

q2

```
library(dplyr)

##
## Attaching package: 'dplyr'
## The following objects are masked from 'package:stats':
##
##   filter, lag
## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union

library(fixest)
library(stargazer)

##
## Please cite as:
## Hlavac, Marek (2022). stargazer: Well-Formatted Regression and Summary Statistics Tables.
## R package version 5.2.3. https://CRAN.R-project.org/package=stargazer
setwd("~/Documents/GitHub/econ172/pset2/source")
df <- read.csv("../data/q2.csv", stringsAsFactors = TRUE)
```

Determine the average difference at baseline between the households in villages where eligible households received cash transfers versus the households in control villages that did not receive transfers for household income per capita and if the household has an elderly member.

```
baseline <- filter(df, time == 0)

income <- feols(income_pc ~ cash, data = baseline, cluster = ~village_code)
elder <- feols(elder ~ cash, data = baseline, cluster = ~village_code)

summary(income)

## OLS estimation, Dep. Var.: income_pc
## Observations: 1,500
## Standard-errors: Clustered (village_code)
##           Estimate Std. Error   t value Pr(>|t|)
## (Intercept) 164.77744    7.81621 21.081513 < 2.2e-16 ***
## cash         4.06085   11.43654  0.355076  0.72269
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## RMSE: 216.5   Adj. R2: -5.796e-4

summary(elder)

## OLS estimation, Dep. Var.: elder
## Observations: 1,500
## Standard-errors: Clustered (village_code)
```

```
##           Estimate Std. Error  t value  Pr(>|t|)
## (Intercept)  0.326316   0.017097 19.08578 < 2.2e-16 ***
## cash        -0.026316   0.023927 -1.09984  0.27196
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## RMSE: 0.463662  Adj. R2: 1.375e-4
```

Carry out a difference-in-differences analysis estimating the spillover impact of cash transfers among ineligible households

```
interaction <- mutate(df, cash_time = cash * time)

DiD <- feols(income_pc ~ cash + time + cash_time, data = interaction, cluster = ~village_code)

summary(DiD)
```

```
## OLS estimation, Dep. Var.: income_pc
## Observations: 3,000
## Standard-errors: Clustered (village_code)
##           Estimate Std. Error  t value  Pr(>|t|)
## (Intercept) 164.77744    7.81751 21.077998 < 2.2e-16 ***
## cash         4.06085    11.43845  0.355017 7.2274e-01
## time        158.98961    20.14323  7.892957 2.0795e-14 ***
## cash_time    62.18950    33.51182  1.855748 6.4113e-02 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## RMSE: 499.9  Adj. R2: 0.035826
```