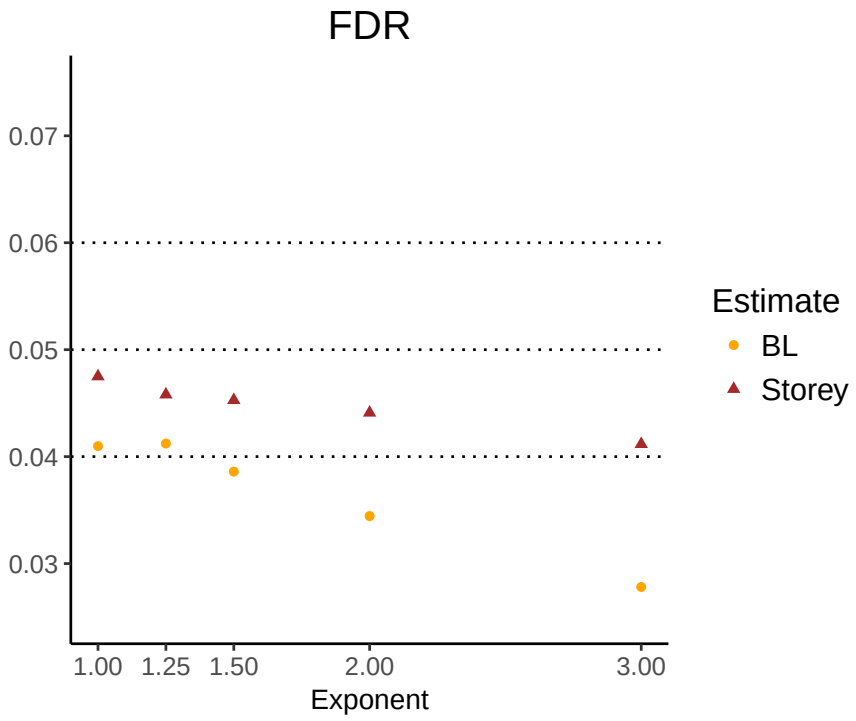
```
##    Exponent Estimate        FDR       TPR
## 1      1.00       BL 0.04350982 0.7922555
## 2      1.00   Storey 0.04709194 0.7412002
## 3      1.25       BL 0.04418528 0.8285937
## 4      1.25   Storey 0.04713682 0.7623218
## 5      1.50       BL 0.04226618 0.8482693
## 6      1.50   Storey 0.04669502 0.7798288
## 7      2.00       BL 0.03756336 0.8761317
## 8      2.00   Storey 0.04557777 0.8074607
## 9      3.00       BL 0.03078897 0.9051570
## 10     3.00   Storey 0.04355082 0.8422213
```

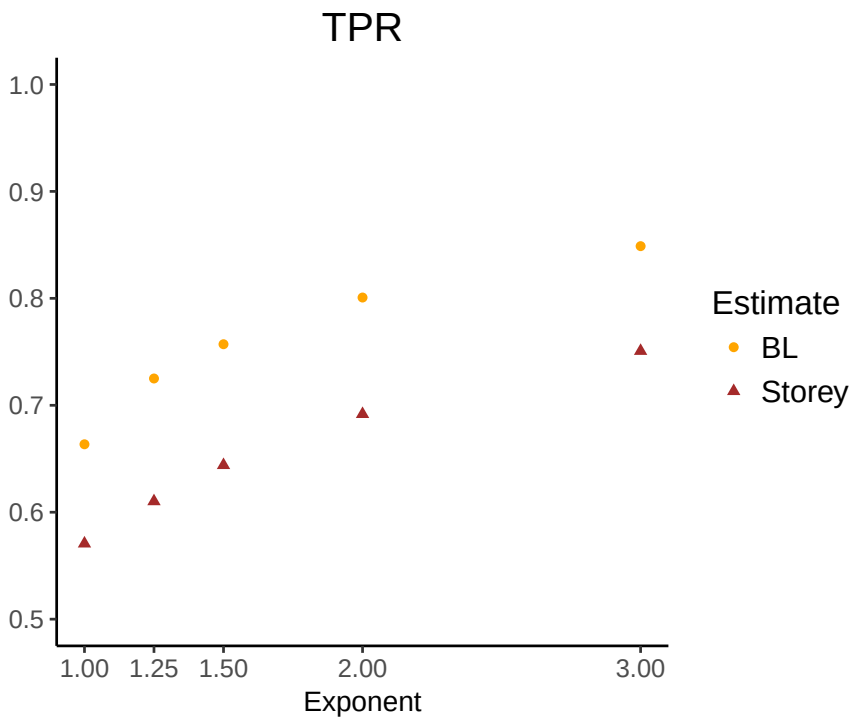



TPR
1.0
0.9
0.8
0.7
0.6
0.5
1.00
1.25
1.50
2.00
3.00
Exponent
Estimate
BL
Storey

2 T statistics

```
##    Exponent Estimate        FDR       TPR
## 1      1.00       BL 0.04097697 0.6635325
## 2      1.00   Storey 0.04749691 0.5706391
## 3      1.25       BL 0.04122005 0.7250464
## 4      1.25   Storey 0.04580017 0.6101603
## 5      1.50       BL 0.03859457 0.7570950
## 6      1.50   Storey 0.04528159 0.6439935
## 7      2.00       BL 0.03444177 0.8007557
## 8      2.00   Storey 0.04410167 0.6917268
## 9      3.00       BL 0.02780706 0.8488083
## 10     3.00   Storey 0.04116828 0.7507425
```




TPR
1.0
0.9
0.8
0.7
0.6
0.5
1.00
1.25
1.50
2.00
3.00
Exponent
Estimate
BL
Storey