

estimatr :: CHEAT SHEET

OLS with lm_robust()

lm_robust() is lm() with robust SEs. HC2 is the default.

```
lm_robust(mpg ~ hp, data = mtcars)
lm_robust(mpg ~ hp, se_type = "HC1",
  data = mtcars)
lm_robust(mpg ~ hp, se_type = "classical",
  data = mtcars)
```

Indicate clusters to get clustered SEs. CR2 is the default.

```
lm_robust(mpg ~ hp, clusters = carb,
  data = mtcars)
lm_robust(mpg ~ hp, clusters = carb,
  se_type = "stata", data = mtcars)
```

Fixed effects two ways:

```
# FEs as "dummies"
lm_robust(mpg ~ hp + as.factor(am),
  data = mtcars)

# "Absorbing" FEs (substantially faster)
lm_robust(mpg ~ hp,
  fixed_effects = ~ am,
  data = mtcars)
```

post-estimation commands:

```
fit <- lm_robust(mpg ~ hp, data = mtcars)
summary(fit)
print(fit)
tidy(fit)
vcov(fit)
confint(fit)
nobs(fit)
predict(fit, newdata = mtcars)
```

estimatr is part of the DeclareDesign suite of packages for designing, implementing, and analyzing social science research designs.

2SLS with iv_robust()

iv_robust() is AER::ivreg() with robust SEs.

```
iv_robust(mpg ~ hp | am, data = mtcars)
iv_robust(mpg ~ hp | am,
  clusters = carb, data = mtcars)
```

Two-group estimators

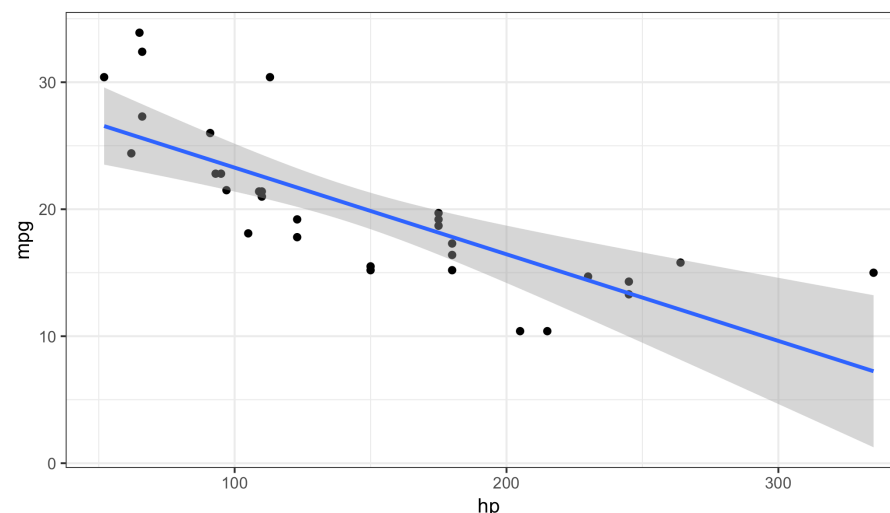
difference_in_means() and horvitz_thompson() compare two groups

```
difference_in_means(mpg ~ am, data = mtcars)
horvitz_thompson(mpg ~ am, data = mtcars)
```

ggplot2 integration

Use robust variance estimates for drawing confidence intervals:

```
library(ggplot2)
ggplot(mtcars, aes(mpg, hp)) +
  geom_point() +
  stat_smooth(method = "lm_robust") +
  theme_bw()
```



Multiple models

Same outcome, different subsets:

```
library(tidyverse)
mtcars %>%
  split(.$cyl) %>%
  map(~lm_robust(mpg ~ hp, data = .)) %>%
  map(tidy) %>%
  bind_rows(.id = "cyl")
```

Different outcomes, same subset:

```
c("mpg", "disp") %>%
  map(~formula(paste0(., " ~ hp"))) %>%
  map(~lm_robust(., data = mtcars)) %>%
  map(tidy) %>%
  bind_rows
```

Extras

```
# Lin (2013) covariate adjustment
lm_lin(mpg ~ am, covariates = ~ hp,
  data = mtcars)
```

```
# regression tables with texreg
fit <- lm_robust(mpg ~ hp, data = mtcars)
texreg::texreg(fit, include.ci = FALSE)
```

estimatr-to-Stata dictionary

estimatr	Stata
lm_robust(y ~ z, data = dat)	reg y z, vce(hc2)
lm_robust(y ~ z, clusters = cl, se_type = "stata", data = dat)	reg y z, vce(cluster cl)
lm_robust(mpg ~ hp, fixed_effects = ~ am, se_type = "stata", data = mtcars)	areg mpg hp, absorb(am) vce(robust)
iv_robust(mpg ~ hp am, se_type = "HC1", data = mtcars)	ivregress 2sls mpg (hp = am), vce(robust) small