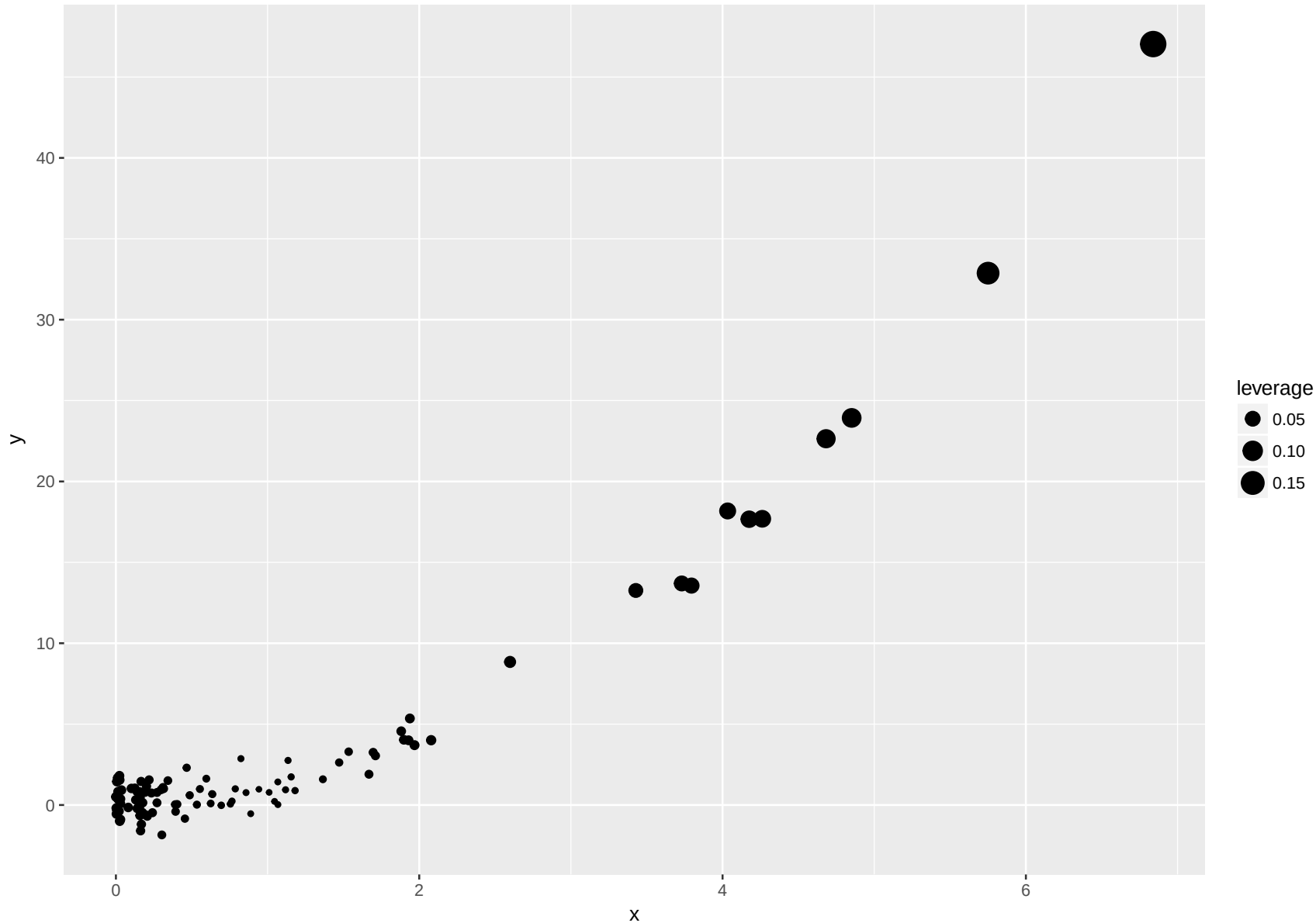
Assignment III

YEP

2/1/2018

Leverage plot

As expected, observations with larger x have higher leverage:



OLS estimator with HC covariance

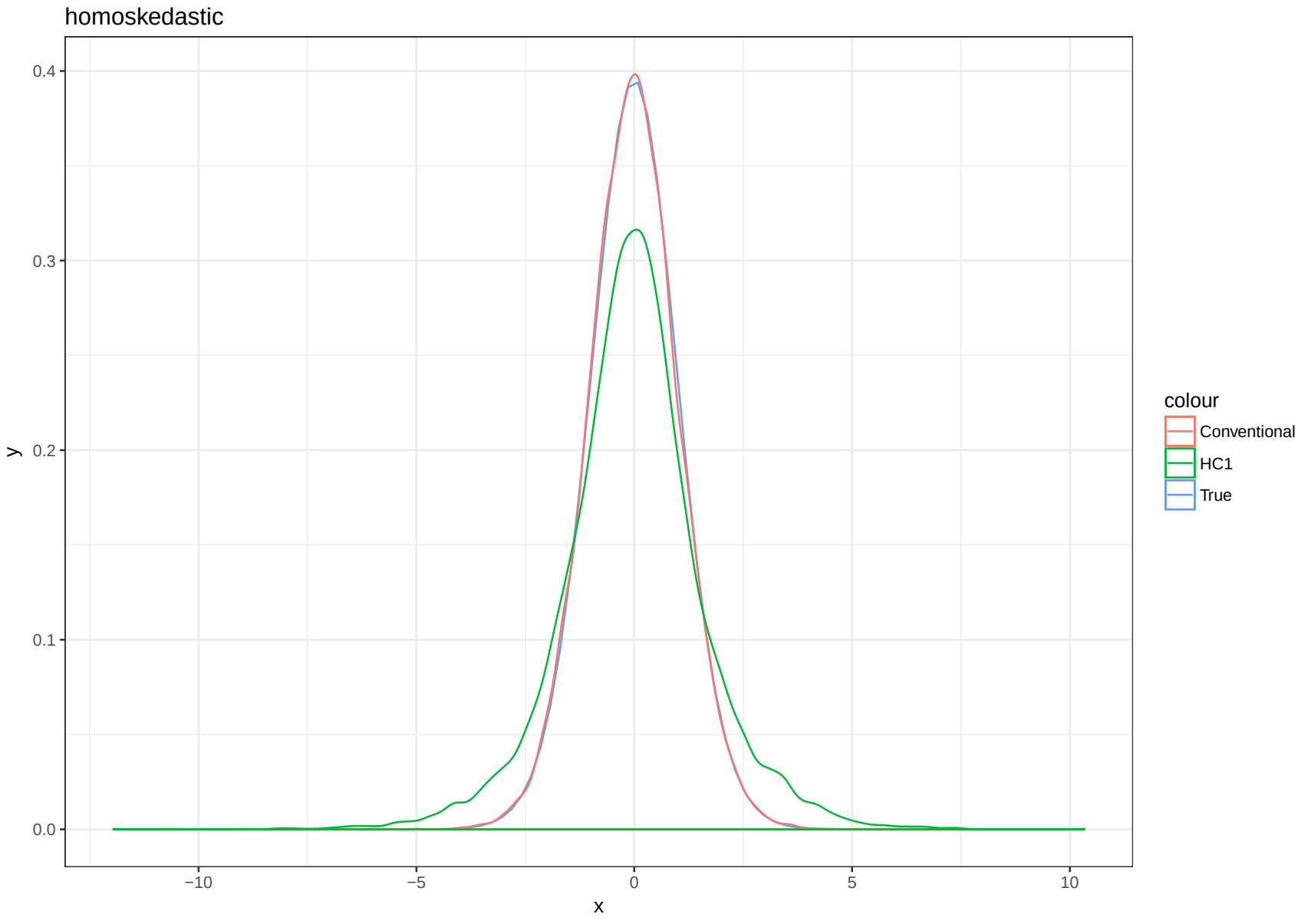
```
## # A tibble: 2 x 4
##   sig        mean    sd   five
##   <chr>     <dbl> <dbl>  <dbl>
## 1 0.5    0.00766 0.577 0.250
## 2 1     -0.00921 0.608 0.0496
```

```
## # A tibble: 6 x 5
## # Groups:   sig [?]
##   sig   V2                mean      sd   five
##   <chr> <fct>            <dbl>  <dbl>  <dbl>
## 1 0.5   conventional 0.331 0.0521 0.250
## 2 0.5   HC1          0.448 0.218  0.200
## 3 0.5   uHC1         0.606 0      0.0338
## 4 1     conventional 0.603 0.0817 0.0496
## 5 1     HC1          0.483 0.202  0.171
## 6 1     uHC1         0.630 0      0.0337
```

OLS estimator with HC covariance

With heteroskedasticity, rejection rates are much larger than 5%. The estimation of standard errors are below the unfeasible HC1, but HC1 is better than the conventional. Under homoskedasticity, the conventional behaves well, as expected.

OLS estimator with HC covariance



OLS estimator with HC covariance