table3

Harrison

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```
#panel A, column 1
houses$temp = ifelse(houses$broad == 0, -houses$dist_netw/100, houses$dist_netw/100)
houses$dist_netw = houses$dist_netw/100
houses$dist_netw2 = houses$dist_netw^2
houses$dist_netw3 = houses$dist_netw^3
houses$dist2 = ifelse(houses$broad == 0, -houses$dist_netw, houses$dist_netw)

#calculate optimal bandwidth
bw_1853 = rdbwselect(houses$log_rentals_1853, x = houses$temp, vce = "nn", cluster = houses$block)$bws[
bw_1864 = rdbwselect(houses$log_rentals_1864, x = houses$temp, vce = "nn", cluster = houses$block)$bws[

mean_rentals53 = mean(houses[houses$broad == 0 & houses$dist_netw < bw_1853, ]$rentals_53, na.rm = T)
mean_rentals64 = mean(houses[houses$broad == 0 & houses$dist_netw < bw_1864, ]$rentals_64, na.rm = T)

mean_rentals53_all = mean(houses[houses$broad == 0 & houses$dist_netw < 1, ]$rentals_53, na.rm = T)
mean_rentals64_all = mean(houses[houses$broad == 0 & houses$dist_netw < 1, ]$rentals_64, na.rm = T)


mA1 = rdrobust(y = houses$log_rentals_1853, x = houses$dist2, vce = "nn", cluster = houses$block)
summary(mA1)
```

```
## Call: rdrobust
##
## Number of Obs.                 1379
## BW type                       mserd
## Kernel                   Triangular
## VCE method                       NN
##
## Number of Obs.                 922         457
## Eff. Number of Obs.            292         296
## Order est. (p)                   1           1
## Order bias  (q)                  2           2
## BW est. (h)                  0.357       0.357
## BW bias (b)                  0.619       0.619
## rho (h/b)                    0.576       0.576
## Unique Obs.                    907         456
##
## ===============================================================================
##         Method     Coef. Std. Err.         z     P>|z|      [ 95% C.I. ]
## ===============================================================================
##   Conventional     0.052     0.124     0.417     0.677    [-0.191 , 0.295]
##         Robust         -         -     0.823     0.410    [-0.152 , 0.372]
## ===============================================================================
```

```r
mA1_coef = mA1$coef[1]
mA1_se = mA1$se[1]
mA1_bw = mA1$bws[1]
mA1_obs = sum(mA1$N_h)
```

```r
#A, column 2
controls = cbind(houses$dist_cent, houses$dist_square, houses$dist_fire, houses$dist_thea, houses$dist_
                 houses$dist_urinal, houses$dist_pub, houses$dist_church, houses$dist_bank,
                 houses$no_sewer, houses$old_sewer, houses$dist_vent, houses$dist_pump, houses$dist_pit
mA2 = rdrobust(y = houses$log_rentals_1853, x = houses$dist2, covs = controls,
               vce = "nn", cluster = houses$block)
summary(mA2)
```

```
## Call: rdrobust
##
## Number of Obs.                 1379
## BW type                       mserd
## Kernel                   Triangular
## VCE method                       NN
##
## Number of Obs.                 922         457
## Eff. Number of Obs.            230         249
## Order est. (p)                   1           1
## Order bias  (q)                  2           2
## BW est. (h)                  0.277       0.277
## BW bias (b)                  0.434       0.434
## rho (h/b)                    0.639       0.639
## Unique Obs.                    907         456
##
## ===============================================================================
##         Method     Coef. Std. Err.         z     P>|z|      [ 95% C.I. ]
## ===============================================================================
##   Conventional     0.035     0.078     0.450     0.653    [-0.118 , 0.188]
##         Robust         -         -     0.562     0.574    [-0.128 , 0.230]
## ===============================================================================
```

```r
mA2_coef = mA2$coef[1]
mA2_se = mA2$se[1]
mA2_bw = mA2$bws[1]
mA2_obs = sum(mA2$N_h)
mA2_mean = mean(houses[houses$broad == 0 & houses$dist_netw < mA2_bw, ]$rentals_53, na.rm = T)
```

```r
#column 3
mA3 = lm.cluster(data = houses[houses$dist_netw < bw_1853, ], cluster = "block",
                 log_rentals_1853 ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square +
                   dist_fire + dist_thea + dist_police + dist_urinal + dist_pub + dist_church + dist_ban
                   no_sewer + old_sewer + dist_vent + dist_pump + dist_pit_fake)

summary(mA3)
```

```
## R^2= 0.35955
##
##                    Estimate   Std. Error     t value     Pr(>|t|)
## (Intercept)    2.678096e+00 0.8155191810  3.28391579 1.023755e-03
## broad         -2.076783e-02 0.0741709062 -0.27999966 7.794778e-01
```

```
## dist_netw     -2.293857e-01 0.7619988905 -0.30103155 7.633904e-01
## dist_netw2     8.627531e-01 2.4179799892  0.35680737 7.212360e-01
## dist_cent      1.668955e-04 0.0014255281  0.11707629 9.067996e-01
## dist_square    1.059567e-03 0.0011005512  0.96275986 3.356680e-01
## dist_fire      1.824373e-04 0.0008626244  0.21149098 8.325042e-01
## dist_thea      1.992186e-03 0.0014405726  1.38291275 1.666916e-01
## dist_police   -8.226215e-04 0.0013745484 -0.59846674 5.495285e-01
## dist_urinal    9.502641e-04 0.0011346153  0.83752094 4.022998e-01
## dist_pub      -4.528004e-05 0.0019713993 -0.02296848 9.816754e-01
## dist_church    3.429001e-03 0.0008440781  4.06242167 4.856625e-05
## dist_bank     -1.924291e-03 0.0014823615 -1.29812543 1.942442e-01
## no_sewer      -3.565183e-01 0.1420593137 -2.50964386 1.208530e-02
## old_sewer      2.802643e-02 0.0881916498  0.31779006 7.506442e-01
## dist_vent     -3.234832e-03 0.0012598703 -2.56759151 1.024078e-02
## dist_pump     -7.237299e-04 0.0017076788 -0.42380917 6.717050e-01
## dist_pit_fake  2.505743e-03 0.0015209055  1.64753372 9.944839e-02
```

```
mA3_coef = mA3$lm_res$coefficients[2]
mA3_se = summary(mA3)[2,2]
```

```
## R^2= 0.35955
##
##                    Estimate   Std. Error     t value     Pr(>|t|)
## (Intercept)    2.678096e+00 0.8155191810  3.28391579 1.023755e-03
## broad         -2.076783e-02 0.0741709062 -0.27999966 7.794778e-01
## dist_netw     -2.293857e-01 0.7619988905 -0.30103155 7.633904e-01
## dist_netw2     8.627531e-01 2.4179799892  0.35680737 7.212360e-01
## dist_cent      1.668955e-04 0.0014255281  0.11707629 9.067996e-01
## dist_square    1.059567e-03 0.0011005512  0.96275986 3.356680e-01
## dist_fire      1.824373e-04 0.0008626244  0.21149098 8.325042e-01
## dist_thea      1.992186e-03 0.0014405726  1.38291275 1.666916e-01
## dist_police   -8.226215e-04 0.0013745484 -0.59846674 5.495285e-01
## dist_urinal    9.502641e-04 0.0011346153  0.83752094 4.022998e-01
## dist_pub      -4.528004e-05 0.0019713993 -0.02296848 9.816754e-01
## dist_church    3.429001e-03 0.0008440781  4.06242167 4.856625e-05
## dist_bank     -1.924291e-03 0.0014823615 -1.29812543 1.942442e-01
## no_sewer      -3.565183e-01 0.1420593137 -2.50964386 1.208530e-02
## old_sewer      2.802643e-02 0.0881916498  0.31779006 7.506442e-01
## dist_vent     -3.234832e-03 0.0012598703 -2.56759151 1.024078e-02
## dist_pump     -7.237299e-04 0.0017076788 -0.42380917 6.717050e-01
## dist_pit_fake  2.505743e-03 0.0015209055  1.64753372 9.944839e-02
```

```
mA3_obs = length(mA3$lm_res$residuals)
# m3_obs = houses[houses$dist_netw < m$bws[1],] %>%
#   select(log_rentals_1853, broad, dist_netw, dist_netw2, dist_cent, dist_square,
#                   dist_fire, dist_thea, dist_police, dist_urinal, dist_pub, dist_church, dist_bank,
#                   no_sewer, old_sewer, dist_vent, dist_pump, dist_pit_fake) %>%
#   drop_na() %>%
#   nrow()
```

```
#column 4
mA4 = lm.cluster(data = houses[houses$dist_netw < 1, ], cluster = "block",
                 log_rentals_1853 ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square +
                   dist_fire + dist_thea + dist_police + dist_urinal + dist_pub + dist_church + dist_bank +
                   no_sewer + old_sewer + dist_vent + dist_pump + dist_pit_fake)
```

```r
summary(mA4)
```

```
## R^2= 0.3015
##
##                    Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)    4.7237243206 0.4999612245  9.4481814 3.447686e-21
## broad         -0.0407734494 0.0732350097 -0.5567481 5.776996e-01
## dist_netw     -0.0904316295 0.3102124347 -0.2915152 7.706573e-01
## dist_netw2     0.3219208877 0.3747578899  0.8590103 3.903348e-01
## dist_cent     -0.0011288230 0.0010322946 -1.0935086 2.741706e-01
## dist_square   -0.0006075281 0.0006951337 -0.8739731 3.821329e-01
## dist_fire     -0.0003188259 0.0005571421 -0.5722525 5.671509e-01
## dist_thea     -0.0003537402 0.0007803190 -0.4533277 6.503128e-01
## dist_police    0.0008195225 0.0009233973  0.8875081 3.748054e-01
## dist_urinal    0.0019028000 0.0008564489  2.2217322 2.630141e-02
## dist_pub       0.0022298712 0.0013217352  1.6870786 9.158823e-02
## dist_church    0.0013105466 0.0008445173  1.5518292 1.207031e-01
## dist_bank     -0.0036302780 0.0010063011 -3.6075466 3.091061e-04
## no_sewer      -0.3307874627 0.1278187167 -2.5879423 9.655115e-03
## old_sewer     -0.0378486824 0.0833432615 -0.4541301 6.497352e-01
## dist_vent     -0.0021445782 0.0009740910 -2.2016200 2.769216e-02
## dist_pump     -0.0016908971 0.0013095276 -1.2912267 1.966251e-01
## dist_pit_fake  0.0024141190 0.0011473737  2.1040389 3.537505e-02
```

```r
mA4_coef = mA4$lm_res$coefficients[2]
mA4_se = summary(mA4)[2,2]
```

```
## R^2= 0.3015
##
##                    Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)    4.7237243206 0.4999612245  9.4481814 3.447686e-21
## broad         -0.0407734494 0.0732350097 -0.5567481 5.776996e-01
## dist_netw     -0.0904316295 0.3102124347 -0.2915152 7.706573e-01
## dist_netw2     0.3219208877 0.3747578899  0.8590103 3.903348e-01
## dist_cent     -0.0011288230 0.0010322946 -1.0935086 2.741706e-01
## dist_square   -0.0006075281 0.0006951337 -0.8739731 3.821329e-01
## dist_fire     -0.0003188259 0.0005571421 -0.5722525 5.671509e-01
## dist_thea     -0.0003537402 0.0007803190 -0.4533277 6.503128e-01
## dist_police    0.0008195225 0.0009233973  0.8875081 3.748054e-01
## dist_urinal    0.0019028000 0.0008564489  2.2217322 2.630141e-02
## dist_pub       0.0022298712 0.0013217352  1.6870786 9.158823e-02
## dist_church    0.0013105466 0.0008445173  1.5518292 1.207031e-01
## dist_bank     -0.0036302780 0.0010063011 -3.6075466 3.091061e-04
## no_sewer      -0.3307874627 0.1278187167 -2.5879423 9.655115e-03
## old_sewer     -0.0378486824 0.0833432615 -0.4541301 6.497352e-01
## dist_vent     -0.0021445782 0.0009740910 -2.2016200 2.769216e-02
## dist_pump     -0.0016908971 0.0013095276 -1.2912267 1.966251e-01
## dist_pit_fake  0.0024141190 0.0011473737  2.1040389 3.537505e-02
```

```r
mA4_obs = length(mA4$lm_res$residuals)
```

```r
#column 5
mA5 = lm.cluster(data = houses[houses$dist_netw < 1, ], cluster = "block",
                 log_rentals_1853 ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square +
                   dist_fire + dist_thea + dist_police + dist_urinal + dist_pub + dist_church + dist_bank
```

```
                  no_sewer + old_sewer + dist_vent + dist_pump + dist_pit_fake + as.factor(seg_5))

summary(mA5)
```

```
## R^2= 0.33221
##
##                         Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)        4.5660858017 0.5500423895  8.3013344 1.029485e-16
## broad             -0.0787683000 0.0701206197 -1.1233258 2.612992e-01
## dist_netw         -0.0446310811 0.2941161982 -0.1517464 8.793869e-01
## dist_netw2         0.2446532453 0.3681890771  0.6644772 5.063849e-01
## dist_cent         -0.0018755217 0.0009758021 -1.9220309 5.460187e-02
## dist_square       -0.0008535452 0.0006987870 -1.2214670 2.219093e-01
## dist_fire         -0.0006825171 0.0006071125 -1.1242021 2.609273e-01
## dist_thea          0.0002456639 0.0006759789  0.3634195 7.162915e-01
## dist_police        0.0011548924 0.0008993297  1.2841702 1.990824e-01
## dist_urinal        0.0019435628 0.0008941407  2.1736656 2.973026e-02
## dist_pub           0.0012737238 0.0012111831  1.0516360 2.929666e-01
## dist_church        0.0015247040 0.0007391790  2.0626993 3.914121e-02
## dist_bank         -0.0029986111 0.0010056957 -2.9816288 2.867194e-03
## no_sewer          -0.3945997695 0.1192133253 -3.3100307 9.328573e-04
## old_sewer         -0.0524156004 0.0814967230 -0.6431621 5.201189e-01
## dist_vent         -0.0021603830 0.0009670794 -2.2339252 2.548799e-02
## dist_pump         -0.0014955953 0.0013435122 -1.1131981 2.656233e-01
## dist_pit_fake      0.0012816540 0.0011144998  1.1499814 2.501515e-01
## as.factor(seg_5)1  0.4216520870 0.1607015940  2.6238202 8.694967e-03
## as.factor(seg_5)2  0.2968585698 0.1631147152  1.8199374 6.876854e-02
## as.factor(seg_5)3  0.0192464706 0.1821309897  0.1056738 9.158412e-01
## as.factor(seg_5)4 -0.0390314693 0.1470760631 -0.2653829 7.907145e-01
```

```
mA5_coef = mA5$lm_res$coefficients[2]
mA5_se = summary(mA5)[2,2]
```

```
## R^2= 0.33221
##
##                         Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)        4.5660858017 0.5500423895  8.3013344 1.029485e-16
## broad             -0.0787683000 0.0701206197 -1.1233258 2.612992e-01
## dist_netw         -0.0446310811 0.2941161982 -0.1517464 8.793869e-01
## dist_netw2         0.2446532453 0.3681890771  0.6644772 5.063849e-01
## dist_cent         -0.0018755217 0.0009758021 -1.9220309 5.460187e-02
## dist_square       -0.0008535452 0.0006987870 -1.2214670 2.219093e-01
## dist_fire         -0.0006825171 0.0006071125 -1.1242021 2.609273e-01
## dist_thea          0.0002456639 0.0006759789  0.3634195 7.162915e-01
## dist_police        0.0011548924 0.0008993297  1.2841702 1.990824e-01
## dist_urinal        0.0019435628 0.0008941407  2.1736656 2.973026e-02
## dist_pub           0.0012737238 0.0012111831  1.0516360 2.929666e-01
## dist_church        0.0015247040 0.0007391790  2.0626993 3.914121e-02
## dist_bank         -0.0029986111 0.0010056957 -2.9816288 2.867194e-03
## no_sewer          -0.3945997695 0.1192133253 -3.3100307 9.328573e-04
## old_sewer         -0.0524156004 0.0814967230 -0.6431621 5.201189e-01
## dist_vent         -0.0021603830 0.0009670794 -2.2339252 2.548799e-02
## dist_pump         -0.0014955953 0.0013435122 -1.1131981 2.656233e-01
## dist_pit_fake      0.0012816540 0.0011144998  1.1499814 2.501515e-01
```

```
## as.factor(seg_5)1  0.4216520870 0.1607015940  2.6238202 8.694967e-03
## as.factor(seg_5)2  0.2968585698 0.1631147152  1.8199374 6.876854e-02
## as.factor(seg_5)3  0.0192464706 0.1821309897  0.1056738 9.158412e-01
## as.factor(seg_5)4 -0.0390314693 0.1470760631 -0.2653829 7.907145e-01
```

```
mA5_obs = length(mA5$lm_res$residuals)
```

```
#Density Test, table B2
library(rdd)
#our running variable is distance from closest point to BSP boundary, which corresponds to dist2
mc_test = DCdensity(100*houses$dist2, ext.out = T)
abline(v = 0, lwd = 3, col = "blue")
title(main = "McCrary Test", xlab = "Distance to Closest Point on Boundary (meters)", ylab = "Density")
```

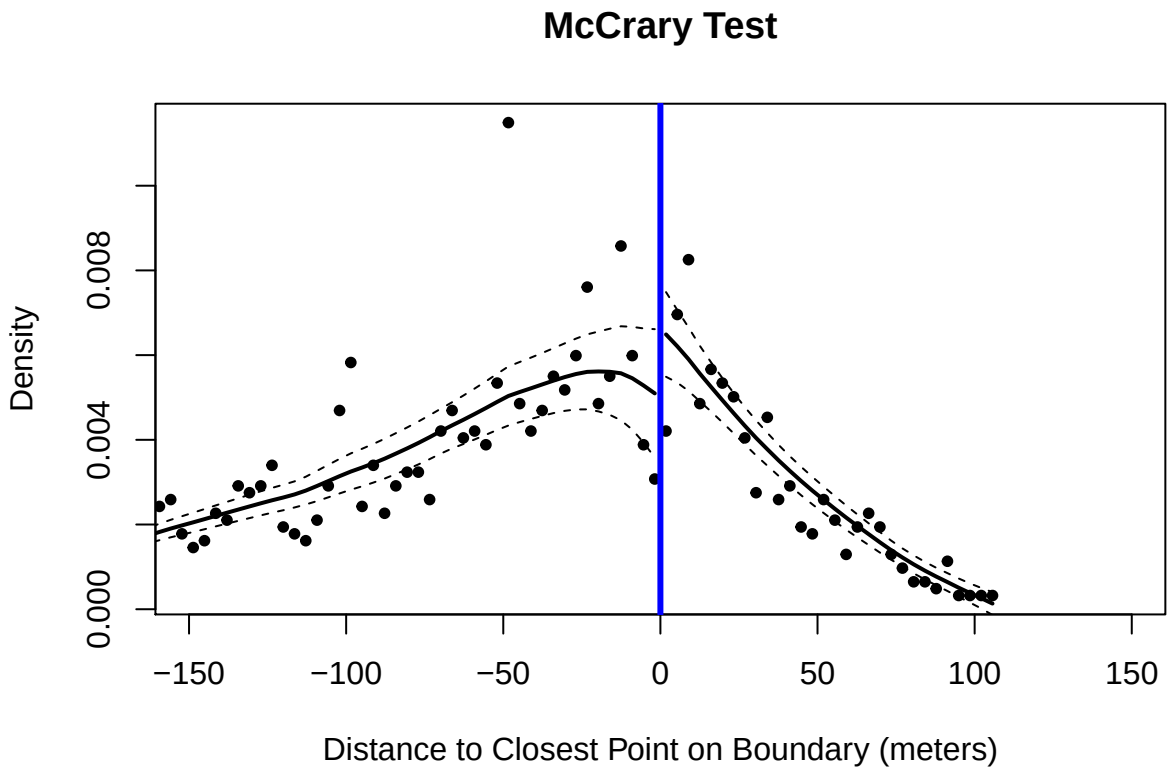


Figure 1: Table B2

```
mc_test$p
```

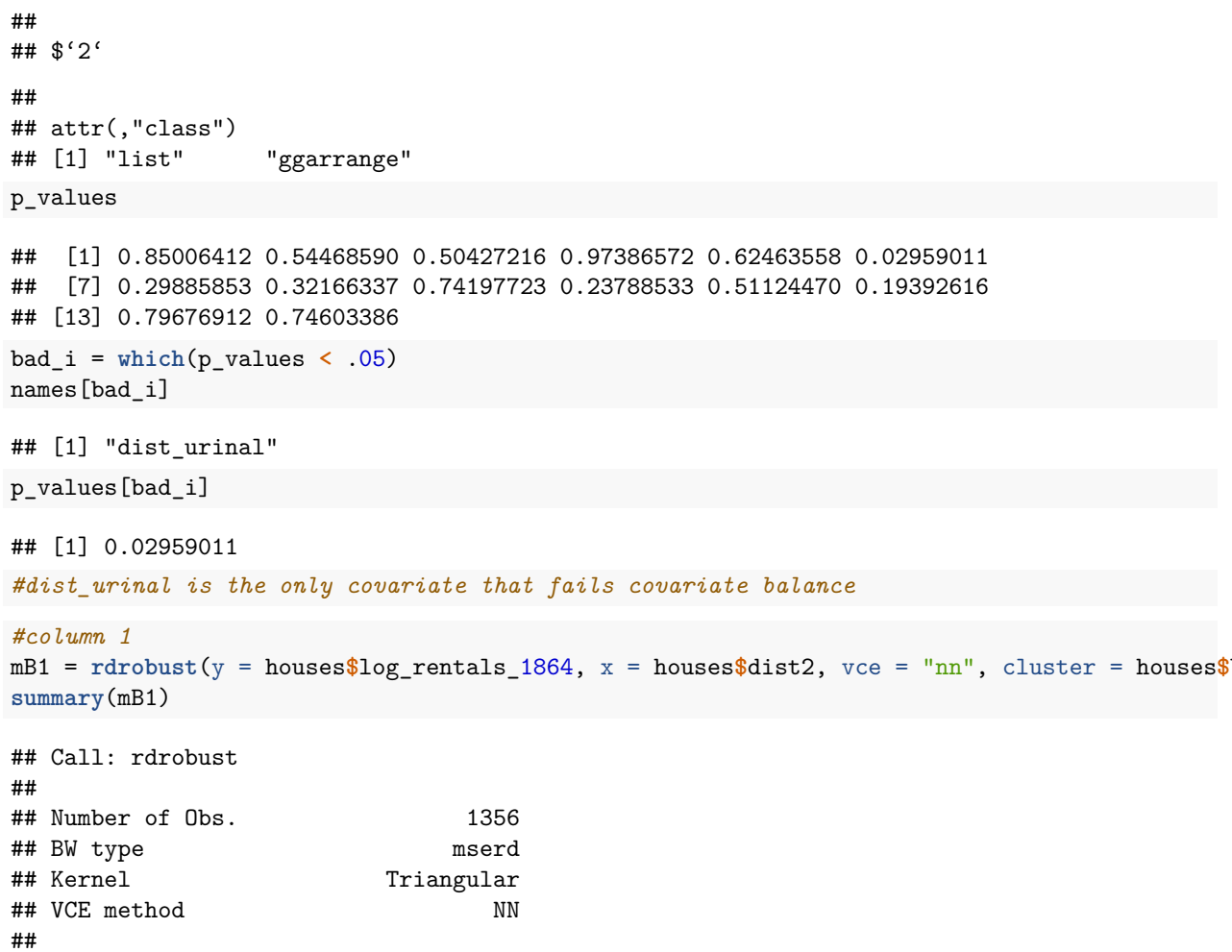
```
## [1] 0.01907609
```

```
#Covariate balance (figure B1)


#we have 14 controls
controls = cbind(houses$dist_cent, houses$dist_square, houses$dist_fire, houses$dist_thea, houses$dist_
                 houses$dist_urinal, houses$dist_pub, houses$dist_church, houses$dist_bank,
                 houses$no_sewer, houses$old_sewer, houses$dist_vent, houses$dist_pump,
```

```
                houses$dist_pit_fake)
names = c("dist_cent", "dist_squre", "dist_fire", "dist_theater", "dist_police",
          "dist_urinal", "dist_pub", "dist_church", "dist_bank", "no_sewer", "old_sewer", "dist_vent",
          "dist_pump", "dist_pit_fake", "dist_taxexon")

plots = vector(mode = "list", length = 15)

p_values = c()
for (i in 1:14) {
  p = rdplot(y = controls[,i], x = houses$dist2, x.lim = c(-1, 1), title = names[i], x.label = "Distanc
  plots[[i]] = p

  model = rdrobust(y = controls[,i], x = houses$dist2, vce = "nn", cluster = houses$block)
  #using the p value using robust clustered standard errors
  p = model$pv[3]
  p_values = append(p_values, p)
}
```

```
#show plot
ggarrange(plotlist = plots, nrow = 5, ncol = 2)
```

```
## $`1`
```



```
##
## $`2`
```



```
##
## attr(,"class")
## [1] "list"      "ggarrange"
```

```
p_values
```

```
##  [1] 0.85006412 0.54468590 0.50427216 0.97386572 0.62463558 0.02959011
##  [7] 0.29885853 0.32166337 0.74197723 0.23788533 0.51124470 0.19392616
## [13] 0.79676912 0.74603386
```

```
bad_i = which(p_values < .05)
names[bad_i]
```

```
## [1] "dist_urinal"
```

```
p_values[bad_i]
```

```
## [1] 0.02959011
```

```
#dist_urinal is the only covariate that fails covariate balance
```

```
#column 1
mB1 = rdrobust(y = houses$log_rentals_1864, x = houses$dist2, vce = "nn", cluster = houses$block)
summary(mB1)
```

```
## Call: rdrobust
##
## Number of Obs.                 1356
## BW type                       mserd
## Kernel                   Triangular
## VCE method                       NN
##
## Number of Obs.                 921         435
```

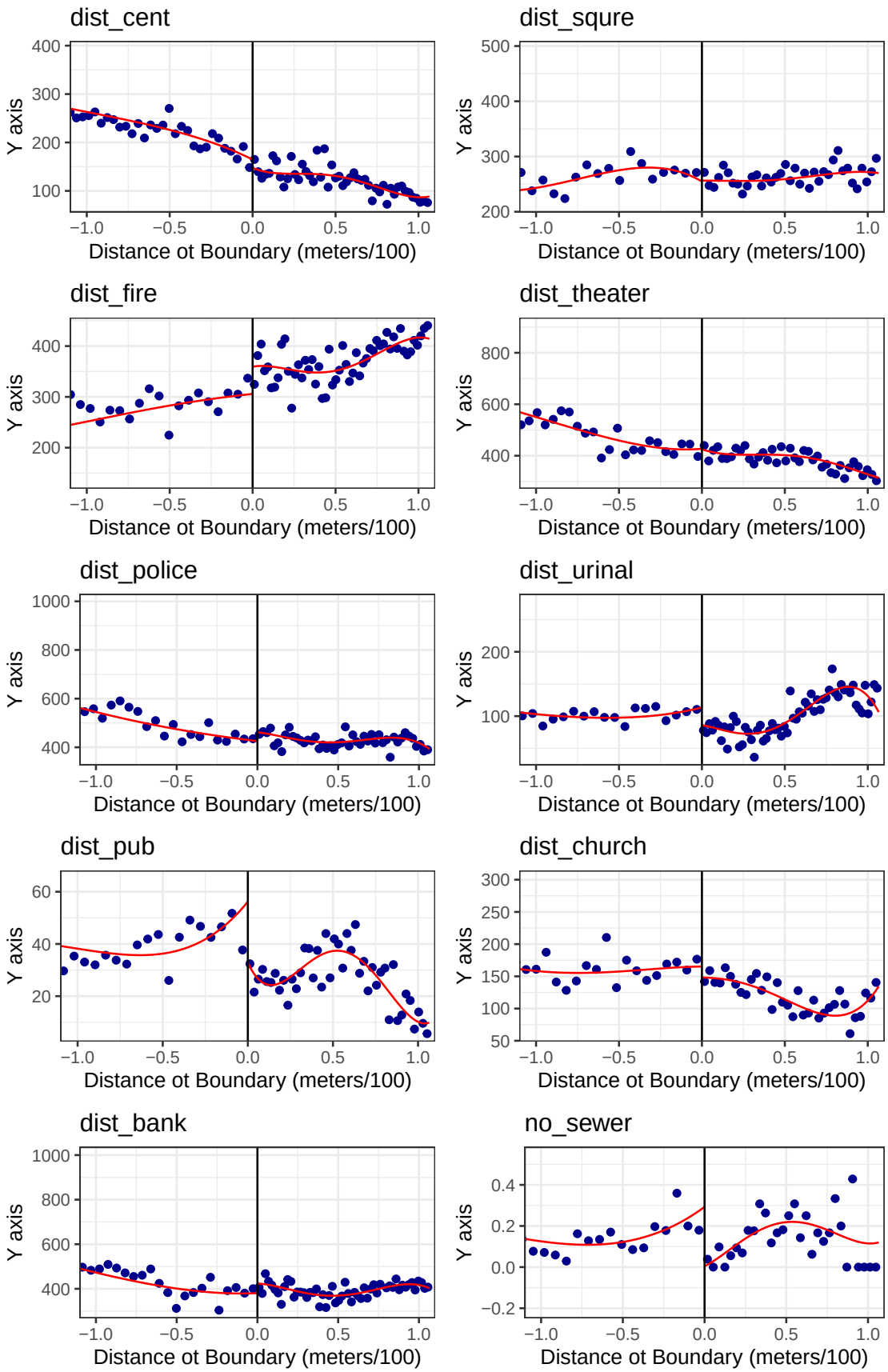


Figure 2: Figure B1

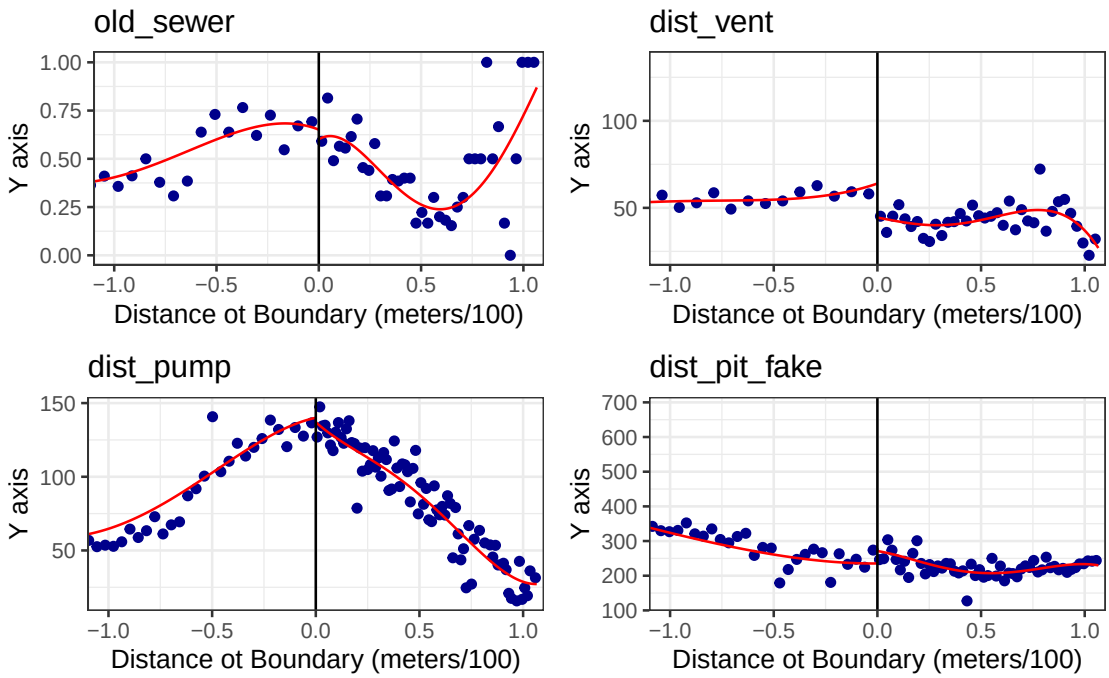


Figure 3: Figure B1

```
## Eff. Number of Obs.            229         227
## Order est. (p)                   1           1
## Order bias  (q)                  2           2
## BW est. (h)                  0.275       0.275
## BW bias (b)                  0.458       0.458
## rho (h/b)                    0.601       0.601
## Unique Obs.                    900         434
##
## ===============================================================================
##         Method     Coef. Std. Err.         z     P>|z|      [ 95% C.I. ]
## ===============================================================================
##   Conventional    -0.188     0.118    -1.587     0.112    [-0.419 , 0.044]
##         Robust          -         -    -1.746     0.081    [-0.506 , 0.029]
## ===============================================================================
```

```
mB1_coef = mB1$coef[1]
mB1_se = mB1$se[1]
mB1_bw = mB1$bws[1]
mB1_obs = sum(mB1$N_h)

#column 2
controls = cbind(houses$dist_cent, houses$dist_square, houses$dist_fire, houses$dist_thea, houses$dist_
                 houses$dist_urinal, houses$dist_pub, houses$dist_church, houses$dist_bank,
                 houses$no_sewer, houses$old_sewer, houses$dist_vent, houses$dist_pump, houses$dist_pit
mB2 = rdrobust(y = houses$log_rentals_1864, x = houses$dist2, covs = controls,
               vce = "nn", cluster = houses$block)
summary(mB2)
```

```
## Call: rdrobust
##
## Number of Obs.                1356
## BW type                      mserd
## Kernel                   Triangular
## VCE method                     NN
##
## Number of Obs.                921         435
## Eff. Number of Obs.           258         247
## Order est. (p)                  1           1
## Order bias  (q)                 2           2
## BW est. (h)                 0.310       0.310
## BW bias (b)                 0.516       0.516
## rho (h/b)                   0.601       0.601
## Unique Obs.                   900         434
##
## ===============================================================================
##         Method     Coef. Std. Err.         z     P>|z|      [ 95% C.I. ]
## ===============================================================================
##   Conventional    -0.186     0.089    -2.078     0.038    [-0.361 , -0.011]
##         Robust          -         -    -1.922     0.055    [-0.427 , 0.004]
## ===============================================================================
```

```
mB2_coef = mB2$coef[1]
mB2_se = mB2$se[1]
mB2_bw = mB2$bws[1]
mB2_obs = sum(mB2$N_h)
```

```r
mB2_mean = mean(houses[houses$broad == 0 & houses$dist_netw < mB2_bw, ]$rentals_64, na.rm = T)

#column 3
mB3 = lm.cluster(data = houses[houses$dist_netw < bw_1864, ], cluster = "block",
                 log_rentals_1864 ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square +
                   dist_fire + dist_thea + dist_police + dist_urinal + dist_pub + dist_church + dist_bank
                   no_sewer + old_sewer + dist_vent + dist_pump + dist_pit_fake)

summary(mB3)
```

```
## R^2= 0.29936
##
##                    Estimate   Std. Error     t value     Pr(>|t|)
## (Intercept)    4.5393277157 0.6703152119  6.77193003 1.270756e-11
## broad         -0.1157422625 0.0680376072 -1.70115128 8.891458e-02
## dist_netw     -1.1788883326 1.4590097017 -0.80800582 4.190872e-01
## dist_netw2     3.0479959104 4.6131074179  0.66072511 5.087886e-01
## dist_cent     -0.0023872454 0.0018681699 -1.27785236 2.013015e-01
## dist_square    0.0000678054 0.0007288875  0.09302588 9.258830e-01
## dist_fire     -0.0004211355 0.0007452085 -0.56512441 5.719891e-01
## dist_thea     -0.0001322503 0.0009979491 -0.13252208 8.945714e-01
## dist_police    0.0012866033 0.0012317827  1.04450509 2.962518e-01
## dist_urinal    0.0012224371 0.0010402228  1.17516862 2.399273e-01
## dist_pub      -0.0009527214 0.0017532680 -0.54339745 5.868562e-01
## dist_church    0.0025148829 0.0007197111  3.49429485 4.753158e-04
## dist_bank     -0.0028302569 0.0011316380 -2.50102679 1.238338e-02
## no_sewer      -0.1928380833 0.1440806990 -1.33840330 1.807650e-01
## old_sewer      0.0566642095 0.0858818661  0.65979248 5.093870e-01
## dist_vent     -0.0006236601 0.0013178392 -0.47324444 6.360388e-01
## dist_pump     -0.0008873990 0.0016774866 -0.52900513 5.968019e-01
## dist_pit_fake  0.0004609742 0.0012192876  0.37806845 7.053797e-01
```

```r
mB3_coef = mB3$lm_res$coefficients[2]
mB3_se = summary(mB3)[2,2]
```

```
## R^2= 0.29936
##
##                    Estimate   Std. Error     t value     Pr(>|t|)
## (Intercept)    4.5393277157 0.6703152119  6.77193003 1.270756e-11
## broad         -0.1157422625 0.0680376072 -1.70115128 8.891458e-02
## dist_netw     -1.1788883326 1.4590097017 -0.80800582 4.190872e-01
## dist_netw2     3.0479959104 4.6131074179  0.66072511 5.087886e-01
## dist_cent     -0.0023872454 0.0018681699 -1.27785236 2.013015e-01
## dist_square    0.0000678054 0.0007288875  0.09302588 9.258830e-01
## dist_fire     -0.0004211355 0.0007452085 -0.56512441 5.719891e-01
## dist_thea     -0.0001322503 0.0009979491 -0.13252208 8.945714e-01
## dist_police    0.0012866033 0.0012317827  1.04450509 2.962518e-01
## dist_urinal    0.0012224371 0.0010402228  1.17516862 2.399273e-01
## dist_pub      -0.0009527214 0.0017532680 -0.54339745 5.868562e-01
## dist_church    0.0025148829 0.0007197111  3.49429485 4.753158e-04
## dist_bank     -0.0028302569 0.0011316380 -2.50102679 1.238338e-02
## no_sewer      -0.1928380833 0.1440806990 -1.33840330 1.807650e-01
## old_sewer      0.0566642095 0.0858818661  0.65979248 5.093870e-01
## dist_vent     -0.0006236601 0.0013178392 -0.47324444 6.360388e-01
```

```
## dist_pump     -0.0008873990 0.0016774866 -0.52900513 5.968019e-01
## dist_pit_fake  0.0004609742 0.0012192876  0.37806845 7.053797e-01
```

```
mB3_obs = length(mB3$lm_res$residuals)

#column 4
mB4 = lm.cluster(data = houses[houses$dist_netw < 1, ], cluster = "block",
                 log_rentals_1864 ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square +
                   dist_fire + dist_thea + dist_police + dist_urinal + dist_pub + dist_church + dist_bank +
                   no_sewer + old_sewer + dist_vent + dist_pump + dist_pit_fake)

summary(mB4)
```

```
## R^2= 0.28216
##
##                    Estimate   Std. Error     t value     Pr(>|t|)
## (Intercept)    4.679519e+00 0.3229869430 14.48825957 1.437389e-47
## broad         -1.184772e-01 0.0677574377 -1.74854927 8.036896e-02
## dist_netw     -3.083754e-01 0.3179176711 -0.96998498 3.320540e-01
## dist_netw2     3.632914e-01 0.4076178737  0.89125476 3.727925e-01
## dist_cent     -1.641781e-03 0.0008734060 -1.87974579 6.014273e-02
## dist_square   -7.642280e-05 0.0004921599 -0.15528042 8.766003e-01
## dist_fire      1.040640e-04 0.0004854327  0.21437368 8.302557e-01
## dist_thea     -3.380383e-05 0.0006307246 -0.05359523 9.572577e-01
## dist_police    1.474268e-03 0.0006983019  2.11121917 3.475348e-02
## dist_urinal    2.138296e-03 0.0007328535  2.91776746 3.525472e-03
## dist_pub       9.591555e-04 0.0011810737  0.81210468 4.167316e-01
## dist_church    1.414864e-03 0.0005700864  2.48184115 1.307055e-02
## dist_bank     -4.226224e-03 0.0008131112 -5.19759668 2.018815e-07
## no_sewer      -3.417147e-01 0.1048166788 -3.26011722 1.113662e-03
## old_sewer     -1.986335e-02 0.0725015645 -0.27397131 7.841067e-01
## dist_vent     -1.593709e-03 0.0008711822 -1.82936375 6.734513e-02
## dist_pump     -2.883145e-03 0.0013198499 -2.18444883 2.892928e-02
## dist_pit_fake  1.965172e-03 0.0007759427  2.53262477 1.132121e-02
```

```
mB4_coef = mB4$lm_res$coefficients[2]
mB4_se = summary(mB4)[2,2]
```

```
## R^2= 0.28216
##
##                    Estimate   Std. Error     t value     Pr(>|t|)
## (Intercept)    4.679519e+00 0.3229869430 14.48825957 1.437389e-47
## broad         -1.184772e-01 0.0677574377 -1.74854927 8.036896e-02
## dist_netw     -3.083754e-01 0.3179176711 -0.96998498 3.320540e-01
## dist_netw2     3.632914e-01 0.4076178737  0.89125476 3.727925e-01
## dist_cent     -1.641781e-03 0.0008734060 -1.87974579 6.014273e-02
## dist_square   -7.642280e-05 0.0004921599 -0.15528042 8.766003e-01
## dist_fire      1.040640e-04 0.0004854327  0.21437368 8.302557e-01
## dist_thea     -3.380383e-05 0.0006307246 -0.05359523 9.572577e-01
## dist_police    1.474268e-03 0.0006983019  2.11121917 3.475348e-02
## dist_urinal    2.138296e-03 0.0007328535  2.91776746 3.525472e-03
## dist_pub       9.591555e-04 0.0011810737  0.81210468 4.167316e-01
## dist_church    1.414864e-03 0.0005700864  2.48184115 1.307055e-02
## dist_bank     -4.226224e-03 0.0008131112 -5.19759668 2.018815e-07
## no_sewer      -3.417147e-01 0.1048166788 -3.26011722 1.113662e-03
```

```
## old_sewer     -1.986335e-02 0.0725015645 -0.27397131 7.841067e-01
## dist_vent     -1.593709e-03 0.0008711822 -1.82936375 6.734513e-02
## dist_pump     -2.883145e-03 0.0013198499 -2.18444883 2.892928e-02
## dist_pit_fake  1.965172e-03 0.0007759427  2.53262477 1.132121e-02
```

```
mB4_obs = length(mB4$lm_res$residuals)

#column 5
mB5 = lm.cluster(data = houses[houses$dist_netw < 1, ], cluster = "block",
                 log_rentals_1864 ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square +
                   dist_fire + dist_thea + dist_police + dist_urinal + dist_pub + dist_church + dist_bank
                   no_sewer + old_sewer + dist_vent + dist_pump + dist_pit_fake + as.factor(seg_5))


mB5_coef = mB5$lm_res$coefficients[2]
mB5_se = summary(mB5)[2,2]
```

```
## R^2= 0.31938
##
##                         Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)        4.8171630604 0.3665951954 13.1402788 1.935125e-39
## broad             -0.1269081852 0.0677729993 -1.8725479 6.113085e-02
## dist_netw         -0.3092694869 0.3007968539 -1.0281673 3.038711e-01
## dist_netw2         0.3750353747 0.4023697059  0.9320666 3.513021e-01
## dist_cent         -0.0015147008 0.0009617137 -1.5750017 1.152560e-01
## dist_square       -0.0009307777 0.0004700641 -1.9801081 4.769139e-02
## dist_fire         -0.0005214935 0.0004924256 -1.0590300 2.895861e-01
## dist_thea         -0.0001613382 0.0005149874 -0.3132858 7.540635e-01
## dist_police        0.0018059575 0.0006089642  2.9656219 3.020716e-03
## dist_urinal        0.0014517377 0.0007633458  1.9018088 5.719615e-02
## dist_pub           0.0011630673 0.0011348862  1.0248317 3.054426e-01
## dist_church        0.0013164478 0.0004876933  2.6993352 6.947815e-03
## dist_bank         -0.0031493061 0.0007809565 -4.0326268 5.515683e-05
## no_sewer          -0.4074209470 0.0992055550 -4.1068360 4.011158e-05
## old_sewer         -0.0407109217 0.0703740454 -0.5784934 5.629310e-01
## dist_vent         -0.0013177314 0.0008158958 -1.6150731 1.062949e-01
## dist_pump         -0.0026521880 0.0013315072 -1.9918691 4.638542e-02
## dist_pit_fake      0.0004512781 0.0007740002  0.5830465 5.598620e-01
## as.factor(seg_5)1  0.4595579787 0.1188098789  3.8680115 1.097265e-04
## as.factor(seg_5)2  0.3599306774 0.1415166267  2.5433808 1.097855e-02
## as.factor(seg_5)3  0.3735917574 0.1533396814  2.4363671 1.483562e-02
## as.factor(seg_5)4  0.0218160524 0.1209311869  0.1804005 8.568381e-01
```

```
mB5_obs = length(mB5$lm_res$residuals)
```

```
houses2 = read_dta("aer_replication/data/19th/Merged_1846_1894_data.dta")
houses2$temp = houses2$dist_netw/100
houses2$temp = ifelse(houses2$broad == 0, -houses2$dist_netw/100, houses2$dist_netw/100)

#optimal bw
houses2$dist_netw = houses2$dist_netw/100
houses2$dist_netw2 = houses2$dist_netw^2
houses2$dist_netw3 = houses2$dist_netw^3
houses2$dist_2 = houses2$dist_netw
houses2$dist_2 = ifelse(houses2$broad == 0, -houses2$dist_netw, houses2$dist_2)
```

```r
houses2$dist_2_2 = houses2$dist_2^2

bw_1894 = rdbwselect(y = houses2$log_rentals_1894, x = houses2$temp, vce = "nn", cluster = houses2$block

mean_rentals94 = mean(houses2[houses2$broad == 0 & houses2$dist_netw < bw_1894, ]$rentals_94, na.rm = T)
mean_rentals94_all = mean(houses2[houses2$broad == 0 & houses2$dist_netw < 1, ]$rentals_94, na.rm = T)

#RINSE AND REPEAT

#column 1
mC1 = rdrobust(y = houses2$log_rentals_1894, x = houses2$dist_2, vce = "nn", cluster = houses2$block)

mC1_coef = mC1$coef[1]
mC1_se = mC1$se[1]
mC1_bw = mC1$bws[1]
mC1_obs = sum(mC1$N_h)

#column 2
controls = cbind(houses2$dist_cent, houses2$dist_square, houses2$dist_bank, houses2$dist_pit_fake)
mC2 = rdrobust(y = houses2$log_rentals_1894, x = houses2$dist_2, covs = controls,
               vce = "nn", cluster = houses2$block, all = T)
summary(mC2)
```

```
## Call: rdrobust
##
## Number of Obs.                  961
## BW type                       mserd
## Kernel                   Triangular
## VCE method                       NN
##
## Number of Obs.                 610         351
## Eff. Number of Obs.            174         181
## Order est. (p)                   1           1
## Order bias  (q)                  2           2
## BW est. (h)                  0.276       0.276
## BW bias (b)                  0.434       0.434
## rho (h/b)                    0.635       0.635
## Unique Obs.                    602         351
##
## ===============================================================================
##         Method     Coef. Std. Err.         z     P>|z|      [ 95% C.I. ]
## ===============================================================================
##   Conventional    -0.263     0.154    -1.704     0.088    [-0.565 , 0.039]
## Bias-Corrected    -0.292     0.154    -1.891     0.059    [-0.594 , 0.011]
##         Robust    -0.292     0.185    -1.578     0.115    [-0.654 , 0.071]
## ===============================================================================
```

```r
mC2_coef = mC2$coef[1]
mC2_se = mC2$se[1]
mC2_bw = mC2$bws[1]
mC2_obs = sum(mC2$N_h)
mC2_mean = mean(houses2[houses2$broad == 0 & houses2$dist_netw < mC2_bw, ]$rentals_94, na.rm = T)

#column 3
```

```
mC3 = lm.cluster(data = houses2[houses2$dist_netw < bw_1894, ], cluster = "block",
                 log_rentals_1894 ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square)

summary(mC3)
```

```
## R^2= 0.07347
##
##                   Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)  4.4234000287 0.4009392935 11.0325930 2.660809e-28
## broad       -0.2453850035 0.1192717689 -2.0573603 3.965158e-02
## dist_netw   -1.9632735639 1.5568490416 -1.2610558 2.072887e-01
## dist_netw2   6.6232891283 4.9411802042  1.3404265 1.801067e-01
## dist_cent    0.0010652636 0.0008843681  1.2045477 2.283780e-01
## dist_square -0.0000342195 0.0011897967 -0.0287608 9.770554e-01
```

```
mC3_coef = mC3$lm_res$coefficients[2]
mC3_se = summary(mC3)[2,2]
```

```
## R^2= 0.07347
##
##                   Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)  4.4234000287 0.4009392935 11.0325930 2.660809e-28
## broad       -0.2453850035 0.1192717689 -2.0573603 3.965158e-02
## dist_netw   -1.9632735639 1.5568490416 -1.2610558 2.072887e-01
## dist_netw2   6.6232891283 4.9411802042  1.3404265 1.801067e-01
## dist_cent    0.0010652636 0.0008843681  1.2045477 2.283780e-01
## dist_square -0.0000342195 0.0011897967 -0.0287608 9.770554e-01
```

```
mC3_obs = length(mC3$lm_res$residuals)

#column 4
mC4 = lm.cluster(data = houses2[houses2$dist_netw < 1, ], cluster = "block",
                 log_rentals_1894 ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square)

summary(mC4)
```

```
## R^2= 0.10461
##
##                   Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)  4.3734730735 0.3091431588 14.1470802 1.946736e-45
## broad       -0.2171886798 0.0758385918 -2.8638280 4.185553e-03
## dist_netw    0.1552978518 0.4531987741  0.3426705 7.318464e-01
## dist_netw2   0.1931866809 0.4268183060  0.4526204 6.508221e-01
## dist_cent    0.0009125301 0.0007674648  1.1890189 2.344322e-01
## dist_square -0.0002969740 0.0008607112 -0.3450333 7.300694e-01
```

```
mC4_coef = mC4$lm_res$coefficients[2]
mC4_se = summary(mC4)[2,2]
```

```
## R^2= 0.10461
##
##                   Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)  4.3734730735 0.3091431588 14.1470802 1.946736e-45
## broad       -0.2171886798 0.0758385918 -2.8638280 4.185553e-03
## dist_netw    0.1552978518 0.4531987741  0.3426705 7.318464e-01
## dist_netw2   0.1931866809 0.4268183060  0.4526204 6.508221e-01
```

```
## dist_cent    0.0009125301 0.0007674648  1.1890189 2.344322e-01
## dist_square -0.0002969740 0.0008607112 -0.3450333 7.300694e-01
```

```
mC4_obs = length(mC4$lm_res$residuals)

#column 5
mC5 = lm.cluster(data = houses2[houses2$dist_netw < 1, ], cluster = "block",
                 log_rentals_1894 ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square + as.factor


mC5_coef = mC5$lm_res$coefficients[2]
mC5_se = summary(mC5)[2,2]
```

```
## R^2= 0.17828
##
##                        Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)        4.478726236 0.4035178368 11.0992026 1.265680e-28
## broad             -0.216907114 0.1147285163 -1.8906120 5.867615e-02
## dist_netw          0.098504749 0.4652251276  0.2117357 8.323133e-01
## dist_netw2         0.217260004 0.4649804253  0.4672455 6.403243e-01
## dist_cent          0.000696461 0.0013682698  0.5090086 6.107462e-01
## dist_square       -0.001114083 0.0008143784 -1.3680161 1.713071e-01
## as.factor(seg_5)1  0.610891011 0.2358625655  2.5900295 9.596770e-03
## as.factor(seg_5)2  0.216412065 0.1799766843  1.2024450 2.291912e-01
## as.factor(seg_5)3  0.044561743 0.2706550991  0.1646440 8.692242e-01
## as.factor(seg_5)4  0.151992374 0.1461382309  1.0400589 2.983125e-01
```

```
mC5_obs = length(mC5$lm_res$residuals)
```

```
#Panel D
houses3 = read_dta("aer_replication/data/20th/houses_1936_final.dta")
houses3$temp = houses3$dist_netw
houses3$temp = ifelse(houses3$broad == 0, -houses3$dist_netw, houses3$temp)

houses3$dist_2 = houses3$dist_netw
houses3$dist_2 = ifelse(houses3$broad == 0, -houses3$dist_netw, houses3$dist_2)

bw_1936 = rdbwselect(y = houses3$lnrentals, houses3$temp, vce = "nn", cluster = houses3$block)$bws[1]

mean_rentals36 = mean(houses3[houses3$broad == 0 & houses3$dist_netw < bw_1936, ]$rentals, na.rm = T)
mean_rentals36_all = mean(houses3[houses3$broad == 0 & houses3$dist_netw < 1, ]$rentals, na.rm = T)

#column 1
mD1 = rdrobust(y = houses3$lnrentals, x = houses3$dist_2, vce = "nn", cluster = houses3$block)

mD1_coef = mD1$coef[1]
mD1_se = mD1$se[1]
mD1_bw = mD1$bws[1]
mD1_obs = sum(mD1$N_h)

#column 2
controls = cbind(houses3$dist_cent, houses3$dist_square, houses3$dist_thea,
                 houses3$dist_pub, houses3$dist_church, houses3$dist_bank)
mD2 = rdrobust(y = houses3$lnrentals, x = houses3$dist_2, covs = controls,
               vce = "nn", cluster = houses3$block, h = .373, all = T)
```

```r
summary(mD2)
```

```
## Call: rdrobust
##
## Number of Obs.                  361
## BW type                      Manual
## Kernel                   Triangular
## VCE method                       NN
##
## Number of Obs.                 166         195
## Eff. Number of Obs.            110         111
## Order est. (p)                   1           1
## Order bias  (q)                  2           2
## BW est. (h)                  0.373       0.373
## BW bias (b)                  0.373       0.373
## rho (h/b)                    1.000       1.000
## Unique Obs.                    165         192
##
## ===============================================================================
##         Method     Coef. Std. Err.         z     P>|z|      [ 95% C.I. ]
## ===============================================================================
##   Conventional    -0.375     0.280    -1.337     0.181    [-0.924 , 0.175]
## Bias-Corrected    -0.413     0.280    -1.475     0.140    [-0.963 , 0.136]
##         Robust    -0.413     0.394    -1.050     0.294    [-1.185 , 0.358]
## ===============================================================================
```

```r
mD2_coef = mD2$coef[1]
mD2_se = mD2$se[1]
mD2_bw = mD2$bws[1]
mD2_obs = sum(mD2$N_h)
mD2_mean = mean(houses3[houses3$broad == 0 & houses3$dist_netw < mD2_bw, ]$rentals, na.rm = T)

#column 3
mD3 = lm.cluster(data = houses3[houses3$dist_netw < bw_1936, ], cluster = "block",
                 lnrentals ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square +
                 dist_thea + dist_school + dist_pub + dist_church + dist_bank + length + width)

summary(mD3)
```

```
## R^2= 0.48676
##
##                 Estimate  Std. Error    t value     Pr(>|t|)
## (Intercept)  5.034748072 1.099915688  4.5773945 4.708030e-06
## broad       -0.324926815 0.147366578 -2.2048881 2.746195e-02
## dist_netw   -1.628220850 2.413203686 -0.6747134 4.998579e-01
## dist_netw2   3.099666569 6.091507664  0.5088505 6.108570e-01
## dist_cent   -0.783183795 0.194317571 -4.0304322 5.567439e-05
## dist_square  0.181336848 0.196898870  0.9209644 3.570690e-01
## dist_thea   -0.151420115 0.351773870 -0.4304473 6.668703e-01
## dist_school  0.361502889 0.149721788  2.4144975 1.575693e-02
## dist_pub     0.044842327 0.292229223  0.1534492 8.780441e-01
## dist_church -0.037830529 0.167609354 -0.2257065 8.214297e-01
## dist_bank   -0.389946347 0.179226801 -2.1757145 2.957662e-02
## length       0.002971843 0.001147161  2.5906071 9.580681e-03
```

```
## width        0.096855556 0.020659257  4.6882402 2.755645e-06
```

```
mD3_coef = mD3$lm_res$coefficients[2]
mD3_se = summary(mD3)[2,2]
```

```
## R^2= 0.48676
##
##                  Estimate  Std. Error    t value     Pr(>|t|)
## (Intercept)  5.034748072 1.099915688  4.5773945 4.708030e-06
## broad       -0.324926815 0.147366578 -2.2048881 2.746195e-02
## dist_netw   -1.628220850 2.413203686 -0.6747134 4.998579e-01
## dist_netw2   3.099666569 6.091507664  0.5088505 6.108570e-01
## dist_cent   -0.783183795 0.194317571 -4.0304322 5.567439e-05
## dist_square  0.181336848 0.196898870  0.9209644 3.570690e-01
## dist_thea   -0.151420115 0.351773870 -0.4304473 6.668703e-01
## dist_school  0.361502889 0.149721788  2.4144975 1.575693e-02
## dist_pub     0.044842327 0.292229223  0.1534492 8.780441e-01
## dist_church -0.037830529 0.167609354 -0.2257065 8.214297e-01
## dist_bank   -0.389946347 0.179226801 -2.1757145 2.957662e-02
## length       0.002971843 0.001147161  2.5906071 9.580681e-03
## width        0.096855556 0.020659257  4.6882402 2.755645e-06
```

```
mD3_obs = length(mD3$lm_res$residuals)

#column 4
mD4 = lm.cluster(data = houses3[houses3$dist_netw < 1, ], cluster = "block",
                 lnrentals ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square +
                 dist_thea + dist_school + dist_pub + dist_church + dist_bank + length + width)

summary(mD4)
```

```
## R^2= 0.44863
##
##                  Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)  6.050973676 1.0275248488  5.8888831 3.888144e-09
## broad       -0.458128198 0.1440174514 -3.1810603 1.467371e-03
## dist_netw   -0.959258340 0.7343700539 -1.3062329 1.914734e-01
## dist_netw2   1.181146986 0.8329878697  1.4179642 1.562012e-01
## dist_cent   -0.484919396 0.1807820647 -2.6823424 7.310859e-03
## dist_square  0.328624957 0.1981606441  1.6583765 9.724150e-02
## dist_thea   -0.375893804 0.2635534534 -1.4262526 1.537954e-01
## dist_school -0.018685521 0.1218979630 -0.1532882 8.781710e-01
## dist_pub     0.056766044 0.2208897204  0.2569882 7.971879e-01
## dist_church -0.273853320 0.1794120718 -1.5263929 1.269120e-01
## dist_bank   -0.163489682 0.1654880102 -0.9879246 3.231896e-01
## length       0.003793856 0.0009174962  4.1350097 3.549396e-05
## width        0.068585580 0.0217647427  3.1512240 1.625877e-03
```

```
mD4_coef = mD4$lm_res$coefficients[2]
mD4_se = summary(mD4)[2,2]
```

```
## R^2= 0.44863
##
##                  Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)  6.050973676 1.0275248488  5.8888831 3.888144e-09
## broad       -0.458128198 0.1440174514 -3.1810603 1.467371e-03
```

```
## dist_netw   -0.959258340 0.7343700539 -1.3062329 1.914734e-01
## dist_netw2   1.181146986 0.8329878697  1.4179642 1.562012e-01
## dist_cent   -0.484919396 0.1807820647 -2.6823424 7.310859e-03
## dist_square  0.328624957 0.1981606441  1.6583765 9.724150e-02
## dist_thea   -0.375893804 0.2635534534 -1.4262526 1.537954e-01
## dist_school -0.018685521 0.1218979630 -0.1532882 8.781710e-01
## dist_pub     0.056766044 0.2208897204  0.2569882 7.971879e-01
## dist_church -0.273853320 0.1794120718 -1.5263929 1.269120e-01
## dist_bank   -0.163489682 0.1654880102 -0.9879246 3.231896e-01
## length       0.003793856 0.0009174962  4.1350097 3.549396e-05
## width        0.068585580 0.0217647427  3.1512240 1.625877e-03
```

```
mD4_obs = length(mD4$lm_res$residuals)

#column 5
mD5 = lm.cluster(data = houses3[houses3$dist_netw < 1, ], cluster = "block",
                 lnrentals ~ broad + dist_netw + dist_netw2 + dist_cent + dist_square +
                 dist_thea + dist_school + dist_pub + dist_church + dist_bank +
                   length + width + as.factor(seg_5))

mD5_coef = mD5$lm_res$coefficients[2]
mD5_se = summary(mD5)[2,2]
```

```
## R^2= 0.50877
##
##                         Estimate   Std. Error    t value     Pr(>|t|)
## (Intercept)         5.492721327 0.9878180305  5.5604587 2.690666e-08
## broad              -0.271224191 0.1501553192 -1.8062909 7.087291e-02
## dist_netw          -0.955800732 0.6353433589 -1.5043845 1.324824e-01
## dist_netw2          1.156003181 0.7447395530  1.5522248 1.206085e-01
## dist_cent          -0.376542910 0.1728019894 -2.1790427 2.932850e-02
## dist_square         0.324675974 0.1758092702  1.8467512 6.478321e-02
## dist_thea          -0.138201268 0.2352242821 -0.5875298 5.568480e-01
## dist_school         0.030838047 0.1103950306  0.2793427 7.799818e-01
## dist_pub            0.089045235 0.1994880691  0.4463687 6.553309e-01
## dist_church        -0.447212563 0.1610104583 -2.7775374 5.477254e-03
## dist_bank          -0.291411029 0.1637834979 -1.7792454 7.519954e-02
## length              0.003660853 0.0007788117  4.7005623 2.594461e-06
## width               0.060678220 0.0155829301  3.8938903 9.864929e-05
## as.factor(seg_5)1   1.032526506 0.2796553929  3.6921387 2.223761e-04
## as.factor(seg_5)2   0.646451572 0.2579669704  2.5059471 1.221239e-02
## as.factor(seg_5)4   0.403143740 0.2435927426  1.6549908 9.792637e-02
```

```
mD5_obs = length(mD5$lm_res$residuals)
```

```
#Make the table


mA1_bw = 100*mA1_bw
mA2_bw = 100*mA2_bw
mB1_bw = 100*mB1_bw
mB2_bw = 100*mB2_bw
mC1_bw = 100*mC1_bw
mC2_bw = 100*mC2_bw
mD1_bw = 100*mD1_bw
```

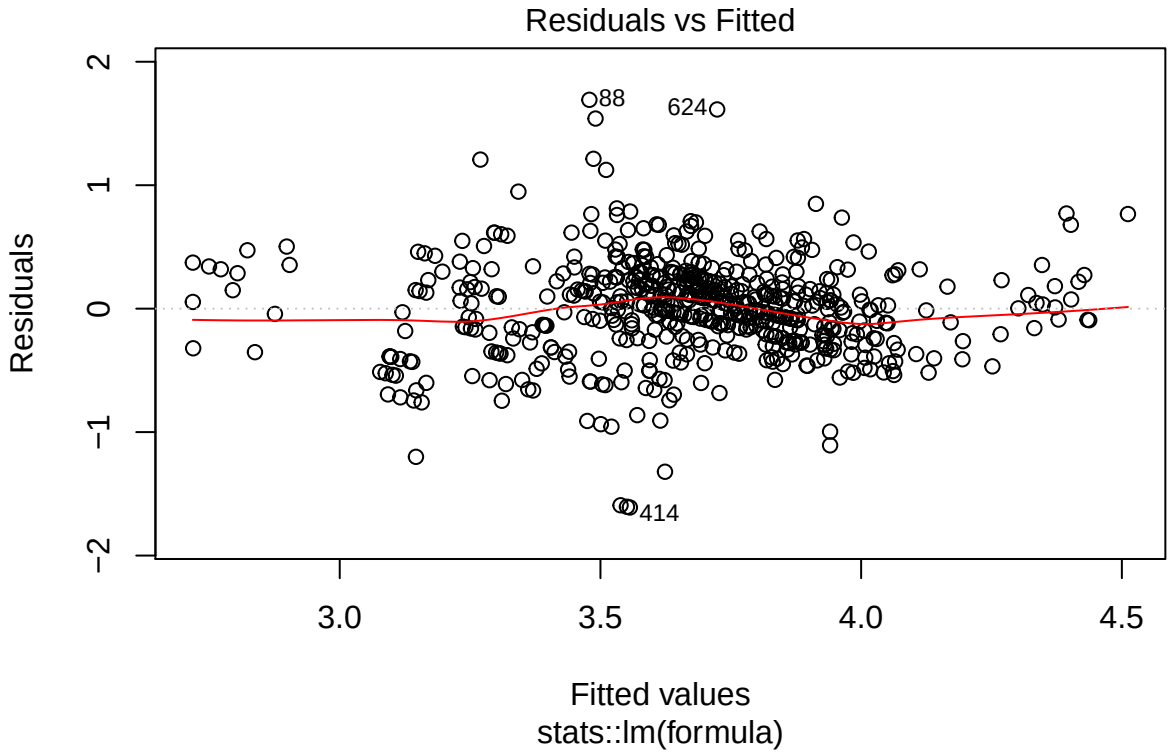
```
mD2_bw = 100*mD2_bw

llr_base = c(mA1_coef, mA1_se, mA1_obs, mean_rentals53, mA1_bw,
         mB1_coef, mB1_se, mB1_obs, mean_rentals64, mB1_bw,
         mC1_coef, mC1_se, mC1_obs, mean_rentals94, mC1_bw,
         mD1_coef, mD1_se, mD1_obs, mean_rentals36, mD1_bw)
llr_cntrls = c(mA2_coef, mA2_se, mA2_obs, mA2_mean, mA2_bw,
               mB2_coef, mB2_se, mB2_obs, mB2_mean, mB2_bw,
               mC2_coef, mC2_se, mC2_obs, mC2_mean, mC2_bw,
               mD2_coef, mD2_se, mD2_obs, mD2_mean, mD2_bw)

poly_rd_opt = c(mA3_coef, mA3_se, mA3_obs, mean_rentals53, mA1_bw,
                mB3_coef, mB3_se, mB3_obs, mean_rentals64, mB1_bw,
                mC3_coef, mC3_se, mC3_obs, mean_rentals94, mC1_bw,
                mD3_coef, mD3_se, mD3_obs, mean_rentals36, mD1_bw)

poly_rd_wide = c(mA4_coef, mA4_se, mA4_obs, mean_rentals53_all, 100,
                 mB4_coef, mB4_se, mB4_obs, mean_rentals64_all, 100,
                 mC4_coef, mC4_se, mC4_obs, mean_rentals94_all, 100,
                 mD4_coef, mD4_se, mD4_obs, mean_rentals36_all, 100)

poly_rd_segfe = c(mA5_coef, mA5_se, mA5_obs, mean_rentals53_all, 100,
                  mB5_coef, mB5_se, mB5_obs, mean_rentals64_all, 100,
                  mC5_coef, mC5_se, mC5_obs, mean_rentals94_all, 100,
                  mD5_coef, mD5_se, mD5_obs, mean_rentals36_all, 100)


test = data.frame(
  LLR_Baseline = llr_base,
  LLR_Controls = llr_cntrls,
  `Poly RD Optimal Band` = poly_rd_opt,
  `Poly RD Wide Band` = poly_rd_wide,
  `Poly RD Segment FE` = poly_rd_segfe
)

rownames(test) = c("Panel A. log rental prices, 1853
                    Inside BSP", "se", "Observations1", "Mean Outside BSP1", "Bandwidth (meters)1",
                    "Panel B. log rental prices, 1864
                    Inside BSP", "se2", "Observations2", "Mean Outside BSP2", "Bandwidth (meters)2",
                    "Panel C. log rental prices, 1894
                    Inside BSP", "se3", "Observations3", "Mean Outside BSP3", "Bandwidth (meters)3",
                    "Panel A. log rental prices, 1936
                    Inside BSP", "se4", "Observations4", "Mean Outside BSP4", "Bandwidth (meters)4")
# col_names = c("LLRBaseline", "LLRControls", "Poly RDOptimal Band", "PolyRDWide Band",
#               "Poly RDSegment FE")
stargazer(test, summary = FALSE, font.size = "scriptsize", column.sep.width = "1pt")
```

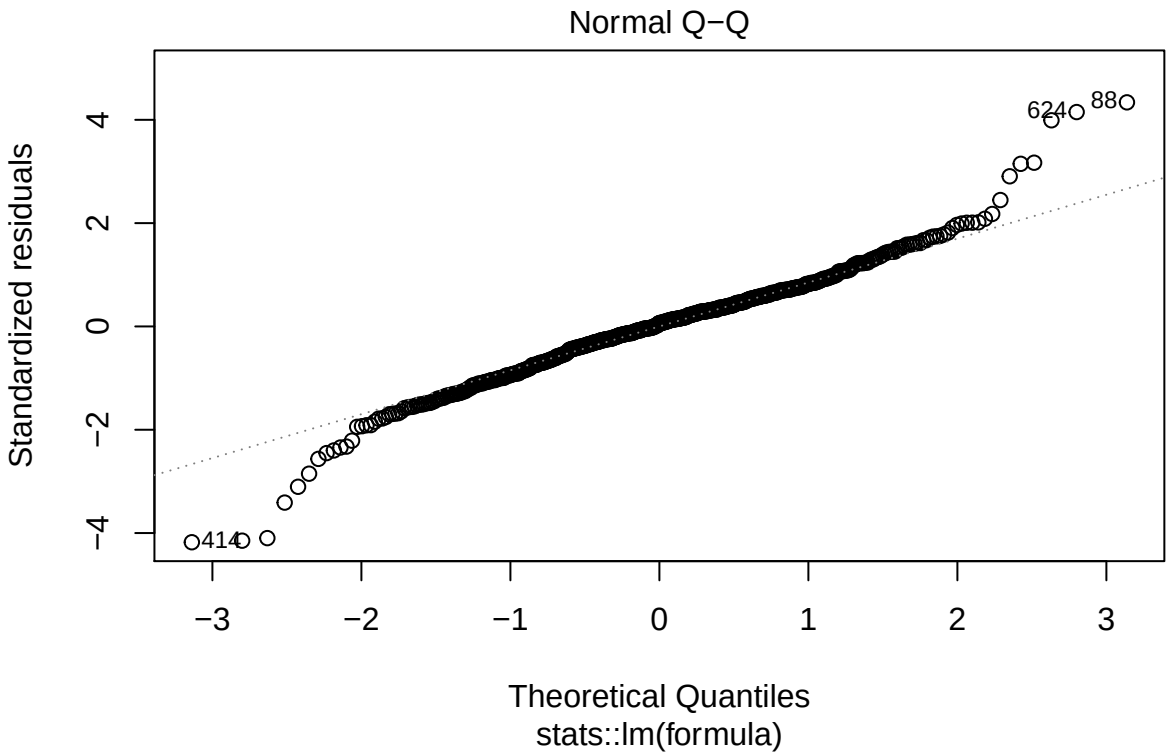
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Sat, Dec 19, 2020 - 2:33:16 AM

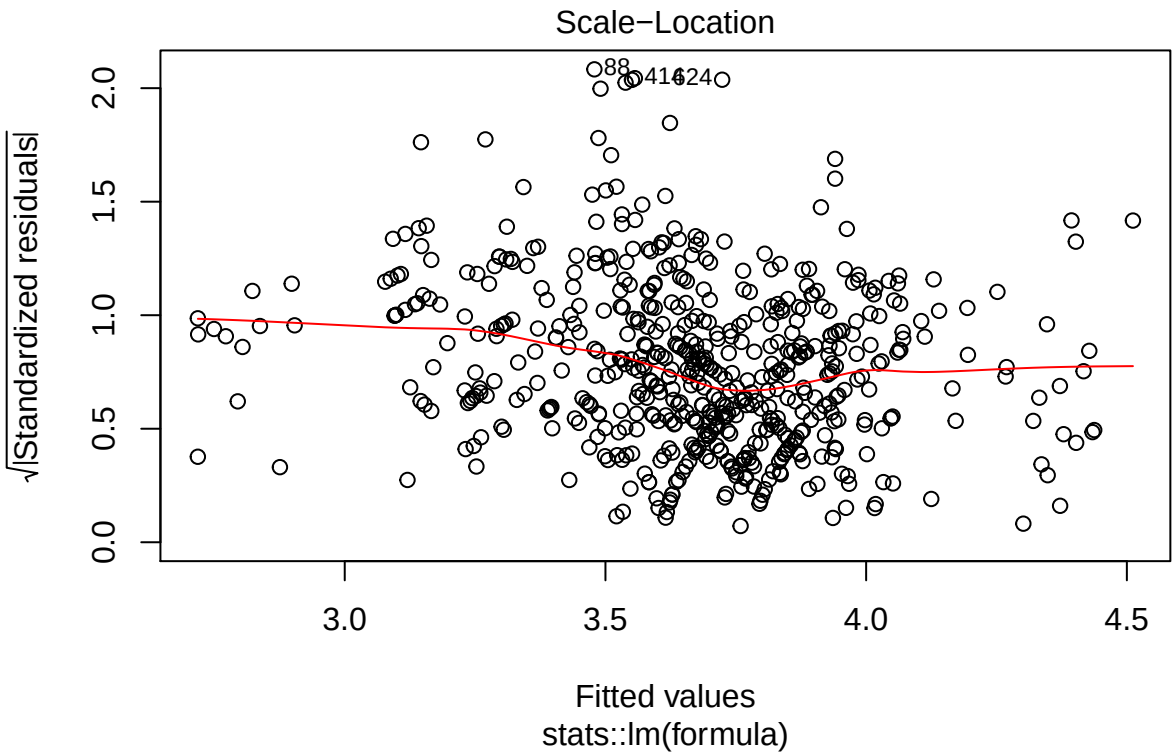
```
#check residuals for any unobserved heterogeneity
plot(mA3$lm_res) #residuals seem to have mean 0, but are not normally distributed
```

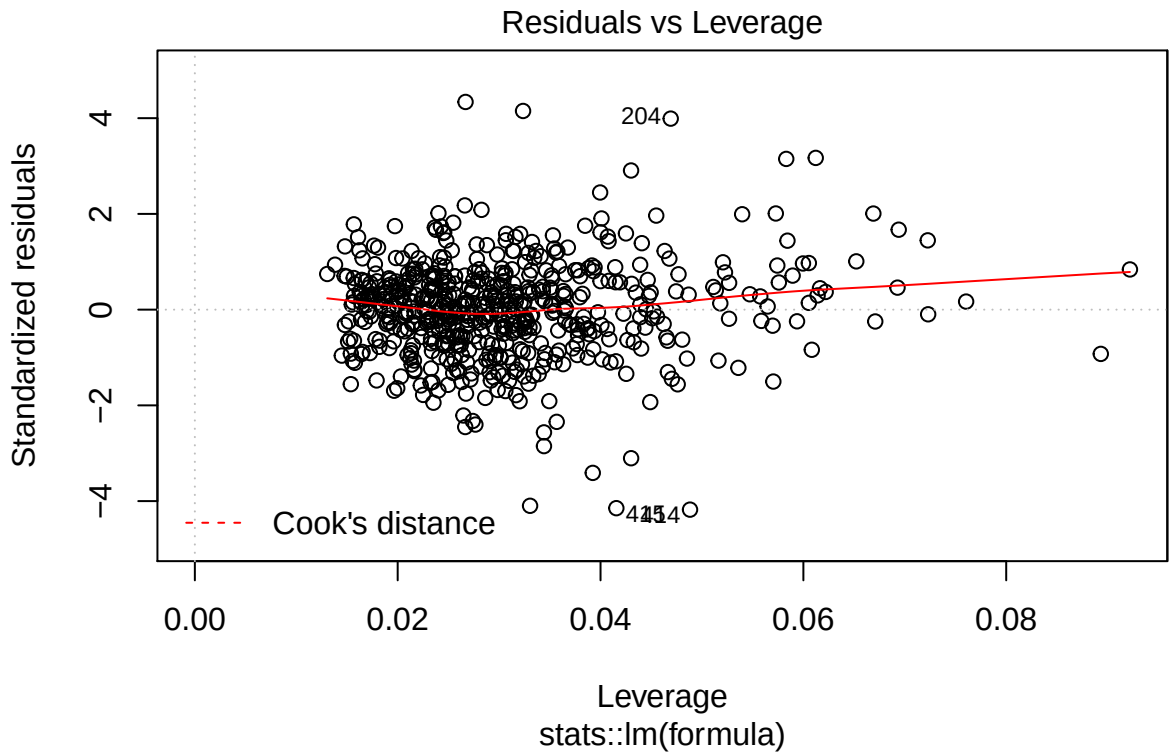
Table 1:

	LLR_Baseline	LLR_Controls	Poly.RD.Optimal.Band	Poly.RD.Wide.Band	Poly.RD.Segment.FE
Panel A. log rental prices, 1853 Inside BSP	0.052	0.035	-0.021	-0.041	-0.079
se	0.124	0.078	0.074	0.073	0.070
Observations1	588	479	588	1,070	1,070
Mean Outside BSP1	47.013	45.802	47.013	48.627	48.627
Bandwidth (meters)1	35.688	27.733	35.688	100	100
Panel B. log rental prices, 1864 Inside BSP	-0.188	-0.186	-0.116	-0.118	-0.127
se2	0.118	0.089	0.068	0.068	0.068
Observations2	456	505	456	1,047	1,047
Mean Outside BSP2	48.426	47.821	48.426	50.239	50.239
Bandwidth (meters)2	27.501	31.013	27.501	100	100
Panel C. log rental prices, 1894 Inside BSP	-0.254	-0.263	-0.245	-0.217	-0.217
se3	0.234	0.154	0.119	0.076	0.115
Observations3	368	355	368	794	794
Mean Outside BSP3	119.414	116.839	119.414	120.589	120.589
Bandwidth (meters)3	29.129	27.567	29.129	100	100
Panel A. log rental prices, 1936 Inside BSP	-0.300	-0.375	-0.325	-0.458	-0.271
se4	0.311	0.280	0.147	0.144	0.150
Observations4	221	221	221	354	354
Mean Outside BSP4	454.491	454.491	454.491	451.429	451.429
Bandwidth (meters)4	37.243	37.300	37.243	100	100

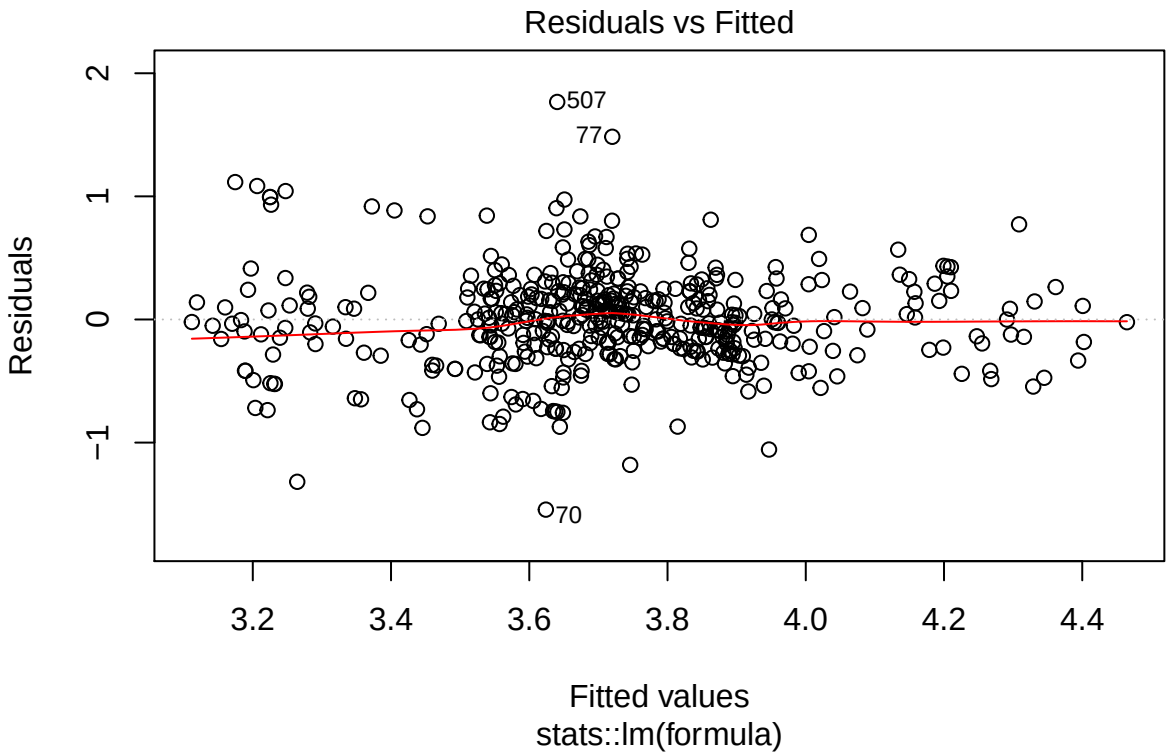


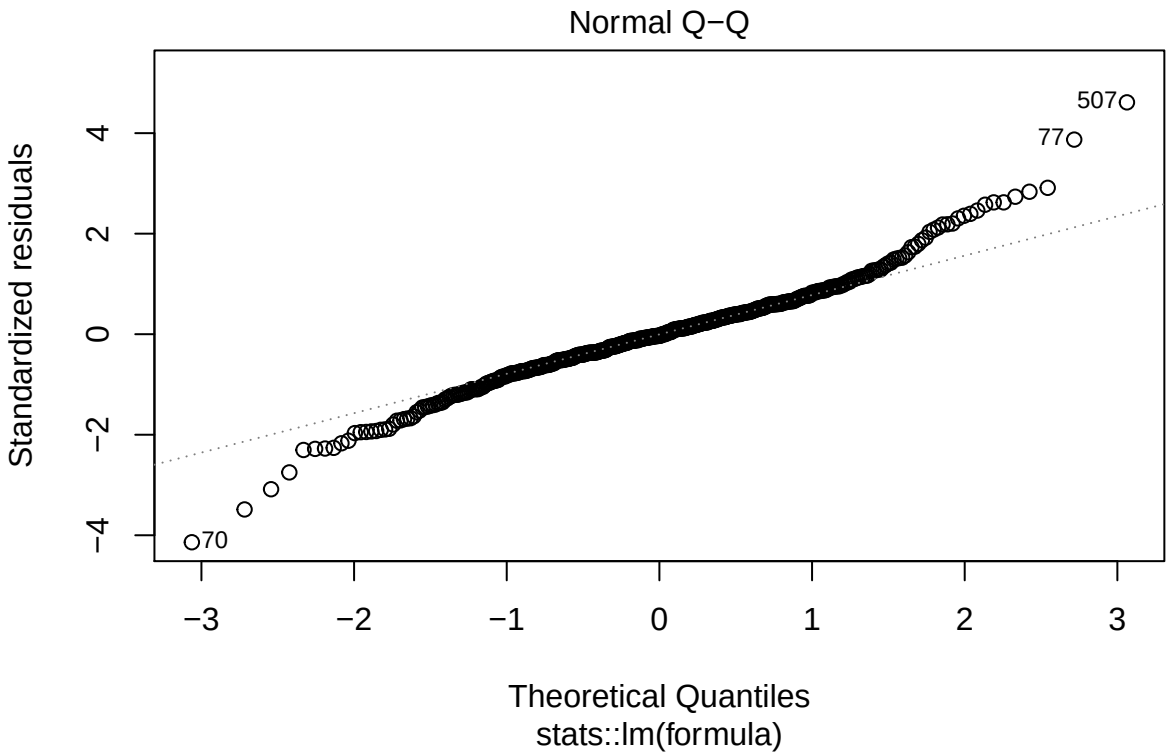

Normal Q−Q
Standardized residuals
Theoretical Quantiles
stats::lm(formula)
624
88
414
−4
−2
0
2
4
−3
−2
−1
0
1
2
3

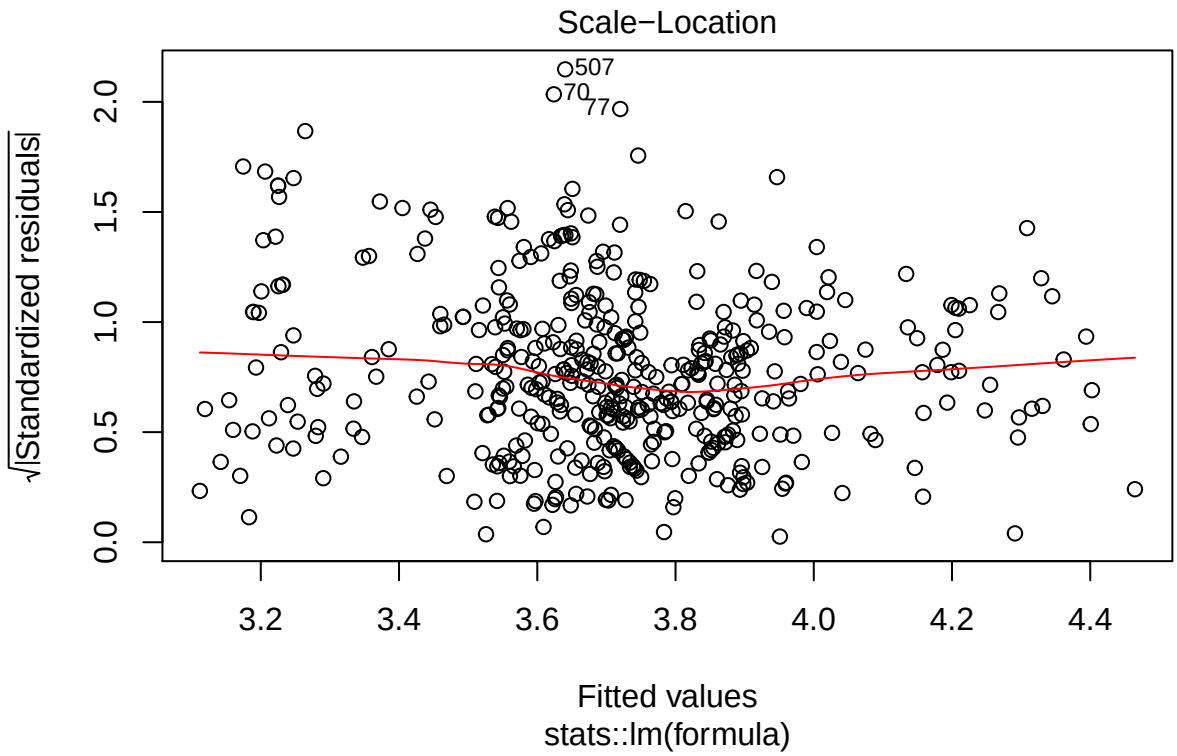

Scale−Location
88
416
624
√|Standardized residuals|
0.0
0.5
1.0
1.5
2.0
3.0
3.5
4.0
4.5
Fitted values
stats::lm(formula)

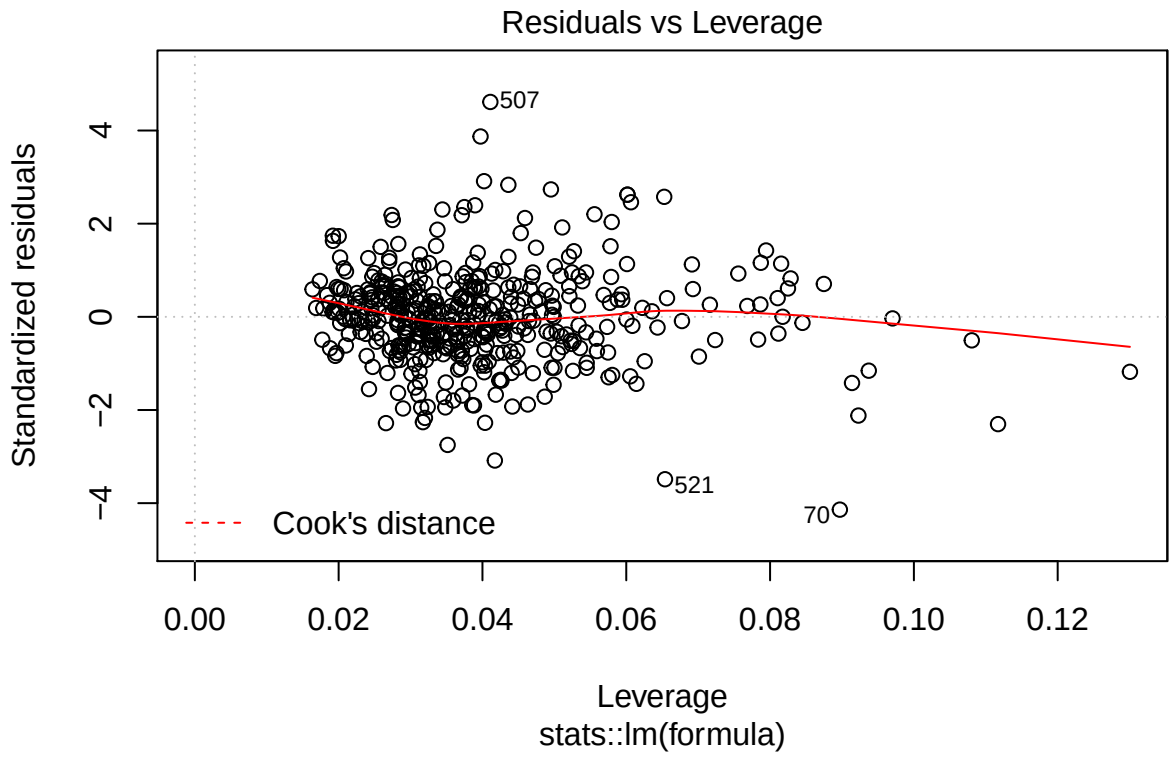



```
plot(mB3$lm_res) #residuals mean 0, not normal
```

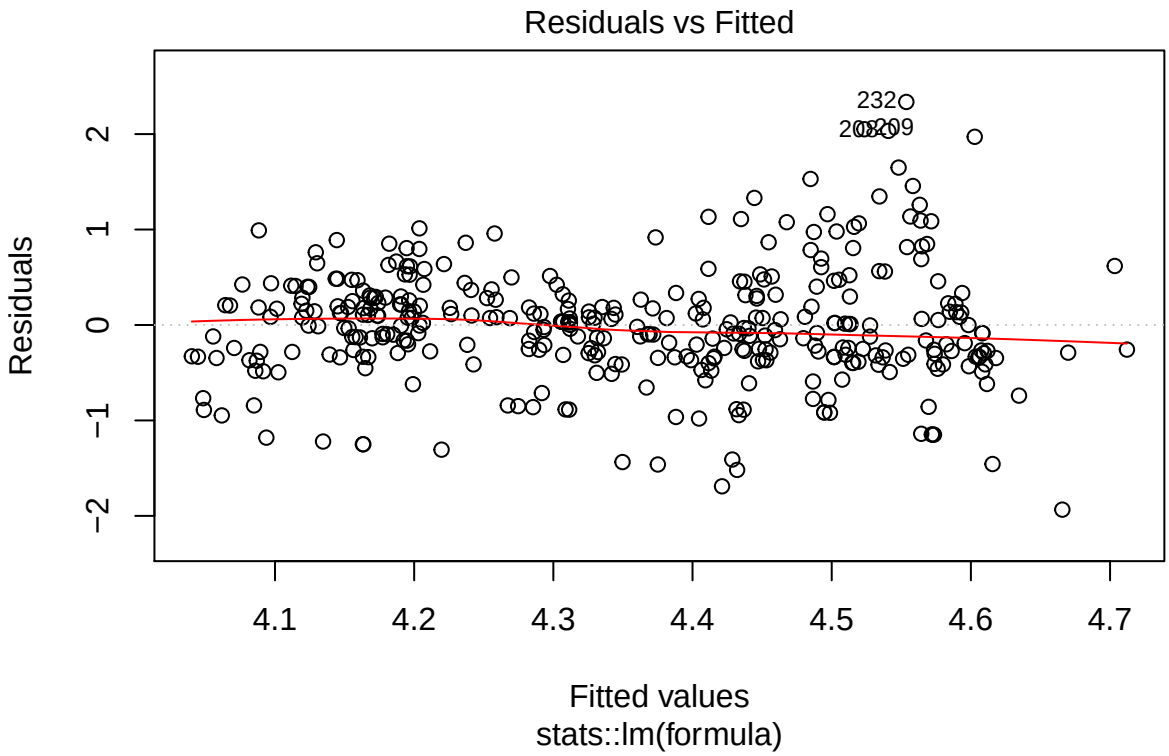

Residuals vs Fitted
Residuals
Fitted values
stats::lm(formula)
507
77
70
2
1
0
−1
3.2
3.4
3.6
3.8
4.0
4.2
4.4

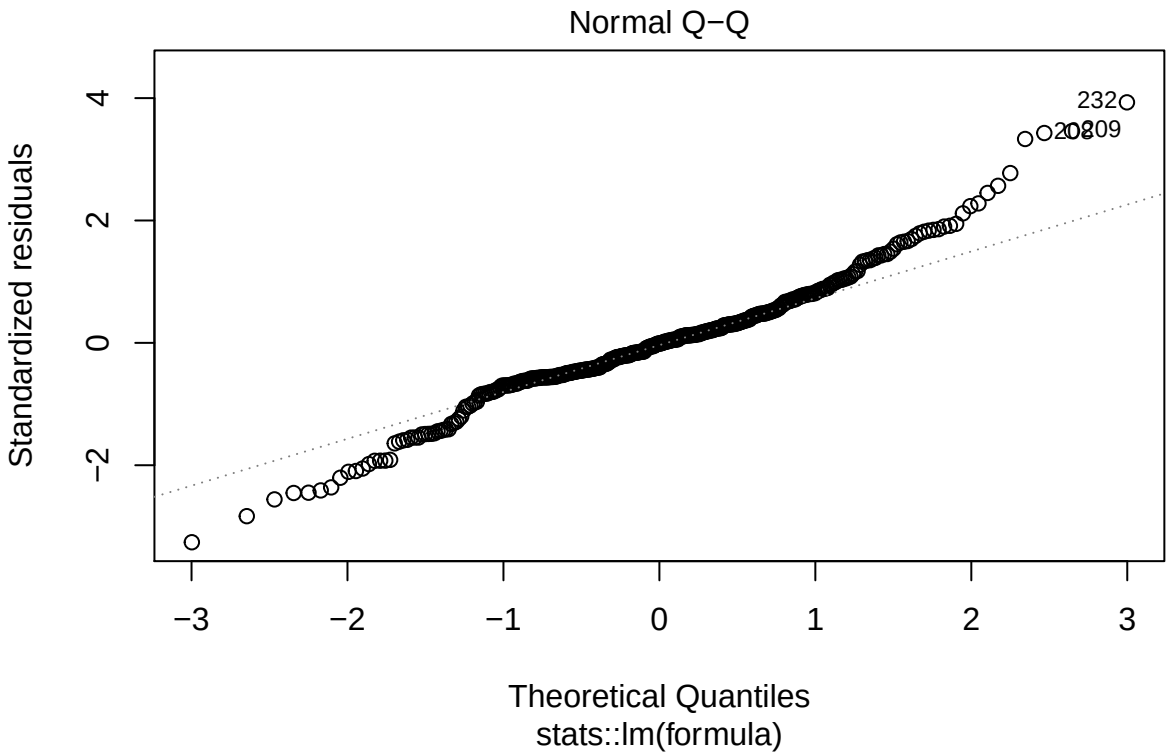

Normal Q−Q
Standardized residuals
Theoretical Quantiles
stats::lm(formula)
507
77
70
−4
−2
0
2
4
−3
−2
−1
0
1
2
3

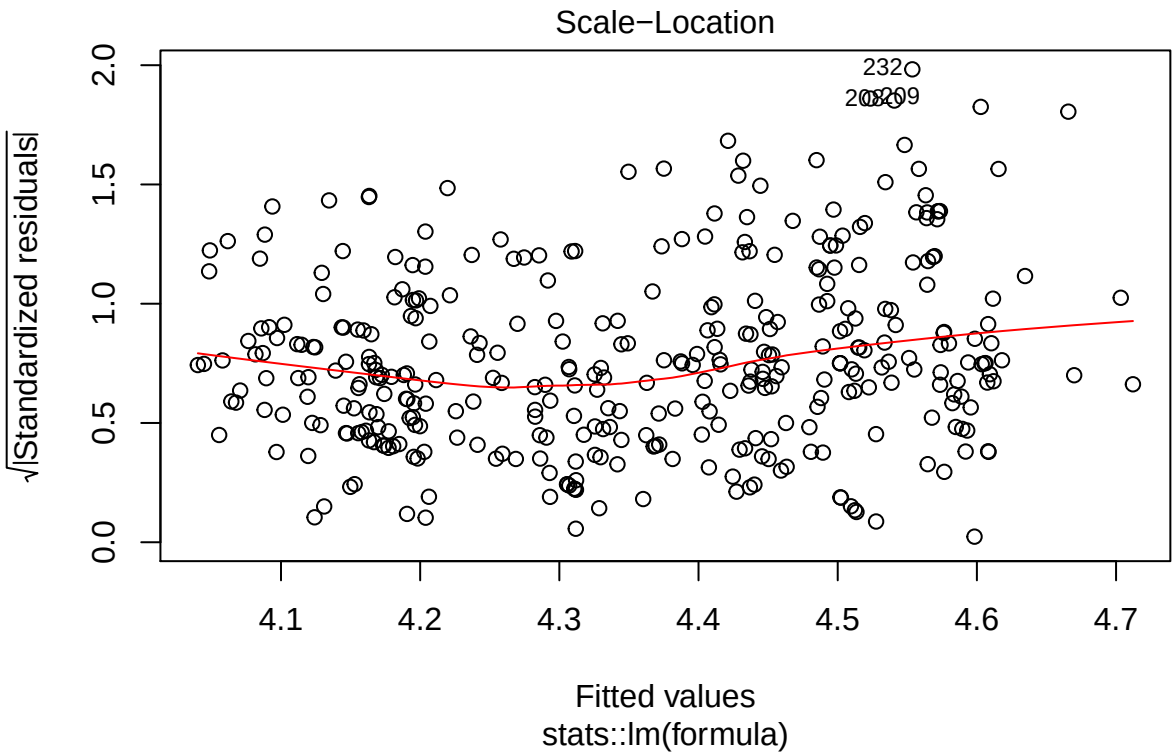

Scale−Location
507
70
77
√|Standardized residuals|
0.0
0.5
1.0
1.5
2.0
3.2
3.4
3.6
3.8
4.0
4.2
4.4
Fitted values
stats::lm(formula)

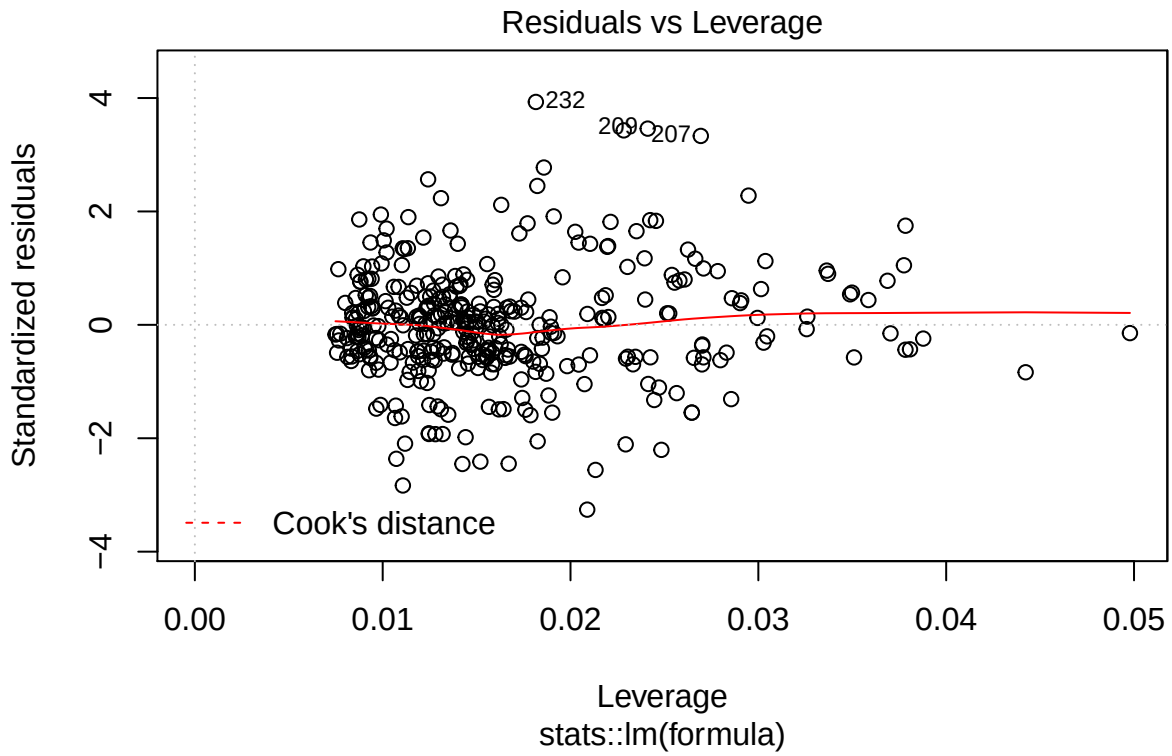



```
plot(mC3$lm_res)
```

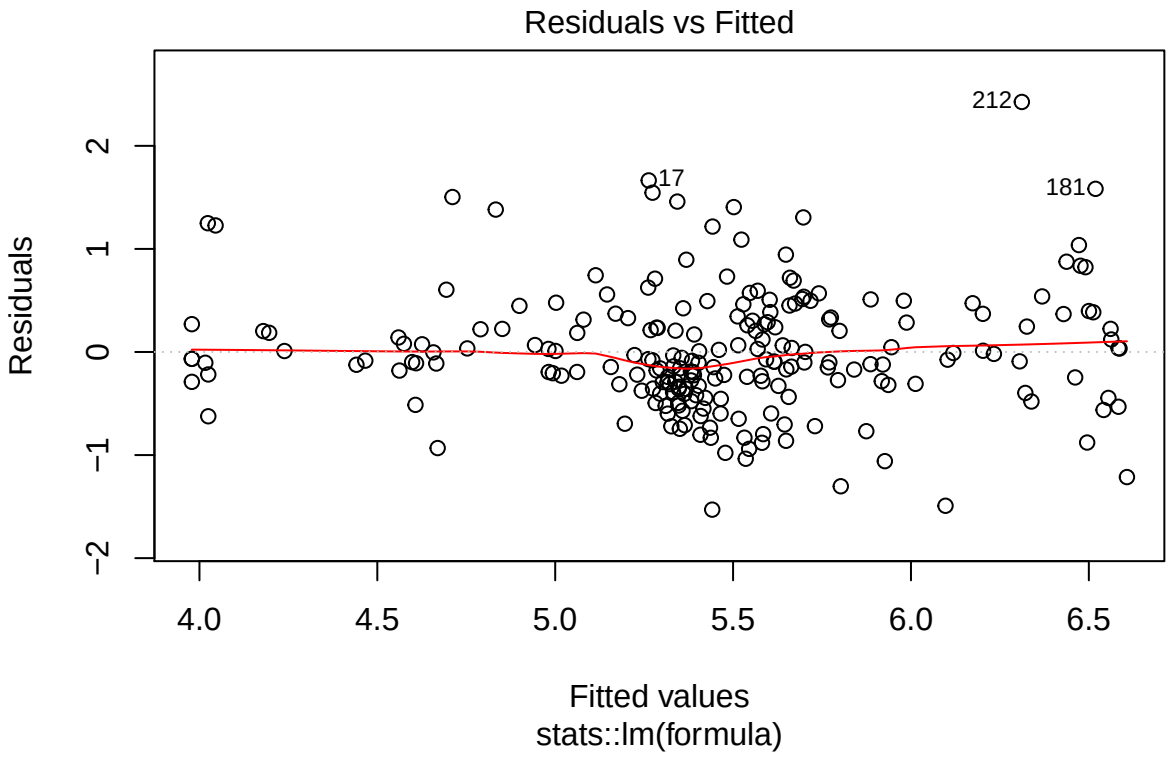

Residuals vs Fitted
232
209
Residuals
2
1
0
−1
−2
4.1
4.2
4.3
4.4
4.5
4.6
4.7
Fitted values
stats::lm(formula)

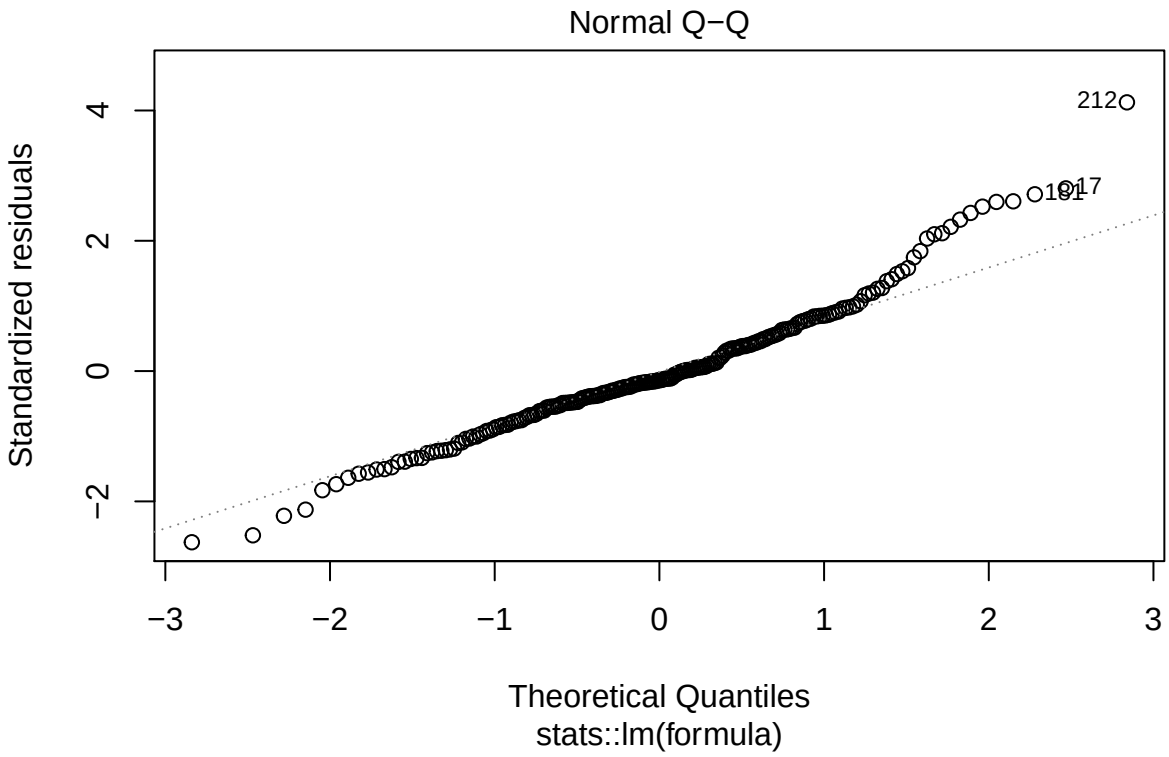

Normal Q−Q
Standardized residuals
Theoretical Quantiles
stats::lm(formula)
232
209
4
2
0
−2
−3
−2
−1
0
1
2
3

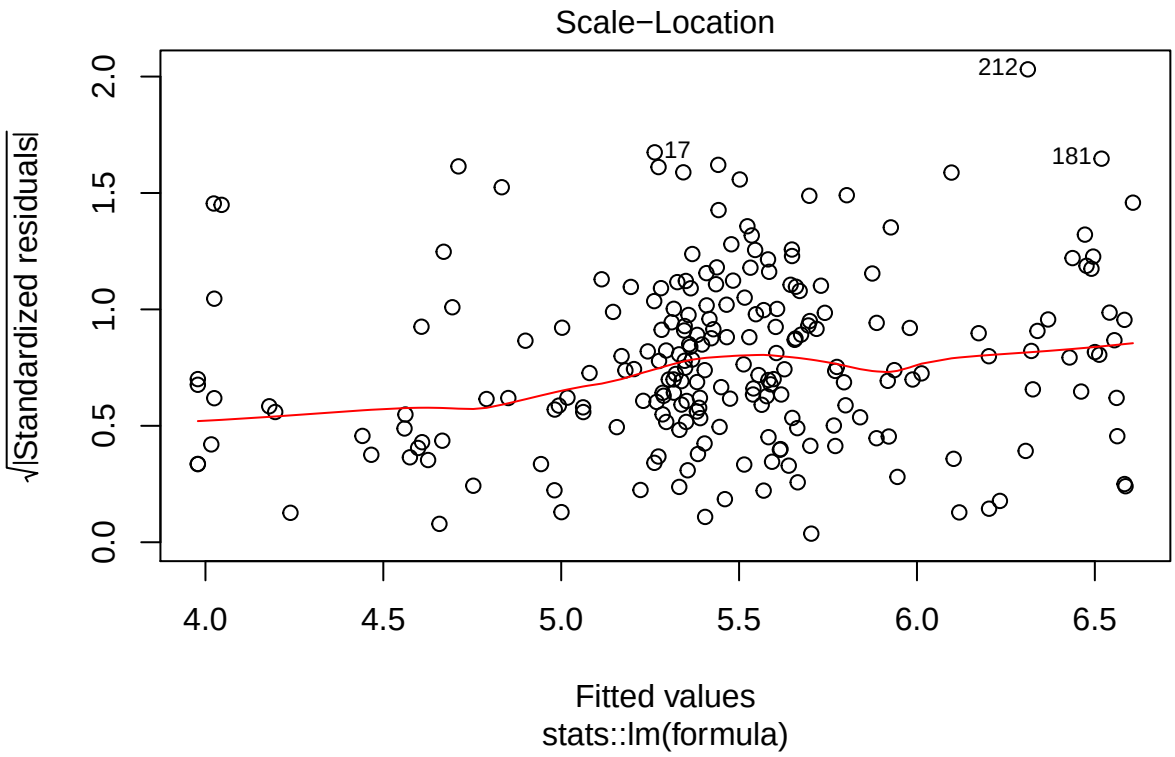

Scale−Location
√|Standardized residuals|
0.0
0.5
1.0
1.5
2.0
232
209
4.1
4.2
4.3
4.4
4.5
4.6
4.7
Fitted values
stats::lm(formula)

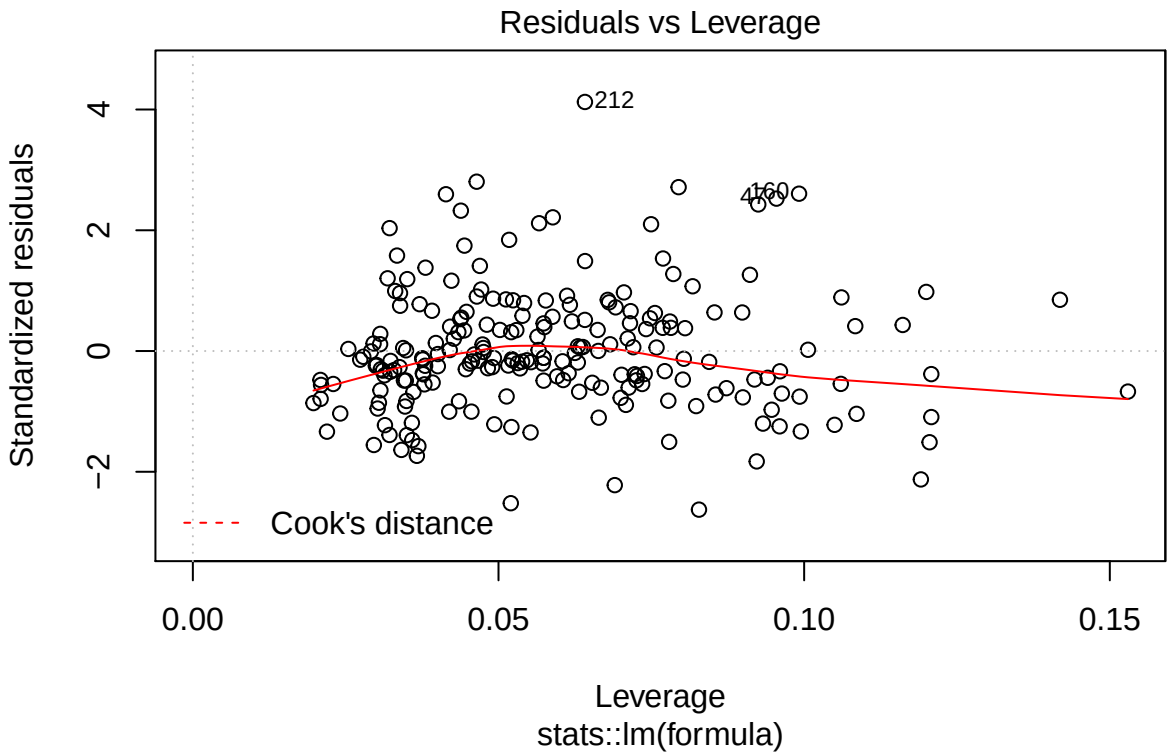



```
plot(mD3$lm_res)
```


Residuals vs Fitted
Residuals
Fitted values
stats::lm(formula)
212
17
181
−2
−1
0
1
2
4.0
4.5
5.0
5.5
6.0
6.5


Normal Q−Q
Standardized residuals
Theoretical Quantiles
stats::lm(formula)
212
217
191
−3
−2
−1
0
1
2
3
−2
0
2
4


Scale−Location
√|Standardized residuals|
0.0
0.5
1.0
1.5
2.0
212
17
181
4.0
4.5
5.0
5.5
6.0
6.5
Fitted values
stats::lm(formula)




```
#all residuals seem to have mean 0, but not normal
```