Estimation for JHR revision and resubmission

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```
# below gives substitution table sbt
source(paste0(pathprogram, "substitution_table.R"))
# agHH defs, minAge, maxAge
source(paste0(pathprogram, "DefinitionsAndParameters.R"))
dropunbalanced <- function(Z, idcol = "uniquid", returnDT = F) {
#       drop unbalanced obs (fast operation using data.table)
  require(data.table)
  dZ <- data.table(Z)
  setkeyv(dZ, idcol)
  dZ[, period := .N, by = idcol]
  # keep only individuals with largest round numbers
  dZ <- dZ[period == max(period), ]
  dZ <- dZ[, period := NULL]
  if (returnDT) dZ else data.frame(dZ)
}
source(paste0(pathprogram, "tabulate_est.R"))
source(paste0(pathprogram, "EstimatorFunctions.R"))
#source("c:/seiro/settings/Rsetting/functions.R")
```

```
memocovariates <- "Time variant covariates: \\textsf{yield} is Thana level paddy yield. \\
memocovariatesForDestat <- "\\textsf{Enrolled} is an indicator variable for enrollment at
\\textsf{Sex (female = 1)} is an indicator variable of child's gender. \\textsf{Head prima
Chokoria, Kalia, Nilphamary Sadar, Mohadebpur. "
memo3 <- "$t$ tests compare means. For binary variables, $\\chi^{2}$ tests assess the diff
memo4 <- "Number of sample is cross sectional units per survey round. "
```

1. Run CreateVariablesIn2RoundPanel.rnw to create 1999-2002 panel. Run Construct3RoundPanelMetAssoc.rnw to merge with 2006 and production/weather. Then run this file.
   - CreateVariablesIn2RoundPanel.rnw: Key variables and dummy interactions are created.
   - Construct3RoundPanelMetAssoc.rnw: Merged with rd 3 data and weather/production data.
2. If need to redefine age range, do it in Construct3RoundPanelMetAssoc.rnw, then redefine in this file and run this file.

Use 2002-1999 differences. Keep only one data set per estimation, so number of observation is determined by the most demanding specification that has least number of observations. Ages: 10 - 18.

☞ DID1 takes a first difference by using diff, which computes x[t,] - x[t-1,], to eliminate fixed effects. Returns level and differenced data sets for each specifications.

☞ DID2 takes a first difference data set.

☞ We expect the Ramadan school holiday impacts to be positive for the agricultural households in 1999, or $b_3 > 0$ with $t = 1999, 2002$.

$$y_t = b_0 + b_1 I[t = 1999] + b_2 I[D = 1] + b_3 I[t = 1999] I[D = 1] + e_t,$$
$$\Delta y_{1999} = y_{1999} - y_{2002} = b_1 I[t = 1999] + b_3 I[t = 1999] I[D = 1] + \Delta e_{1999}.$$

First-differencing using DID1 is equivalent to $-\Delta y_{1999} = y_{2002} - y_{1999} = -b_1 I[t = 1999] - b_3 I[t = 1999] I[D = 1] - \Delta e_{1999}$. So the estimate on $I[t = 1999] I[D = 1]$ is negative.

☞ To get back to $\Delta y_{1999} = y_{1999} - y_{2002} = b_1 I[t = 1999] + b_3 I[t = 1999] I[D = 1] + \Delta e_{1999}$, I will just multiply -1 to the estimates. We use the switch opposite.time.order = T, F to change the signs. If T, it is 1999-2002 differences.

☞ We take 2002 dummy as yr2 (r_t in main text). We use t - (t-1) differencing for FD estimates.

spattern A schooling history indicator, binary indicators for schooling in each round is pasted together, so 111 indicates always goers and 110 indicates out of school at round 3.

exist A survey response history indicator where we pasted the binary indicator of survery response in each period. Value of 110 is attrition at round 3, 001 indicates first observed in round 3. There is no 101 by definition because an individual will never be observed after attrition. 001 sample from 2006 data does not have school program information for 1999, 2002, so we will not use them. This leaves us with the sample of 110, 111.

```
Usesd2 ← F
DemeanAtIndividualLevel ← F
```

I Sample selection

Note that we use the balanced portion of the panel between round 1 and 2.

I.1 Summary

zFm.1999 is **F**ull sample, for **m**ain estimation to check 1999-2002 changes, with cohorts of ages 10-19 in **1999**. zFm.2002 is full sample, for **m**ain estimation to check 1999-2002 changes, with cohorts

Algorithm 1: Structure of estimation procedure

```
samples ← c("main", "placebo")
/* main data: (Exist {110, 111} or spattern ≠ 000) × baseline year 1999 */
/* placebo data: (Exist {110, 111} or spattern ≠ 000) × (baseline year 1999 [too
   young children] or 2002 [same age range born 3 years later]) */
zmobj ← c("zEm.1999", "zSm.1999")                         /* main data sets */
zpobj ← c("zEp.2002", "zSp.2002", "zEp.1999", "zSp.1999")  /* placebo data sets */
agecutoff ← 1:3
z23 ← c("z2", "z3")
aghh.defs ← c("agHH0", "isagHH", "hdagHH", "ocagHH")
Clustering ← c("LiangZeger", "Satterthwaite", "WildClusterBoot")
for ii in 1:length(samples) do                    /* choose main or placebo sample */
    zSobj ← c("zmobj", "zpobj")[ii]
    for jj in 1:length(zSobj) do                  /* choose data in main/placebo data sets */
        z1 ← changehyphen(get(zSobj[jj]))
        for s in agecutoff do                     /* lower age cutoff: 10 - 12 */
            s0 ← (10:12)[s]
            iiid ← s0 ⩽ AgeInYYYY ⩽ 18
            z2 ← z1[uniquid % in% iiid & survey ! = cutout.year, ]
            z3 ← z2[sd == 1, ]                    /* nuclear family */
            for j in 1:length(z23) do             /* nuclear or extended family */
                zz0 ← get(z23[j])
                for m in 1:length(aghh.defs) do   /* ag HH definitions */
                    agHH ← aghh.defs[m]
                    for cl in 1:3 do              /* small number of cluster correction */
                        clustering choice ← Clustering[cl]
                        for k in 1:length(regressorsS) do
                            do estimation with k-th set of covariates
                        end
                    end
                end
            end
        end
    end
end
```

of ages 10-18 in **2002**, or cohorts of ages 7-15 in **1999**. zFp.2002 is full sample, for **p**lacebo estimation to check 2002-2006 changes, with cohorts of ages 10-18 in 2002. Idea on selecting sample:

zF, fulll Original sample with no selection. We do not use this full sample.

zE, exist == {110, 111} This sample excludes the individuals who do not appear in the roster of round 1. There are two possible reasons for such individuals to appear only in the later rounds: Measurement errors in the first round and new members who joined households in later rounds. We do not consider lack of entry in the rounds 2 and 3 as measurement errors, because they appear twice which makes measurement errors unlikely. If we trust the round 1 information on roster more than the later rounds, this is the sample to use. If the members appear only in the later rounds are new members who joined households, we should not include these individuals because they were not the original household members at round 1.

Another layer of sample selection is direct offspring of household heads. We discard extended household portion of families because we cannot use parental covariates, and there is a chance parents outside households may be making schooling decisions.
Placebo testing of nonexisting 2002 effects:

Same age group 10-max year olds in 2002 (same age group, different individuals) are estimated for 2002 effects that are presumed not to exist. Larger standard errors despite larger sample size relative to main results. Point estimates are also smaller, leading to estimates with higher p values. Use subsample defined by AgeInRangeR2==T.

Same individuals 10-max year olds in 1999 (same individuals) are estimated for 2002 effects that are presumed not to exist. Smaller sample size and smaller point estimates relative to main results lead to not statistically significant results. Use subsample defined by AgeInRangeR1==T.

Falsification testing of other mechahisms affecting enrollment rates:

Non-muslims Non-muslims are least affected with Ramadan except for exam schedule changes. Including a non-muslim dummy and its interaction with an agricultural household dummy does not affect main estimates. Estimates are not statistically significant.

Flood Some villages are exposed to flood in 2002. Including a flood dummy and its interaction with an agricultural household dummy does not affect main estimates. Estimates are often statistically significant and reduce the point estimates of main coefficient, but main coefficient remains statistically significant.

Robustness:

- Use of full set of controls does not affect results.
- Use of a different definition for agricultural households does not affect results.
- Use of different age lowerbound does not affect results.
- Gender heterogeneity exists. Impacts are large for boys.
- Agewise heterogeneity is sometimes present but does not affect results for the category of 10-15 year olds (hence overall effects for agricultural households exist).

I.2 Selecting samples: exist == {111, 110}

zEp.YYYY: placebo test sample (data of 2002-2006) for cohort (of ages 10-18) defined in year YYYY with attrition augmentation pattern E= 111|110. Create demeaned dummy interaction terms (process not shown).

```
library(data.table); library(bit64)
yzw <- readRDS(paste0(pathsave0, "DataForJHR.rds"))
setkey(yzw, uniquid, survey)
# below gives function for tabulation and saving
source(paste0(pathprogram, "tabulate_est.R"))
zF <- yzw
```

```
#zF[, (grepout("yr\\d", colnames(zF))) := NULL]
zF[, Dummy1999 := as.numeric(survey==1999)]
zF[, Dummy2002 := as.numeric(survey==2002)]
zF[, Dummy2006 := as.numeric(survey==2006)]
zF[, Dummy1999 := Dummy1999 - mean(Dummy1999)]
zF[, Dummy2002 := Dummy2002 - mean(Dummy2002)]
zF[, Dummy2006 := Dummy2006 - mean(Dummy2006)]
zE <- zF[grepl("111|110", exist), ]
# switch HHtype definition between sd and sd2
if (Usesd2) setnames(zE, c("sd", "sd2"), c("sd0", "sd"))
zE[, exist := droplevels(exist)]
```

Full sample: exist={111, 110, 001}. Exist sample: Keep if complete between up to rd 2, or exist= {111, 110}).

I.3 Create demeaned dummies and their interaction terms

Create age and year dummies and age wise interactions (age*agHH). Demean these interacting dummy variables: agHH0, dummyAailjhar, DummyAgeGroup1999.1113, DummyAgegroup1999.1117, DummyAgeGroup1999.1415, DummyAgeGroup1999.1617, DummyAgegroup1999.Above17, DummyAgeGroup1999.Above17, DummyAgeGroup2002.1113, DummyAgegroup2002.1117, DummyAgeGroup2002.1415, DummyAgeGroup2002.1617, DummyAgegroup2002.Above17, DummyAgeGroup2002.Above17, dummyChokoria, dummyHaziganj, dummyKalia, dummyModhupur, dummyMohadebpur, dummyNilphamarysadar, dummySherpursadar, flooded, hd.edulevel.primary, hd.edulevel.secondary, hd.sex, hdagHH, hdsex, isagHH, kutchalatrine, Nonflood, nonmuslim, ocagHH, OldAgSibF, OldAgSibF, OldAgSibM, OldAgSibM, OldSchSibF, OldSchSibF, OldSchSibM, OldSchSibM, OldSibF, OldSibF, OldSibM, OldSibM, ownwater, sex, sp.edulevel.primary, sp.edulevel.secondary (process not shown).
Demeaning needs to be done separately for each sample because means differ between samples.

```
for (ss in "E") {
  zXobjs <- gsub("X", ss, c("zXp.1999", "zXp.2002", "zXm.1999", "zXm.2002"))
  zX <- get(paste0("z", ss))
  # read zE
  # placebo testing samples: drop 1999 entries while choosing cohorts
  #   zXp.1999: 2002 effects on AgeInRangeR1 (AgeInRange in 1999) cohorts
  assign(zXobjs[1],
    zX[uniquid %in% uniquid[AgeInRangeR1 == 1] & survey != 1999, ])
  #   zXp.2002: 2002 effects on AgeInRangeR2 (AgeInRange in 2002) cohorts
  assign(zXobjs[2],
    zX[uniquid %in% uniquid[AgeInRangeR2 == 1] & survey != 1999, ])
  # main esitmation samples: drop 2006 entries while choosing cohorts
  #   zXm.1999: 1999 effects on AgeInRangeR1 (AgeInRange in 1999) cohorts
  assign(zXobjs[3],
    zX[uniquid %in% uniquid[AgeInRangeR1 == 1] & survey != 2006, ])
  #   zXm.2002: 1999 effects on AgeInRangeR2 (AgeInRange in 2002) cohorts
  assign(zXobjs[4],
    zX[uniquid %in% uniquid[AgeInRangeR2 == 1] & survey != 2006, ])
  for (k in 1:length(zXobjs)) {
    zXobj <- get(zXobjs[k])
    # keep original (undemeaned) level of x as UDx
    ## Note: Using (paste0("UD", iitrend)) := eval(parse(text=iitrend)) gives wrong values
```

```
  zXobj[, (paste0("UD", iitrend)) := .SD, .SDcol = iitrend]
  for (m in 1:length(aghh.defs))
  {
    aghhvec ← as.numeric(unlist(zXobj[, aghh.defs[m], with = F]))
    # create x.yr2. x.yr3 for all covariates
    zXobj[, (paste0(rep(iitrend, each = 2), c(".yr2", ".yr3"))) :=
      eval(parse(text =
        paste0("list(", paste(rep(iitrend, each = 2), collapse = ","), ")")
      ))]
    # demean all dummies (iitrend): x1 is a dummy variable, x2_{t} is a time varying var
    #   y_{t}=ci+a0+a1*x1+a2*x2_{t}+a3*x1*x2_{t}+e_{t}
    # ci is individual effects of i. Other i suffix (xi, d1i, ...) is omitted. Denote mX
    #   y_{t}=mean(y_{t})+mci+a1*mx1+a2*mx2_{t}+a3*mx1*mx2_{t}+me_{t}
    # Denote DX_{t} = X_{t}-X_{t-1}.
    #   Dy_{t}=Dmean(y_{t})+a2*Dmx2_{t}+a3*mx1*Dmx2_{t}+Dme_{t}.
    # I will first demean iitrend for all periods and keep only 1 period when
    # estimating FD.
    if (DemeanAtIndividualLevel){
      # demeaning with individual mean
       iiid ← zXobj[, uniquid]
       for (eye in iiid) {
        ey ← grep(eye, iiid)
        for (j in c(iitrend, paste0(rep(iitrend, each = 2), c(".yr2", ".yr3"))))
          set(zXobj, i = ey, j = j, value = zXobj[[j]][ey] - mean(zXobj[[j]][ey], na.rm
       }
    } else {
      # demeaning with overall mean
      for (j in c(iitrend, paste0(rep(iitrend, each = 2), c(".yr2", ".yr3"))))
        set(zXobj, j = j, value = zXobj[[j]] - mean(zXobj[[j]], na.rm = T))
    }
    # Create demeaned interactions: demeaned dummies * demeaned yrX
    # and name them as DUMMY.yr2, DUMMY.yr3
    # Only variables in iidd: sex, ages, age groups, class groups
    zXobj[, (paste0(iitrend, ".yr2")) :=
      lapply(1:length(iitrend), function(i)
        ## NOTE: Previously, eval(parse(text=paste0(iitrend[i], "*Dummy1999"))), because
        eval(parse(text=paste0(iitrend[i], "*Dummy2002")))
      )]
    zXobj[, (paste0(iitrend, ".yr3")) :=
      lapply(1:length(iitrend), function(i)
        eval(parse(text=paste0(iitrend[i], "*Dummy2006")))
      )]
    # Triple interactions
    zXobj[, (paste0(iislope, ".", aghh.defs[m], ".yr2")) :=
      lapply(1:length(iislope), function(i)
        eval(parse(text=paste0(iislope[i], "*", aghh.defs[m], "*Dummy2002")))
      )]
    zXobj[, (paste0(iislope, ".", aghh.defs[m], ".yr3")) :=
      lapply(1:length(iislope), function(i)
        eval(parse(text=paste0(iislope[i], "*", aghh.defs[m], "*Dummy2006")))
      )]
  }
  if (grepl("m", zXobjs[k]))
    zXobj[, grepout("yr3", colnames(zXobj)) := NULL] else
    zXobj[, grepout("yr2", colnames(zXobj)) := NULL]
  if (grepl("99", zXobjs[k]))
```

```
      zXobj[, grepout("2002", colnames(zXobj)) := NULL] else
      zXobj[, grepout("1999", colnames(zXobj)) := NULL]
    assign(zXobjs[k], zXobj)
    saveRDS(zXobj, paste0(pathsaveThisVer, gsub("\\.", "", zXobjs[k]), ".rds"))
  }
  saveRDS(zX, paste0(pathsaveThisVer, "z", ss, ".rds"))
}
```

In Create2RoundPanel.rnw, totalland (decimal) is deflated with 1 million (1,000,000), or 10000 acre units. Then, I reflated it back to original decimal units and further divided with 100 to make it to acre units. totalvalue is also deflated with 1,000,000 or in million BDT units. To get values in 1000 BDT units, multiply with 1000.

I.4 Clustered SEs

We use BRL of CRSE (Bell and McCaffrey, 2002; Imbens and Kolesár, 2016; Pustejovsky and Tipton, 2018). We do not use WCB as it is not recommended in DID setting (Canay et al., 2021).

```
Take19992002Diff ← F
yzw ← readRDS(paste0(pathsave0, "DataForJHR.rds"))
yzw[, pcland := pcland*1000000] # in decimal
yzw[, pcland := pcland/100] # in acre
zF ← yzw
zE ← zF[grepl("111|110", exist), ]
# spattern is created as: paste0(sch1999, sch2002, sch2006)
zS ← zF[!(grepl("000", spattern)), ]
Samples ← paste0("z", c("F", "E", "S"))
subSamples ← c("zp.1999", "zm.1999", "zp.2002", "zm.2002")
for (S in Samples) {
  z.sample ← get(S)
  # AgeInRange: 10-20
  zs99 ← z.sample[uniquid %in% uniquid[AgeInRangeR1 == 1], ]
  zs02 ← z.sample[uniquid %in% uniquid[AgeInRangeR2 == 1], ]
  zm.1999 ← zs99[survey != 2006, ]
  zm.2002 ← zs02[survey != 2006, ]
  zp.1999 ← zs99[survey != 1999, ]
  zp.2002 ← zs02[survey != 1999, ]
  assign(paste0(S, "p.1999"), zp.1999)
  assign(paste0(S, "p.2002"), zp.2002)
  assign(paste0(S, "m.1999"), zm.1999)
  assign(paste0(S, "m.2002"), zm.2002)
  cohort.yrs ← c(rep(1999, 2), rep(2002, 2))
  for (i in 1:length(subSamples)) {
    zss1 ← get(subSamples[i])
    zss2 ← zss1
    zss20 ← dropunbalanced(zss2, returnDT = T)
    cat("dimension of original ", subSamples[i], dim(zss1), "\n")
    cat(paste("dimension of zss2 after keeping only", minAge, "-", maxAge, "year olds:"),
    dim(zss1)[1], "==>", dim(zss2)[1], "\n")
    cat("dimension of zss2 after keeping only balanced portion:",
    dim(zss2)[1], "==>", dim(zss20)[1], "\n")
    # subXSamples: zFp.1999, zEp.1999, ..., zFm.2002, ..., zSm.2002, ...
    subXSamples ← gsub("z", S, subSamples[i])
    assign(paste0(subXSamples, ".1"), zss1)
    assign(paste0(subXSamples, ".2"), zss2)
    assign(paste0(subXSamples, ".20"), zss20)
  }
```

```
}
```

II Preparing regressors

Regressors for main. (age2) + () + (highMeanY, lowMeanY, rainfallMeanY, yield, program) + () + () + () +
Regressors for placebo testing. (age2) + () + (highMeanY, lowMeanY, rainfallMeanY, yield, program) + () + () + () +

Regressors for 1999 data age wise main estimation. () + (highMeanY, lowMeanY, rainfallMeanY, yield) + (program) + () + () +
Regressors for age wise placebo tests. () + (highMeanY, lowMeanY, rainfallMeanY, yield) + (program) + () + () +

Regressors for DID. Regressors for 1999 data age group wise main estimation. () + (highMeanY, lowMeanY, rainfallMeanY, yield) + (program) + () + () +
Regressors for age group wise placebo tests. () + (highMeanY, lowMeanY, rainfallMeanY, yield) + (program) + () + () +
Regressors for number of grades. Regressors for number of grades placebo testing. Regressors for age of entry.

```
[1] "^\\(Interce"                    "^sex.*2|^OldSib.*2$"
[3] "^yield$"                        "^highM|^lowM|^rainfallM"
[5] "hd\\.e.*2|hdsex.*2|^prog"       "^k.*latr.*2|ownwater.*2|^pc[ln].*2$"
[7] "sp\\.edulevel\\..*2"
```

Regressors for entry age placebo testing. Regressors for gender subsample. Regressors for main with Edu1999. (age2) + (highMeanY, lowMeanY, rainfallMeanY, yield) + () + (program) + () + () + () +
Regressors for OLS. (age, agead, sex, age2, ageInRange) + (highMeanY, lowMeanY, rainfallMeanY, yield) + (program, hd.edulevel.primary, hd.edulevel.secondary) + (ownwater, kutchalatrine) + (sp.edulevel.primary, sp.edulevel.secondary) +
Regressors for non-muslim placebo tests. (age2) + () + (highMeanY, lowMeanY, rainfallMeanY, yield, program) + () + () + () +
Regressors for flood. Flood affected thanas are

```
unique(zEm.1999[,.(flooded, thana)])
```

```
   flooded            thana
1:       1         aaijhar
2:       1         chokoria
3:       0         haziganj
4:       1            kalia
5:       0         modhupur
6:       1       mohadebpur
7:       1 nilphamary sadar
8:       0     sherpur sadar
```

If we use flooded as a covariate, aaijhar, chokoria, kalia, mohadebpur, nilphamary sadar will be dropped. So we will not be able to use thana dummies in flood regressions.(age2) + () + (highMeanY, lowMeanY, rainfallMeanY, yield, program) + () + () + () +

III Understanding characteristics of sample used in main results

III.1 Summary statitistics

Add id variable from original rd 1 file

```
# fn0, fn3, fn7
for (yy in c(0, 3, 7)) {
  pathsource000 ← paste0(pathsource, "/ffe/200", yy, "/Data/HouseholdData/STATA/")
  assign(paste0("pathsource0", yy), pathsource000)
```

```
  fn ← list.files(pathsource000)
  assign(paste0("fn", yy), list.files(pathsource000, full.names = T))
}
ros1 ← data.table(foreign::read.dta(grepout("a1", fn0)))
# rd 2 has hhid = hh used in uniquid
# uniquid = paste0(4000+hhid, ".", putzeroontop(mid/100))
ros2 ← data.table(foreign::read.dta(grepout("a1", fn3)))
ros3 ← data.table(foreign::read.dta(grepout("rost", fn7)))
# ros1 and ros2 have hhnum in common. id = hhnum-mid
# ros2 and ros3 have hhidn in common. id2 = hhidn-mid
ros1[, id := paste0(hhnum, "-", mid)]
ros2[, id := paste0(hhnum, "-", mid)]
ros2[, id2 := paste0(hhidn, "-", mid)]
ros3[, id2 := paste0(hhidn, "-", mid)]
ros1[, rd2 := 0L]
ros1[id %in% ros2[, id], rd2 := 1L]
ros2[, rd3 := 0L]
ros2[id2 %in% ros3[, id2], rd3 := 1L]
ros1[, rd3 := 0L]
ros1[id %in% ros2[rd3==1L, id], rd3 := 1L]
ros1[, exist := paste0(1, rd2, rd3)]
ros1[, exist := factor(exist)]
# attach uniquid in ros1
ros2[, uniquid := paste0(4000+hhidn, ".", putzeroontop(mid))]
rs2id ← ros2[, .(id, uniquid)]
setkey(rs2id, id); setkey(ros1, id)
RosRd1 ← rs2id[ros1]
# attach schoop
a00 ← foreign::read.dta(grepout("a2a", fn0))
a00 ← data.table(a00)
a00sch ← a00[, .(hhnum, mid, schoolp)]
a00sch[, schoolp := as.numeric(grepl("Y", schoolp))]
setkey(RosRd1, hhnum, mid); setkey(a00sch, hhnum, mid)
RosRd1 ← a00sch[RosRd1]
# attach agHH defs
#       sum(ii1 ← whichgrep("Agri|Tena", z[, "isource"]) & y2k )
#       sum(ii2 ← whichgrep("Agri|enan|farm", z[, "occup"]) & y2k) # tenant and own farme
#       sum(ii3 ← whichgrep("OwnL|Tena", z[, "isource"]) & y2k) # a subset of ii1, owners
#       sum(iiL ← whichgrep("Agri.*day", z[, "occup"]) & y2k)
#       c(sum(ii1 & ii2), sum(ii1 & !ii2), sum(!ii1 & ii2))
#       table(ocagHHold=ii2, aglabHH=iiL)
#       fem ← z[, "sex"] == "Female"
#       hd ← whichgrep("head", z[, "rhhold"])
#               #       adult members: age > 20 and not enrolled, both in 2000
#       adlt ← y2k & z[, "age"] > 20 & !eq(z[, "schoolp"], "Yes")
#               #       isource agri HH
#       z ← cbind(z, isagHH = z[, "hh"] %in% z[ii1 & y2k, "hh"])
#               #       owner cultivator household as ownagHH
#       z ← cbind(z, ownagHH = z[, "hh"] %in% z[ii3 & y2k, "hh"])
#               #       M/F head isource|occup is agri
#       z ← cbind(z, hdagHH = z[, "hh"] %in% z[(ii1|ii2|ii3) & y2k & hd, "hh"])
#       z ← cbind(z, mhdagHH = z[, "hh"] %in% z[(ii1|ii2|ii3) & y2k & hd & !fem, "hh"])
#       z ← cbind(z, fhdagHH = z[, "hh"] %in% z[(ii1|ii2|ii3) & y2k & hd & fem, "hh"])
#               #       agri laborer indicator
#       z ← cbind(z, aglabHH = z[, "hh"] %in% z[iiL & y2k, "hh"])
#               #       occup agri HH (old def, wrong, due to error in data.prn codes)
```

```
#       z ← cbind(z, ocagHHold = z[, "hh"] %in% z[ii2 & y2k, "hh"])
#               # correct def of occup ag HH
#       pathsource00 ← paste0(pathsource, "/ffe/2000/Data/HouseholdData/STATA/")
#       fn ← list.files(pathsource00)
#       fn0 ← list.files(pathsource00, full.names = T)
#       # 1.A.1 section (roster)
#       e00 ← foreign::read.dta(grepout("a1", fn0))
#       e00 ← data.table(e00)
#       f1 ← fread(paste0(pathsource, "ffe2000.prn"))
#       f1id ← unique(f1[!is.na(q1_04n), .(hhnum, q1_04n)])
#       setnames(f1id, "q1_04n", "hh")
#       setkey(f1id, hhnum); setkey(e00, hhnum)
#       e00 ← e00[f1id]
#       setkey(e00, hh)
#       # ocagHH: Any member of HH reports agri as one's occupation
#       z ← cbind(z, ocagHH = z[, "hh"] %in% unique(e00[grepl("Ag|arm|enan", occup), hh])
#       z ← cbind(z, agHH0 = z[, "isagHH"] | z[, "ocagHH"])
qsave(RosRd1, paste0(pathsaveThisVer, "OriginalRd1RosterFileWithUniquid.qs"))

zp ← readRDS(paste0(pathsaveThisVer, "zEp1999.rds"))
ComTrendTests ← NULL
zp ← zp[10 ≤ AgeIn1999 & AgeIn1999 ≤ 18, ]
# 1. Aggregate proportions test of change.
# Test if abs(s1-s2)/total1 where st is sum(schoolp) in period t for t = 1, 2 are same bet
# From DIDJHR2_contents.rnw
rchg ← zp[tee != 1 & sd == 1 & grepl(".11", exist), .(sum=sum(schoolp), .N), by = .(agHH
  .(absdiff = abs(diff(sum)), n=N[1]), by = agHH0]
setorder(rchg, -agHH0)
d0 ← rep(0, rchg[grepl("F", agHH0), n])
d1 ← rep(0, rchg[grepl("T", agHH0), n])
d0[1:rchg[grepl("F", agHH0), absdiff]] ← 1
d1[1:rchg[grepl("T", agHH0), absdiff]] ← 1
ttested ← t.test(d1, d0)
proptest ← prop.test(x = rchg[, absdiff], n = rchg[, n], correct = F)
# Fisher: smaller p value indicates unlikeliness of having same proportions
# test1: Rate in agHH0 is tested against the rate in non-agHH0
# test0: Rate in non-agHH0 is tested against the rate in agHH0
fishertest0 ← binom.test(sum(d0==1), length(d0), mean(d1, na.rm = T))
fishertest1 ← binom.test(sum(d1==1), length(d1), mean(d0, na.rm = T))
ComTrendTests ← rbind(ComTrendTests,
  c("all", rchg[, n], ttested$est, diff(ttested$est)*100, ttested$p.value*100, proptest$p
    fishertest1$p.value*100, fishertest0$p.value*100)
)
# 2. Agewise proportion tests.
setnames(zp, "AgeIn1999", "AGE")
setkey(zp, agHH0, tee, AGE)
rchg ← zp[tee != 1 & sd == 1 & grepl("11$", exist), .(sum=sum(schoolp), .N), by = .(agHH
  .(absdiff = abs(diff(sum)), n=N[1]), by = .(agHH0, AGE)]
setorder(rchg, -agHH0, AGE)
for (ss in min(rchg[,AGE]):18) {
  d0 ← rep(0, rchg[grepl("F", agHH0) & AGE == ss, n])
  d1 ← rep(0, rchg[grepl("T", agHH0) & AGE == ss, n])
  d0[1:rchg[grepl("F", agHH0) & AGE == ss, absdiff]] ← 1
  d1[1:rchg[grepl("T", agHH0) & AGE == ss, absdiff]] ← 1
  ttested ← t.test(d1, d0)
  proptest ← prop.test(x = rchg[AGE == ss, absdiff], n = rchg[AGE == ss, n], correct = F
```

```
  # Fisher: smaller p value indicates unlikeliness of having same proportions
  # test1: Rate in agHH0 is tested against the rate in non-agHH0
  # test0: Rate in non-agHH0 is tested against the rate in agHH0
  fishertest0 ← binom.test(sum(d0==1), length(d0), mean(d1, na.rm = T))
  fishertest1 ← binom.test(sum(d1==1), length(d1), mean(d0, na.rm = T))
  ComTrendTests ← rbind(ComTrendTests,
    c(ss, rchg[AGE == ss, n], ttested$est, diff(ttested$est)*100,
      ttested$p.value*100, proptest$p.value*100,
      fishertest1$p.value*100, fishertest0$p.value*100)
  )
}
```

```
Warning in prop.test(x = rchg[AGE == ss, absdiff], n = rchg[AGE == ss, n], : カ
イ自乗近似は不正確かもしれません
```

```
Warning in prop.test(x = rchg[AGE == ss, absdiff], n = rchg[AGE == ss, n], : カ
イ自乗近似は不正確かもしれません
```

```
Warning in prop.test(x = rchg[AGE == ss, absdiff], n = rchg[AGE == ss, n], : カ
イ自乗近似は不正確かもしれません
```

```
Warning in prop.test(x = rchg[AGE == ss, absdiff], n = rchg[AGE == ss, n], : カ
イ自乗近似は不正確かもしれません
```

```
ComTrendTests ← data.table(ComTrendTests)
setnames(ComTrendTests, c("age",
  "N.agHH", "N.nonagHH", "mean.agHH", "mean.nonagHH", "diff",
  paste0("p.", c("ttest", "proptest", "fisher0vs1", "fisher1vs0"))))
setnames(ComTrendTests, c("age",
  "N.ag", "N.nonag", "mean.ag", "mean.nonag", "diff",
  paste0("p.", c("t", "prop", "f0vs1", "f1vs0"))))
iinum ← grepout("me|p\\.|dif", colnames(ComTrendTests))
ComTrendTests[, (iinum) := lapply(.SD, function(x) formatC(as.numeric(x), digits = 2, form
  .SDcols = iinum]
options(width = 120)
ComTrendTests
```

```
    age N.ag N.nonag mean.ag mean.nonag   diff   p.t p.prop p.f0vs1 p.f1vs0
 1: all  382     237    0.25       0.22  -2.67 44.42  44.75   21.62   36.60
 2:   10   67     45    0.40       0.31  -9.19 32.19  32.24   11.35   22.73
 3:   11   54     32    0.44       0.25 -19.44  6.43   7.14    0.23    3.18
 4:   12   51     45    0.33       0.27  -6.67 48.13  47.78   27.16   42.95
 5:   13   62     29    0.23       0.17  -5.34 55.19  55.93   31.09   65.76
 6:   14   40     29    0.20       0.17  -2.76 77.46  77.24   67.43  100.00
 7:   15   43     16    0.12       0.19   7.12 53.22  47.75   32.69   42.12
 8:   16   21     18    0.05       0.17  11.90 25.45  22.19   23.64    5.16
 9:   17   28     12    0.04       0.08   4.76 60.70  52.66   72.67   35.36
10:   18   16     11    0.06       0.09   2.84 79.96  78.18  100.00   50.83
```

Each sample has following selection of observations.

TABLE 1: SAMPLE SIZE OF ORIGINAL VS. REGRESSION DATA IN MAIN RESULTS FOR ABOVE 10 YEARS OLD

With extended family

data	original	simple DID	DID with covariates
zEm1999	1121	689	682
zEp2002	1207	873	870

Direct offsprings of head

data	original	simple DID	DID with covariates
zEm1999	1031	633	626
zEp2002	1113	815	812
zEp1999	1031	618	616

```
# Created and saved in SampleSelectionDemeaning.rnw
zEm.1999 ← readRDS(paste0(pathsaveThisVer, "zEm1999.rds"))
iiid ← unique(zEm.1999[10 ≤ AgeIn1999 & AgeIn1999 ≤ 18, uniquid])
z1 ← zEm.1999[uniquid %in% iiid & survey != 2006 & sd == 1, ]
# enrollment rates of cohort 1999, exist sample for main estimation
er0 ← addmargins(addmargins(table(z1[agHH0<0,.(survey, schoolp)]), 1, sum), 2, sum)
er1 ← addmargins(addmargins(table(z1[agHH0>0,.(survey, schoolp)]), 1, sum), 2, sum)
er ← cbind(ag = er1[-3, 2]/er1[1, 3], nonag = er0[-3, 2]/er0[1, 3])
er ← data.table(rbind(er, d0299 = er[2, ] - er[1, ]))
er[, diffagnonag := ag-nonag]
er ← data.table(rbind(formatC(as.matrix(er), digits = 3, format = "f"),
  total = c(er1[1, 3], er0[1, 3], er1[1, 3]+er0[1, 3])))
er[, year := c(1999, 2002, "2002-1999", "total")]
setcolorder(er, c("year", "ag", "nonag", "diffagnonag"))
zEp.2002 ← readRDS(paste0(pathsaveThisVer, "zEp2002.rds"))
iiid ← unique(zEp.2002[10 ≤ AgeIn2002 & AgeIn2002 ≤ 18 & sd == 1, uniquid])
z1 ← zEp.2002[uniquid %in% iiid & survey != 1999, ]
er0 ← addmargins(addmargins(table(z1[agHH0<0,.(survey, schoolp)]), 1, sum), 2, sum)
er1 ← addmargins(addmargins(table(z1[agHH0>0,.(survey, schoolp)]), 1, sum), 2, sum)
erp ← cbind(ag = er1[-3, 2]/er1[1, 3], nonag = er0[-3, 2]/er0[1, 3])
erp ← data.table(rbind(erp, d0299 = erp[2, ] - erp[1, ]))
erp[, diffagnonag := ag-nonag]
erp ← data.table(rbind(formatC(as.matrix(erp), digits = 3, format = "f"),
  total = c(er1[1, 3], er0[1, 3], er1[1, 3]+er0[1, 3])))
erp[, year := c(1999, 2002, "2002-1999", "total")]
setcolorder(erp, c("year", "ag", "nonag", "diffagnonag"))
```

Here is raw DID using exist sample, 1999-2002. Note that we are taking $(t-1)-t$ difference, or an opposite time order difference. If we take a $t-(t-1)$ difference, the change of ag is 0.324 and the difference between ag and nonag is 0.049, so the signs are all flipped.

```
er
```

```
        year     ag  nonag diffagnonag
1:      1999  0.715  0.777      -0.062
2:      2002  0.391  0.502      -0.111
3: 2002-1999 -0.324 -0.275      -0.049
4:     total    386    247         633
```

Here is raw DID using placebo exist sample, 2002-2006.

```r
erp
```

```
         year      ag   nonag  diffagnonag
1:       1999   0.596   0.689       -0.093
2:       2002   0.293   0.422       -0.129
3:  2002-1999  -0.303  -0.266       -0.036
4:      total     502     334          836
```

schoolp is a reply to "still attending school?" question of rd 1 questionnaire1.A.2 section (roster and school attendance).

```r
yzw ← readRDS(paste0(pathsave0, "DataForJHR.rds"))
zE = copy(yzw[grepl("111|110", exist), ])
iiid ← unique(zE[AgeIn1999 ≤ 18, uniquid])
z1 ← zE[uniquid %in% iiid & survey != 2006 & sd == 1, ]
# enrollment rates of cohort 1999, exist sample for main estimation
z1[, .(Enroll = mean(schoolp, na.rm = T), N = .N), by = .(AgeIn1999, agHH0>0)][order(AgeIn
```

```
    AgeIn1999 agHH0    Enroll   N
 1:         0 FALSE 0.0000000  28
 2:         0  TRUE 0.0000000  40
 3:         1 FALSE 0.0178571  56
 4:         1  TRUE 0.0000000  58
 5:         2 FALSE 0.0652174  46
 6:         2  TRUE 0.0833333  48
 7:         3 FALSE 0.2142857  42
 8:         3  TRUE 0.2162162  74
 9:         4 FALSE 0.3750000  72
10:         4  TRUE 0.3333333  78
11:         5 FALSE 0.5714286  42
12:         5  TRUE 0.4594595  74
13:         6 FALSE 0.7435897  78
14:         6  TRUE 0.7395833  96
15:         7 FALSE 0.8823529 102
16:         7  TRUE 0.8545455 110
17:         8 FALSE 0.8611111  72
18:         8  TRUE 0.8153846 130
19:         9 FALSE 0.8255814  86
20:         9  TRUE 0.7786885 122
21:        10 FALSE 0.8260870  92
22:        10  TRUE 0.7985075 134
23:        11 FALSE 0.8857143  70
24:        11  TRUE 0.7589286 112
25:        12 FALSE 0.7500000  92
26:        12  TRUE 0.6538462 104
27:        13 FALSE 0.6166667  60
28:        13  TRUE 0.4920635 126
29:        14 FALSE 0.5166667  60
30:        14  TRUE 0.4750000  80
31:        15 FALSE 0.4117647  34
32:        15  TRUE 0.3720930  86
33:        16 FALSE 0.4473684  38
34:        16  TRUE 0.3571429  42
35:        17 FALSE 0.0769231  26
36:        17  TRUE 0.2500000  56
37:        18 FALSE 0.3636364  22
38:        18  TRUE 0.1875000  32
    AgeIn1999 agHH0    Enroll   N
```

```
er1 <- addmargins(addmargins(table(z1[agHH0>0,.(survey, schoolp)]), 1, sum), 2, sum)
pathsource00 <- paste0(pathsource, "/ffe/2000/Data/HouseholdData/STATA/")
fn <- list.files(pathsource00)
fn0 <- list.files(pathsource00, full.names = T)
# 1.A.1 section (roster)
e00 <- foreign::read.dta(grepout("a1", fn0))
e00 <- data.table(e00)
	#	isource agri HH: Agri|Tena
e00[, isagHH := as.integer(hhnum %in% hhnum[grep("^1$|^6[12]$", isource)])]
	#	occup agri HH
e00[, ocagHH := as.integer(hhnum %in% hhnum[grep("Agri|enan|farm", occup)])]
	#	owner or cultivator household as ownagHH. A subset of isagHH.
e00[, ownagHH := as.integer(hhnum %in% hhnum[grep("^6[12]$", isource)])]
e00[, agHH0 := as.integer(isagHH+ocagHH > 0L)]
# 1.A.2 section (roster and school attendance): schoolp (still attending school?),
# agead (age first admitted) and year_ (year first admitted)
a00 <- foreign::read.dta(grepout("a2a", fn0))
a00 <- data.table(a00)
e00age <- e00[, .(hhnum, mid, age, agem, agHH0)]
setkey(e00age, hhnum, mid); setkey(a00, hhnum, mid)
a00 <- e00age[a00]
# Age and year admitted to grade 1
adyr <- a00[, .(MeanAgeAtG1 = mean(agead, na.rm = T),
  MedianAgeAtG1 = median(agead, na.rm = T),
  MinAgeAtG1 = min(agead, na.rm = T),
  MaxAgeAtG1 = max(agead, na.rm = T), N = .N), by = .(agHH0, year_)]
```

```
Warning in gmin(agead, na.rm = TRUE): No non-missing values found in at least one group. F
```

```
Warning in gmax(agead, na.rm = TRUE): No non-missing values found in at least one group. F
```

```
adyr <- adyr[!is.na(year_) & !is.na(agHH0), ]
setkey(adyr, year_, agHH0)
adyrW <- reshape(adyr, direction = "wide", idvar = "year_", timevar = "agHH0",
  v.names = grepout("G1|N", colnames(adyr)))
adyr[, agHH0 := factor(agHH0, labels = c("nonag HH", "ag HH"))]
# Enrollment rates by age
a00[, Schoolp := schoolp]
a00[, schoolp := NULL]
a00[, schoolp := 0L]
a00[grepl("Y", Schoolp), schoolp := 1L]
erbg <- a00[, .(MeanEAtG1 = mean(schoolp, na.rm = T),
  StdEAtG1 = var(schoolp, na.rm = T)^(.5), N = .N), by = .(age, agHH0)]
erbg <- erbg[!is.na(age) & !is.na(agHH0) & age <= 18 & age >= 5, ]
setkey(erbg, age, agHH0)
erbgW <- reshape(erbg, direction = "wide", idvar = "age", timevar = "agHH0",
  v.names = grepout("G1|N", colnames(erbg)))
erbg[, agHH0 := factor(agHH0, labels = c("nonag HH", "ag HH"))]
erbg[, age := factor(age, levels = 5:18)]
```

```
library(ggplot2)
g <- ggplot(data = erbg,
    aes(x = age, y = MeanEAtG1, group = agHH0, fill = agHH0, colour = agHH0, label = N)) +
  geom_col(position = "dodge") +
  scale_fill_manual(values = c("lightblue", "blue")) +
  scale_colour_manual(values = c("blue", "blue")) +
```

```
  scale_x_discrete(expand=c(.04, .04)) +
  ThisThemeEnd+
  geom_text(vjust = -0.5, size = 3, position = position_dodge(width = 0.9))+
  xlab("age") +
  ylab("mean enrollment rate at round 1") +
  labs(color  = "HH type", fill = "HH type", label = "cell size") +
  guides(
    colour = guide_legend(title = "HH type", nrow = 1),
    label = guide_legend(title = "cell size", nrow = 1),
    fill = guide_legend(title = "HH type", nrow = 1)
    )
pdf(
  paste0(pathsaveThisVer, "AgewiseRawEnrollmentRates.pdf")
  , width = 2*12/2.54, height = 2*6/2.54)
print(g)
whatever ← dev.off()
```

```
library(ggplot2)
g ← ggplot(data = adyr,
    aes(x = year_, y = MeanAgeAtG1, group = agHH0, fill = agHH0, colour = agHH0, label = N
  geom_col(position = "dodge") +
  scale_fill_manual(values = c("lightblue", "blue")) +
  scale_colour_manual(values = c("blue", "blue")) +
  scale_x_continuous(breaks = 1987:2000, expand=c(.04, .04)) +
  ThisThemeEnd+
  geom_text(vjust = -0.5, size = 3, position = position_dodge(width = 0.9))+
  xlab("year of starting primary school") +
  ylab("mean age") +
  labs(color  = "HH type", fill = "HH type", label = "cell size") +
  guides(
    colour = guide_legend(title = "HH type", nrow = 1),
    label = guide_legend(title = "cell size", nrow = 1),
    fill = guide_legend(title = "HH type", nrow = 1)
    )
pdf(
  paste0(pathsaveThisVer, "AgeAtClass1Enrollment.pdf")
  , width = 2*12/2.54, height = 2*6/2.54)
print(g)
whatever ← dev.off()
```

Parental education.

```
dim(z2 ← invisible(fread(paste0(pathsave0, "2RoundPanel.prn"))))
```

```
[1] 5194  240
```

```
zi00N ← qread(paste0(pathsaveThisVer, "DID_N_MainResults.qs"))
ii ← jj ← s ← m ← 1
j ← 2
ge ← 3
zi ← zi00N[[ii]][[jj]][[s]][[j]][[ge]][[m]] # resultsN0[[ii]][[jj]][[s]][[j]][[ge]][[m]]
zid ← lapply(zi, "[[", "level.data")
zid ← zid[[length(zid)]]
zidd ← lapply(zi, "[[", "diff.data")
zidd ← zidd[[length(zidd)]]
# zd2_JHR.rds is created in Construct3RoundPanelAndClean.rnw (1017)
zd2 ← readRDS(paste0(pathsaveThisVer, "zd2_JHR2.rds"))
```

```r
zd2[uniquid %in% zidd[, uniquid] & survey == 1999, .(
    hd.primary=mean(hd.edulevel.primary), hd.secondary=mean(hd.edulevel.secondary)
    , sp.primary=mean(sp.edulevel.primary , na.rm = T),
    sp.secondary=mean(hd.edulevel.secondary),
    n = .N
  ), by = agHH0]
```

```
   agHH0 hd.primary hd.secondary sp.primary sp.secondary   n
1:  TRUE   0.148438     0.195312   0.177112     0.195312 384
2: FALSE   0.157025     0.384298   0.153409     0.384298 242
```

```r
# DataForJHR.rds is created in Construct3RoundPanelAndClean.rnw (1601)
yzw ← readRDS(paste0(pathsave0, "DataForJHR.rds"))
zF ← yzw
zE ← zF[grepl("111|110", exist), ]
zE[uniquid %in% zidd[, uniquid] & survey == 1999, .(
    hd.primary=mean(hd.edulevel.primary)
    , hd.secondary=mean(hd.edulevel.secondary)
    , sp.primary=mean(sp.edulevel.primary , na.rm = T)
    , sp.secondary=mean(hd.edulevel.secondary)
    , n = .N
  ), by = agHH0]
```

```
   agHH0 hd.primary hd.secondary sp.primary sp.secondary   n
1:     1   0.164062     0.205729   0.190104     0.205729 384
2:     0   0.140496     0.409091   0.140496     0.409091 242
```

```r
# When zd2 => zd3, head and spouse education was altered. This is when I copied
# head and spuse edu info within hh-survey in "Copy HH characteristics among members and a
```

```
You need to specify alternatecolorManualColor.
You need to specify alternatecolorManualColor.
You need to specify alternatecolorManualColor.
You need to specify alternatecolorManualColor.
```

```r
# below may give errors in knitr because of paste0("\"", agelb, "\""), age)
for (agelb in 10:12)
paste(
agelb,
"years and older: A first-difference estimator with standard errors clustered at \\textit{
agelb,
"and older are \\Sexpr{Enr.Agewise[grepl(\"zEm.1999\", sample) & grepl(agelb, age)
& grepl(\"all\", HHtype) & grepl(\"def\", agHHdef) & grepl(\"1\", agHH), rate]} for agric
"\\Sexpr{Enr.Agewise[grepl(\"zEm.1999\", sample) & grepl(agelb, age) & grepl(\"all\", HHty
"respectively, with a difference-in-differences of \\Sexpr{Enrchg.Agewise[grepl(\"zEm.1999
)
```

Table 2: Descriptive statistics of main estimation, 10-18 years old, direct offspring

covariates	min	25%	median	75%	max	mean	std	0s	NAs	n
Enrolled	0	0	1	1	1	0.738	0.440	164	0	626
AgHH	0	0	1	1	1	0.613	0.487	242	0	626
HdagHH	0	0	1	1	1	0.553	0.498	280	0	626
IsagHH	0	0	1	1	1	0.575	0.495	266	0	626
OcagHH	0	0	1	1	1	0.543	0.499	286	0	626
program	0	0	1	1	1	0.740	0.439	163	0	626
Sex	0	0	1	1	1	0.511	0.500	306	0	626
UDhdsex	0	0	0	0	1	0.128	0.334	546	0	626
UDnonmuslim	0	0	0	0	1	0.123	0.329	549	0	626
UDflooded	0	0	1	1	1	0.623	0.485	236	0	626
kutchalatrine	0	0	0	1	1	0.294	0.456	442	0	626
own piped water	0	0	0	1	1	0.380	0.486	388	0	626
head primary	0	0	0	0	1	0.155	0.362	529	0	626
head secondary	0	0	0	1	1	0.284	0.451	448	0	626
head spouse primary	0	0	0	0	1	0.171	0.377	519	0	626
head spouse secondary	0	0	0	0	1	0.166	0.372	522	0	626
age	10	11	13	15	18	12.986	2.351	0	0	626
yield (thana)	0.607	0.647	0.823	0.906	0.928	0.786	0.110	0	0	626
UDOldSibF	0	0	0	1	4	0.390	0.670	434	0	626
UDOldSibM	0	0	0	1	5	0.577	0.844	376	0	626
pclandDec	0	0.019	0.069	0.196	3.215	0.167	0.287	2	0	626
per member nonland asset (1000 Tk, in 1999)	0.373	3.918	7.062	13.623	205	11.209	14.515	0	0	626

Source: Compiled from IFPRI data.

Notes: 1. All information is of year 1999.

2. Agricultural household are defined as at least one adult member claiming that main income source as agriculture or occupation as agriculture. Program membership is 1 if holding a membership to anti-poverty programs. Age and sex are of children.

3. Time variant covariates: yield is Thana level paddy yield. program is an indicator variable for a various school program recipient. mean high temperature is mean annual temperature of the daily high, mean low temperature is mean annual temperature of the daily low. mean rainfall is mean annual rainfall of daily rainfall. All weather covariates are measured at Thana level. Time invariant are all measured in 1999 and are interacted with year 2002: agricultural household is an indicator variable if a member in a household's primary income is agriculture (agricultural work or tenancy) or occupation is agricultural work (own land, agricultural labor, tenant, other agricultural works). sex (female = 1) is an indicator variable of child gender. head primary, head secondary, spouse primary, spouse secondary are indicator variables for the respective highest educational achievement. head sex (female = 1) is an indicator variable of household head's gender. number of older brothers/sisters are respective number of older siblings of each child. per member land holding is per member land holding of the household in acres. per member nonland asset is per member nonland asset values in 1000 Takas. own piped water, structured toilet are indicator variables of household ownership of each facilities. All dummy variables are demeaned. Number of sample is cross sectional units per survey round.

Table 3: Descriptive statistics of placebo estimation, 10-18 years old in 2002, direct offspring

covariates	min	25%	median	75%	max	mean	std	0s	NAs	n
Enrolled	0	0	1	1	1	0.631	0.483	300	0	812
AgHH	0	0	1	1	1	0.606	0.489	320	0	812
HdagHH	0	0	1	1	1	0.542	0.499	372	0	812
IsagHH	0	0	1	1	1	0.562	0.496	356	0	812
OcagHH	0	0	1	1	1	0.537	0.499	376	0	812
program	0	0	0	1	1	0.273	0.446	590	0	812
Sex	0	0	1	1	1	0.525	0.500	386	0	812
UDhdsex	0	0	0	0	1	0.116	0.320	718	0	812
UDflooded	0	0	1	1	1	0.626	0.484	304	0	812
kutchalatrine	0	0	0	1	1	0.282	0.450	583	0	812
own piped water	0	0	0	1	1	0.376	0.485	507	0	812
head primary	0	0	0	0	1	0.159	0.366	683	0	812
head secondary	0	0	0	1	1	0.281	0.450	584	0	812
head spouse primary	0	0	0	0	1	0.177	0.382	668	0	812
head spouse secondary	0	0	0	0	1	0.166	0.373	677	0	812
age	10	12	13	16	18	13.631	2.470	0	0	812
yield (thana)	0.69	0.743	0.838	0.984	1.036	0.848	0.117	0	0	812
UDOldSibF	0	0	0	1	4	0.560	0.793	477	0	812
UDOldSibM	0	0	0	1	5	0.659	0.882	447	0	812
pclandDec	0	0.017	0.063	0.179	3.215	0.160	0.289	2	0	812
per member nonland asset (1000 Tk, in 1999)	0.369	3.537	6.963	13.143	205	10.994	14.995	0	0	812

Source: Compiled from IFPRI data.

Notes: 1. All information is of year 1999 except for Enrolled, Yield, Temperature, Rainfall, Program membership.

2. Agricultural household are defined as at least one adult member claiming that main income source as agriculture or occupation as agriculture. Program membership is 1 if holding a membership to anti-poverty programs. Age and sex are of children.

3. Time variant covariates: yield is Thana level paddy yield. program is an indicator variable for a various school program recipient. mean high temperature is mean annual temperature of the daily high, mean low temperature is mean annual temperature of the daily low. mean rainfall is mean annual rainfall of daily rainfall. All weather covariates are measured at Thana level. Time invariant are all measured in 1999 and are interacted with year 2002: agricultural household is an indicator variable if a member in a household's primary income is agriculture (agricultural work or tenancy) or occupation is agricultural work (own land, agricultural labor, tenant, other agricultural works). sex (female = 1) is an indicator variable of child gender. head primary, head secondary, spouse primary, spouse secondary are indicator variables for the respective highest educational achievement. head sex (female = 1) is an indicator variable of household head's gender. number of older brothers/sisters are respective number of older siblings of each child. per member land holding is per member land holding of the household in acres. per member nonland asset is per member nonland asset values in 1000 Takas. own piped water, structured toilet are indicator variables of household ownership of each facilities. All dummy variables are demeaned. Number of sample is cross sectional units per survey round.

Table 4: Descriptive statistics by agHHs vs. nonagHHs, agHH0

variables	Means			*p*-values (%)	
	overall	agHH	nonagHH	t	Satterthwaite
mean rainfall	206.6157	207.8893	204.5947	[61.53]	[75.36]
	(33.729)	(34.356)	(10.055)		
mean high temperature	31.1582	31.1432	31.1820	[45.22]	[85.78]
	(0.252)	(0.218)	(0.208)		
mean low temperature	21.6092	21.5160	21.7571	[0.00]	[20.93]
	(0.263)	(0.265)	(0.173)		
Age	12.9856	13.0469	12.8884	[41.18]	[44.38]
	(0.061)	(0.141)	(0.194)		
Sex	0.5112	0.4870	0.5496	[12.72]	[15.20]
	(0.024)	(0.040)	(0.038)		
UDhdsex	0.1278	0.0365	0.2727	[0.00]	[4.88]
	(0.048)	(0.101)	(0.098)		
per member nonland asset (1000 Tk, in 1999)	11.2091	9.9168	13.2599	[1.17]	[12.46]
	(1.694)	(2.451)	(1.894)		
Ownwater	0.3802	0.4010	0.3471	[17.37]	[56.32]
	(0.096)	(0.113)	(0.088)		
n	626	384	242		

Source: Compiled from IFPRI data. All information is of year 1999.

Notes: 1. Columns: For each variables, top rows show means and *p* values. Bottom rows show standard errors of means. Standard errors are clustered at thana level and Satterthwaite correction for degree of freedom is applied to account for small number of clusters. Agricultural households are defined as at least one adult member claiming that main income source or occupation as agriculture (laborer, tenant, owner farmer). Column headed by t shows *p* values of zero difference using standard *t* tests. Column headed by Satterthwaite shows *p* values of zero difference with cluster robust standard errors with Satterthwaite corrections.

2. Rows: Enrolled is an indicator variable for enrollment at school. Mean high temperature is mean annual temperature of the daily high, Mean low temperature is mean annual temperature of the daily low. Mean rainfall is mean annual rainfall of daily rainfall. All weather covariates are measured at Thana level. Yield is Thana level paddy yield. Program is an indicator variable for household's program enrollment for any of antipoverty, school support programs. Age is age of child in 1999. Sex (female = 1) is an indicator variable of child's gender. Head primary, Head secondary, Spouse primary, Spouse secondary are indicator variables for the respective highest educational attainment. Head sex (female = 1) is an indicator variable of household head's gender. Number of older brothers/sisters are respective number of older siblings of each child. Per member land holding is per member land holding of the household in decimal. Per member nonland asset is per member nonland asset values in 1000 Takas. Own piped water, Structured toilet are indicator variables of household ownership of each facilities. Non-Muslim is an indicator variable for households with heads who do not identify oneself as a Muslim. Flood is an indicator variable of thanas with reported flood, Aailjhar, Chokoria, Kalia, Nilphamary Sadar, Mohadebpur.

Table 5: Descriptive statistics by different agHH definitions

variable	Means					p values (%) and CI [95%] of deviations	
	agHH0	isagHH	hdagHH	ocagHH	ocagHHold	ocagHH==0	ocagHHold==0
Enrolled	0.714	0.711	0.731	0.697	0.566	5.72	0.21
	[0.62, 0.81]	[0.61, 0.81]	[0.65, 0.82]	[0.60, 0.80]	[0.42, 0.71]	[−0.30, 0.01]	[−0.34, −0.12]
HeadAge	46.440	46.578	46.228	47.051	47.419	10.20	43.72
	[44.61, 48.27]	[44.81, 48.34]	[44.62, 47.84]	[44.88, 49.23]	[44.85, 49.99]	[−1.73, 12.36]	[−2.98, 6.09]
HeadSex	0.045	0.048	0.039	0.028	0.014	25.86	12.43
	[0.02, 0.07]	[0.02, 0.07]	[0.01, 0.07]	[0.01, 0.05]	[−0.02, 0.05]	[−0.46, 0.17]	[−0.12, 0.02]
Sex	0.511	0.502	0.512	0.498	0.500	18.22	62.40
	[0.47, 0.55]	[0.46, 0.54]	[0.48, 0.55]	[0.45, 0.55]	[0.42, 0.58]	[−0.30, 0.08]	[−0.09, 0.06]
head primary	0.180	0.193	0.189	0.186	0.149	30.58	40.70
	[0.11, 0.25]	[0.11, 0.27]	[0.11, 0.27]	[0.11, 0.27]	[0.02, 0.28]	[−0.08, 0.19]	[−0.19, 0.09]
head secondary	0.205	0.203	0.200	0.181	0.027	7.53	0.01
	[0.16, 0.25]	[0.15, 0.25]	[0.15, 0.25]	[0.14, 0.22]	[−0.01, 0.07]	[−0.46, 0.04]	[−0.36, −0.21]
pclandDec	18.073	18.583	18.749	18.151	4.194	85.46	0.09
	[11.84, 24.31]	[11.82, 25.34]	[12.17, 25.32]	[11.75, 24.55]	[2.89, 5.50]	[−9.23, 10.59]	[−31.16, −12.90]
per member nonland asset (1000 Tk, in 1999)	9.915	10.059	10.195	9.834	5.286	62.72	0.05
	[7.23, 12.60]	[7.30, 12.82]	[7.40, 12.99]	[7.02, 12.65]	[2.22, 8.35]	[−4.54, 3.13]	[−10.11, −4.59]
UDnonmuslim	0.135	0.134	0.139	0.119	0.095	47.98	10.69
	[−0.01, 0.28]	[−0.02, 0.28]	[−0.01, 0.29]	[−0.02, 0.25]	[−0.01, 0.20]	[−0.66, 0.38]	[−0.15, 0.02]
UDflooded	0.680	0.679	0.683	0.661	0.716	30.44	35.75
	[0.26, 1.10]	[0.26, 1.10]	[0.27, 1.10]	[0.23, 1.09]	[0.30, 1.13]	[−0.56, 0.23]	[−0.08, 0.20]
n (individual)	384	360	346	340	136	44	248
n (household)	200	187	180	177	74	23	126

Source: Compiled from IFPRI data. All information is of year 1999.

Notes: For each variables, top rows show means and p values. Bottom rows show 95% confidence intervals. Standard errors are clustered at thana level and Satterthwaite correction for degree of freedom is applied to account for small number of clusters. isagHH is at least one adult member claiming that main income source as agriculture. hdagHH is household head reports that main income source as agriculture. ocagHH is at least one adult member claiming that occupation as agriculture. agHH0 is a union of isagHH, hdagHH, and ocagHH. Column headed by ocagHH == 0 and ocagHHold == 0 show p values in percentage of zero difference and 95% confidence intervals of differences between ocagHH and agHH0 using cluster robust standard errors with Satterthwaite corrections.

- Table 5 shows contrasts between different definitions of agricultural households. isagHH is a household with at least one adult member claiming that main income source as agriculture. hdagHH is a household whose head reports that main income source is agriculture. ocagHH is a household at least one adult member claiming that occupation as agriculture. agHH0 is a union of isagHH, hdagHH, and ocagHH. Under the panel headed by Means, means of respective groups for selected variables are shown. Under the column headed by ocagHH vs. agHH0 and ocagHHold vs. agHH0 show p values in percentage of zero difference and 95% confidence intervals of differences between ocagHH and agHH0 using cluster robust standard errors with Satterthwaite corrections. Number of observations for these columns are the number of ocagHH==0 and ocagHHold=0. Smaller number of ocagHHold implies greater overlap with agHH0.
- One can see that ocagHH differs from the rest of agricultural household definitions.
- After inspecting the data I received from Abu-san and original stata file, I found an error in Abu-san's data that some agricultural occupations are deleted. With this deletion, only agricultural day laborer remained in agriculture related occupation. This is why we have fewer number of observations in ocagHH.
- I corrected the data file using original stata files and updated the occupation based agricultural housheolds definition (ocagHHold). I found the updated definition similar to agHH0.

Table 6: Descriptive statistics by different agHH definitions for JHR

variable	agHH0	isagHH	hdagHH	ocagHH
Enrolled	0.714	0.711	0.731	0.697
	[0.62, 0.81]	[0.61, 0.81]	[0.65, 0.82]	[0.60, 0.80]
HeadAge	46.440	46.578	46.228	47.051
	[44.61, 48.27]	[44.81, 48.34]	[44.62, 47.84]	[44.88, 49.23]
HeadSex	0.045	0.048	0.039	0.028
	[0.02, 0.07]	[0.02, 0.07]	[0.01, 0.07]	[0.01, 0.05]
Sex	0.511	0.502	0.512	0.498
	[0.47, 0.55]	[0.46, 0.54]	[0.48, 0.55]	[0.45, 0.55]
head primary	0.180	0.193	0.189	0.186
	[0.11, 0.25]	[0.11, 0.27]	[0.11, 0.27]	[0.11, 0.27]
head secondary	0.205	0.203	0.200	0.181
	[0.16, 0.25]	[0.15, 0.25]	[0.15, 0.25]	[0.14, 0.22]
pclandDec	18.073	18.583	18.749	18.151
	[11.84, 24.31]	[11.82, 25.34]	[12.17, 25.32]	[11.75, 24.55]
per member nonland asset (1000 Tk, in 1999)	9.915	10.059	10.195	9.834
	[7.23, 12.60]	[7.30, 12.82]	[7.40, 12.99]	[7.02, 12.65]
UDnonmuslim	0.135	0.134	0.139	0.119
	[−0.01, 0.28]	[−0.02, 0.28]	[−0.01, 0.29]	[−0.02, 0.25]
UDflooded	0.680	0.679	0.683	0.661
	[0.26, 1.10]	[0.26, 1.10]	[0.27, 1.10]	[0.23, 1.09]
n (individual)	384	360	346	340
n (household)	200	187	180	177

Source: Compiled from IFPRI data. All information is of year 1999.

Notes: For each variables, top rows show means. Bottom rows show 95% confidence intervals. Standard errors are clustered at thana level and Satterthwaite correction for degree of freedom is applied to account for small number of clusters. isagHH is at least one adult member claiming that main income source as agriculture. hdagHH is household head reports that main income source as agriculture. ocagHHold is at least one adult member claiming that occupation as agriculture. agHH0 is a union of isagHH, hdagHH, and ocagHHold.

Table 7: Descriptive statistics by agHHs vs. nonagHHs, agHH0

variables	overall	agHH	nonagHH	t	chisquared	binomial
UDhdsex	0.1278	0.0365	0.2727	0.0000	0.0000	0.0000
UDnonmuslim	0.1230	0.1250	0.1198	0.8478	0.9468	0.7531
UDflooded	0.6230	0.6797	0.5331	0.0003	0.0003	0.0000
LHS	0.7380	0.7135	0.7769	0.0742	0.0967	0.0039
Sex	0.5112	0.4870	0.5496	0.1272	0.1488	0.0158
head primary	0.1550	0.1641	0.1405	0.4217	0.4964	0.1861
head secondary	0.2843	0.2057	0.4091	0.0000	0.0000	0.0000
head spouse primary	0.1709	0.1901	0.1405	0.0993	0.1345	0.0065
head spouse secondary	0.1661	0.1146	0.2479	0.0000	0.0000	0.0000
Ownwater	0.3802	0.4010	0.3471	0.1737	0.2044	0.0280
Kutchalatrine	0.2939	0.3229	0.2479	0.0413	0.0555	0.0009
Age	12.9856	13.0469	12.8884	0.4118	*NA*	*NA*
yield (thana)	0.7859	0.8050	0.7557	0.0000	*NA*	*NA*
pclandDec	16.7471	18.9627	13.2316	0.0159	*NA*	*NA*
per member nonland asset (1000 Tk, in 1999)	11.2091	9.9168	13.2599	0.0117	*NA*	*NA*
mean rainfall	206.6157	207.8893	204.5947	0.6153	*NA*	*NA*
mean high temperature	31.1582	31.1432	31.1820	0.4522	*NA*	*NA*
mean low temperature	21.6092	21.5160	21.7571	0.0000	*NA*	*NA*
UDOldSibF	0.3898	0.3646	0.4298	0.2561	*NA*	*NA*
UDOldSibM	0.5767	0.6484	0.4628	0.0047	*NA*	*NA*
n	626	384	242			

Source: Compiled from IFPRI data.

Notes: 1. All information is of year 1999.

2. Agricultural household are defined as at least one adult member claiming that main income source or occupation as agriculture (laborer, tenant, owner farmer). Program membership is 1 if holding a membership to anti-poverty programs. Age and sex are of children. Flood is 1 in thanas Aailjhar, Chokoria, Kalia, Nilphamary Sadar, Mohadebpur.

3. Time variant covariates: yield is Thana level paddy yield. program is an indicator variable for a various school program recipient. mean high temperature is mean annual temperature of the daily high, mean low temperature is mean annual temperature of the daily low. mean rainfall is mean annual rainfall of daily rainfall. All weather covariates are measured at Thana level. Time invariant are all measured in 1999 and are interacted with year 2002: agricultural household is an indicator variable if a member in a household's primary income is agriculture (agricultural work or tenancy) or occupation is agricultural work (own land, agricultural labor, tenant, other agricultural works). sex (female = 1) is an indicator variable of child gender. head primary, head secondary, spouse primary, spouse secondary are indicator variables for the respective highest educational achievement. head sex (female = 1) is an indicator variable of household head's gender. number of older brothers/sisters are respective number of older siblings of each child. per member land holding is per member land holding of the household in acres. per member nonland asset is per member nonland asset values in 1000 Takas. own piped water, structured toilet are indicator variables of household ownership of each facilities. All dummy variables are demeaned. Number of sample is cross sectional units per survey round.

Table 8: Descriptive statistics by agHHs vs. nonagHHs, hdagHH

variables	overall	agHH	nonagHH	t	chisquared	binomial
UDhdsex	0.1278	0.0347	0.2429	0.0000	0.0000	0.0000
UDnonmuslim	0.1230	0.1272	0.1179	0.7240	0.8179	0.5601
UDflooded	0.6230	0.6908	0.5393	0.0001	0.0001	0.0000
LHS	0.7380	0.7312	0.7464	0.6669	0.7346	0.5366
Sex	0.5112	0.4884	0.5393	0.2062	0.2360	0.0592
head primary	0.1550	0.1676	0.1393	0.3268	0.3879	0.1396
head secondary	0.2843	0.2052	0.3821	0.0000	0.0000	0.0000
head spouse primary	0.1709	0.1908	0.1464	0.1391	0.1745	0.0225
head spouse secondary	0.1661	0.1185	0.2250	0.0005	0.0006	0.0000
Ownwater	0.3802	0.4191	0.3321	0.0252	0.0320	0.0007
Kutchalatrine	0.2939	0.3179	0.2643	0.1412	0.1687	0.0280
Age	12.9856	13.0318	12.9286	0.5859	*NA*	*NA*

Table 9: Descriptive statistics by by agHHs vs. nonagHHs: occupation

variables	overall	agHH	nonagHH	t	chisquared	binomial
UDhdsex	0.1278	0.0176	0.2587	0.0000	0.0000	0.0000
UDnonmuslim	0.1230	0.1059	0.1434	0.1602	0.1936	0.0526
UDflooded	0.6230	0.6588	0.5804	0.0446	0.0532	0.0035
LHS	0.7380	0.6971	0.7867	0.0102	0.0143	0.0001
Sex	0.5112	0.4706	0.5594	0.0267	0.0328	0.0010
head primary	0.1550	0.1735	0.1329	0.1580	0.1972	0.0308
head secondary	0.2843	0.1853	0.4021	0.0000	0.0000	0.0000
head spouse primary	0.1709	0.1941	0.1434	0.0898	0.1155	0.0104
head spouse secondary	0.1661	0.1000	0.2448	0.0000	0.0000	0.0000
Ownwater	0.3802	0.3794	0.3811	0.9651	1.0000	1.0000
Kutchalatrine	0.2939	0.3235	0.2587	0.0749	0.0921	0.0077
Age	12.9856	12.9971	12.9720	0.8945	*NA*	*NA*
yield (thana)	0.7859	0.8036	0.7649	0.0000	*NA*	*NA*
pclandDec	16.7471	18.4459	14.7276	0.1104	*NA*	*NA*
per member nonland asset (1000 Tk, in 1999)	11.2091	9.7156	12.9847	0.0065	*NA*	*NA*
mean rainfall	206.6157	210.0321	202.5542	0.2406	*NA*	*NA*
mean high temperature	31.1582	31.1437	31.1754	0.5480	*NA*	*NA*
mean low temperature	21.6092	21.5479	21.6820	0.0078	*NA*	*NA*
UDOldSibF	0.3898	0.3559	0.4301	0.1749	*NA*	*NA*
UDOldSibM	0.5767	0.6882	0.4441	0.0002	*NA*	*NA*
n	626	340	286			

Source: Compiled from IFPRI data.

Notes: 1. All information is of year 1999.

2. Agricultural household are defined as at least one adult member claiming that occupation is agriculture (laborer, tenant, owner farmer). Program membership is 1 if holding a membership to anti-poverty programs. Age and sex are of children. Flood is 1 in thanas Aailjhar, Chokoria, Kalia, Nilphamary Sadar, Mohadebpur.

3. Time variant covariates: yield is Thana level paddy yield. program is an indicator variable for a various school program recipient. mean high temperature is mean annual temperature of the daily high, mean low temperature is mean annual temperature of the daily low. mean rainfall is mean annual rainfall of daily rainfall. All weather covariates are measured at Thana level. Time invariant are all measured in 1999 and are interacted with year 2002: agricultural household is an indicator variable if a member in a household's primary income is agriculture (agricultural work or tenancy) or occupation is agricultural work (own land, agricultural labor, tenant, other agricultural works). sex (female = 1) is an indicator variable of child gender. head primary, head secondary, spouse primary, spouse secondary are indicator variables for the respective highest educational achievement. head sex (female = 1) is an indicator variable of household head's gender. number of older brothers/sisters are respective number of older siblings of each child. per member land holding is per member land holding of the household in acres. per member nonland asset is per member nonland asset values in 1000 Takas. own piped water, structured toilet are indicator variables of household ownership of each facilities. All dummy variables are demeaned. Number of sample is cross sectional units per survey round.

We have smaller differences in original and regression data in zEm1999.

Table 10: Original vs. regression data contrasts, 10-18 years old, direct offspring

	Means		p-values (%)		
variables	original	regression	t	χ^2	binomial
Sex	0.5007	0.5112	0.6996	0.7400	0.6036
age	12.2932	12.9856	0.0000		
per member land holding (acre, in 1999)	0.1760	0.1675	0.5700		
per member nonland asset (1000 Tk, in 1999)	11.3942	11.2091	0.8077		
Ownwater	0.3687	0.3802	0.6630	0.7038	0.5620
n	735	626			

Source: Compiled from IFPRI data.

Notes:
1. All information is of year 1999. Column headed by t shows p values of equal means for both data sets using t tests. Column headed by χ^2 shows p values of equal proportions. Column headed by binomial shows p values of two-sided test for one proportion being equal to another proportion under presumed Bernoulli trials.
2. Agricultural household are defined as at least one adult member claiming that main income source as agriculture. Program membership is 1 if holding a membership to anti-poverty programs. Age and sex are of children.
3. Time variant covariates: yield is Thana level paddy yield. program is an indicator variable for a various school program recipient. mean high temperature is mean annual temperature of the daily high, mean low temperature is mean annual temperature of the daily low. mean rainfall is mean annual rainfall of daily rainfall. All weather covariates are measured at Thana level. Time invariant are all measured in 1999 and are interacted with year 2002: agricultural household is an indicator variable if a member in a household's primary income is agriculture (agricultural work or tenancy) or occupation is agricultural work (own land, agricultural labor, tenant, other agricultural works). sex (female = 1) is an indicator variable of child gender. head primary, head secondary, spouse primary, spouse secondary are indicator variables for the respective highest educational achievement. head sex (female = 1) is an indicator variable of household head's gender. number of older brothers/sisters are respective number of older siblings of each child. per member land holding is per member land holding of the household in acres. per member nonland asset is per member nonland asset values in 1000 Takas. own piped water, structured toilet are indicator variables of household ownership of each facilities. All dummy variables are demeaned. Number of sample is cross sectional units per survey round.

III.2 Attrition

```
library(clubSandwich)
pathsource00 <- paste0(pathsource, "/ffe/2000/Data/HouseholdData/STATA/")
fn <- list.files(pathsource00)
fn0 <- list.files(pathsource00, full.names = T)
pathsource03 <- paste0(pathsource, "/ffe/2003/Data/HouseholdData/STATA/")
fn <- list.files(pathsource03)
fn3 <- list.files(pathsource03, full.names = T)
pathsource07 <- paste0(pathsource, "/ffe/2007/Data/HouseholdData/STATA/")
fn <- list.files(pathsource07)
fn7 <- list.files(pathsource07, full.names = T)
# cover
hd1 <-  data.table(foreign::read.dta(grepout("c00", fn0)))
hd1 <- hd1[, .(hhnum, thana)]
# roster
ros1 <- data.table(foreign::read.dta(grepout("a1", fn0)))
# rd 2 has hhid = hh used in uniquid
# uniquid = paste0(4000+hhid, ".", putzeroontop(mid/100))
ros2 <- data.table(foreign::read.dta(grepout("a1", fn3)))
ros3 <- data.table(foreign::read.dta(grepout("rost", fn7)))
# ros1 and ros2 have hhnum in common. id = hhnum-mid
# ros2 and ros3 have hhidn in common. id2 = hhidn-mid
ros1[, id := paste0(hhnum, "-", mid)]
ros2[, id := paste0(hhnum, "-", mid)]
ros2[, id2 := paste0(hhidn, "-", mid)]
ros3[, id2 := paste0(hhidn, "-", mid)]
```

```
ros1[, rd2 := 0L]
ros1[id %in% ros2[, id], rd2 := 1L]
ros2[, rd3 := 0L]
ros2[id2 %in% ros3[, id2], rd3 := 1L]
ros1[, rd3 := 0L]
ros1[id %in% ros2[rd3==1L, id], rd3 := 1L]
ros1[, exist := paste0(1, rd2, rd3)]
ros1[, exist := factor(exist)]
# attach uniquid in ros1
ros2[, uniquid := paste0(4000+hhidn, ”.”, putzeroontop(mid))]
rs2id ← ros2[, .(id, uniquid)]
setkey(rs2id, id); setkey(ros1, id)
ros1 ← rs2id[ros1]
# ros1 at this point: same as RosRd1 ← qread(paste0(pathsaveThisVer, ”OriginalRd1RosterFi
# agHH defined at HH level
        #       isource agri HH
ros1[, isagHH := hhnum %in% hhnum[grep(”Agri|Tena”, isource)]]
ros1[, isagHH := hhnum %in% hhnum[grep(”^1$|^6[12]$”, isource)]]
        #       occup agri HH
ros1[, ocagHH := hhnum %in% hhnum[grep(”Agri|Tenan|farm”, occup)]]
        #       owner or cultivator household as ownagHH. A subset of isagHH.
ros1[, ownagHH := hhnum %in% hhnum[grep(”OwnL|Tena”, isource)]]
ros1[, ownagHH := hhnum %in% hhnum[grep(”6[12]”, isource)]]
ros1[, agHH0 := isagHH|ocagHH]
# head and spouse education
ros1[, c(”hd.primary”, ”hd.secondary”, ”sp.primary”, ”sp.secondary”) := NA]
ros1[grepl(”head”, rhhold) & grepl(”s[1-5]”, educa) & !grepl(”ad”, educa), hd.primary := 1
ros1[grepl(”head”, rhhold) & grepl(”6|7|8|9|S|A”, educa), hd.secondary := 1L]
ros1[grepl(”spo”, rhhold) & grepl(”s[1-5]”, educa) & !grepl(”ad”, educa), sp.primary := 1L
ros1[grepl(”spo”, rhhold) & grepl(”6|7|8|9|S|A”, educa), sp.secondary := 1L]
for (v in c(”hd.primary”, ”hd.secondary”, ”sp.primary”, ”sp.secondary”) ) {
  ros1[, (v) := eval(parse(text=paste0(v, ”[!is.na(”, v, ”)][1]”))), by = hhnum]
  ros1[eval(parse(text=paste0(”is.na(”, v, ”)”))), (v) := 0L]
}
# assets
d6a ← data.table(foreign::read.dta(grepout(”6a”, fn0)))
d6b ← data.table(foreign::read.dta(grepout(”6b”, fn0)))
d6b[, TotalValue := sum(value, na.rm = T), by = hhnum]
d6b[, num := 1:.N, by = hhnum]
d6b2 ← d6b[num == 1, .(hhnum, TotalValue)]
setnames(d6a, ”total”, ”TotalDecimal”)
d6a2 ← d6a[, .(hhnum, TotalDecimal)]
# merge files
setkey(d6a2, hhnum); setkey(d6b2, hhnum);
as1 ← d6a2[d6b2]
setkey(ros1, hhnum); setkey(hd1, hhnum)
ros1 ← hd1[ros1]
asr ← as1[ros1]
asr[, TotalValue := TotalValue/1000]
# attrition rates asset holding by agHH at individual level
asr[, .(Land=mean(TotalDecimal, na.rm = T), Asset=mean(TotalValue),
  hd.primary = mean(hd.primary), hd.secondary = mean(hd.secondary),
  sp.primary = mean(sp.primary), sp.secondary = mean(sp.secondary),
  exist=mean(grepl(”^11”, exist))), by = agHH0]
```

```
   agHH0      Land    Asset  hd.primary  hd.secondary  sp.primary  sp.secondary
exist
1:  FALSE   68.6866  70.0745    0.218110      0.305512    0.200787     0.1370079  0.781890
2:   TRUE  146.6565  70.0351    0.213836      0.167392    0.182390     0.0551524  0.791969
```

```
asr[grepl("^10", exist), .(Land=mean(TotalDecimal, na.rm = T), Asset=mean(TotalValue),
  hd.primary = mean(hd.primary), hd.secondary = mean(hd.secondary),
  sp.primary = mean(sp.primary), sp.secondary = mean(sp.secondary)),
  by = agHH0]
```

```
   agHH0     Land    Asset  hd.primary  hd.secondary  sp.primary  sp.secondary
1:  FALSE   72.091  75.4329    0.166065      0.187726   0.1155235     0.0649819
2:   TRUE  109.925  77.4997    0.167442      0.155814   0.0465116     0.0348837
```

```
asr[, attrit := 0L]
asr[grepl("^10", exist), attrit := 1L]
# attrition rates asset holding by agHH at HH level
asrH ← asr[, .(attrit, agHH0, TotalDecimal, TotalValue,
  hd.primary, hd.secondary, sp.primary, sp.secondary, exist, thana, num=1:.N),
  by = hhnum][num==1, ]
asrH[, .(Land=mean(TotalDecimal, na.rm = T), Asset=mean(TotalValue),
  hd.primary = mean(hd.primary), hd.secondary = mean(hd.secondary),
  sp.primary = mean(sp.primary), sp.secondary = mean(sp.secondary),
  exist=mean(grepl("^11", exist))), by = agHH0]
```

```
   agHH0      Land    Asset  hd.primary  hd.secondary  sp.primary  sp.secondary
exist
1:  FALSE   66.1863  67.4359    0.218623      0.283401    0.178138     0.1295547  0.781377
2:   TRUE  121.5069  63.4052    0.212465      0.164306    0.181303     0.0538244  0.790368
```

```
asrH[grepl("^10", exist), .(Land=mean(TotalDecimal, na.rm = T), Asset=mean(TotalValue),
  hd.primary = mean(hd.primary), hd.secondary = mean(hd.secondary),
  sp.primary = mean(sp.primary), sp.secondary = mean(sp.secondary)
  ), by = agHH0]
```

```
   agHH0      Land    Asset  hd.primary  hd.secondary  sp.primary  sp.secondary
1:  FALSE   70.5729  74.1008    0.185185      0.166667   0.1111111     0.0555556
2:   TRUE  106.1092  75.8336    0.148649      0.175676   0.0540541     0.0405405
```

```
atlm1 ← lm(data = asr,
  attrit ~ (TotalValue+TotalDecimal+hd.primary+hd.secondary+sp.primary+sp.secondary)*agHH0
atlm2 ← lm(data = asrH,
  attrit ~ (TotalValue+TotalDecimal+hd.primary+hd.secondary+sp.primary+sp.secondary)*agHH0
LZ2 ← clx(atlm2, cluster = asrH[- as.numeric(summary(atlm2)$na), thana])
Satt2 ← coef_test(atlm2, vcov = "CR2", cluster = asrH[- as.numeric(summary(atlm2)$na), th
  test = "Satterthwaite")
Sattcov ← clubSandwich::vcovCR(atlm2,
  cluster = asrH[- as.numeric(summary(atlm2)$na), thana], type = "CR2")
#coef_test(atlm2, vcov = Sattcov, coefs = "All")
# constraint matrix Cb = 0: C is 1 for (2, 2), (3, 3), ... elements
C0 ← diag(length(atlm2$coeff))
rownames(C0) ← names(atlm2$coeff)
C.All ← C0[-1, ]
C.Ag ← paste0(grepout("agHH", names(atlm2$coeff)), "=0")
C.Ag ← C0[grep("agHH", names(atlm2$coeff)), ]
# Below gives an error due to singularity of cov matrix
```

```r
# clubSandwich::Wald_test(atlm2, vcov = Sattcov, constraints = C.All)
library(multcomp)
# "p value of the global test is the minimum p value of the partial tests"
# in multcomp_additionalexample.pdf p.2.
# glht only allows a OLS cov matrix. No option to feed vcov of choice.
F.all ← multcomp::glht(atlm2, linfct = C.All, alternative = "two.sided")
F.ag ← multcomp::glht(atlm2, linfct = C.Ag, alternative = "two.sided")
p.all ← summary(F.all)
p.ag ← summary(F.ag)
print(LZ2)
```

```

t test of coefficients:

                               Estimate   Std. Error t value Pr(>|t|)
(Intercept)                   0.24184652 0.14344165   1.686   0.0923 .
TotalValue                    0.00062796 0.00073589   0.853   0.3938
TotalDecimal                  0.00008053 0.00027437   0.294   0.7692
hd.primaryTRUE               -0.09658057 0.07045095  -1.371   0.1709
hd.secondaryTRUE             -0.12177294 0.09688025  -1.257   0.2093
sp.primaryTRUE               -0.08057876 0.08292281  -0.972   0.3316
sp.secondaryTRUE             -0.12839862 0.09987395  -1.286   0.1991
agHH0TRUE                    -0.03497650 0.05511844  -0.635   0.5260
TotalValue:agHH0TRUE          0.00049181 0.00049728   0.989   0.3231
TotalDecimal:agHH0TRUE       -0.00031908 0.00014435  -2.211   0.0275 *
hd.primaryTRUE:agHH0TRUE      0.07493445 0.08576928   0.874   0.3827
hd.secondaryTRUE:agHH0TRUE    0.17937367 0.13574119   1.321   0.1869
sp.primaryTRUE:agHH0TRUE     -0.13502272 0.10401369  -1.298   0.1948
sp.secondaryTRUE:agHH0TRUE   -0.05607355 0.10643750  -0.527   0.5985
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```r
options(width = 120)
print(Satt2)
```

```
                      Coef.   Estimate       SE t-stat d.f. (Satt) p-val (Satt) Sig.
                (Intercept)  0.2418465 0.142880  1.693        8.22       0.1280
                 TotalValue  0.0006280 0.000889  0.706        3.26       0.5271
               TotalDecimal  0.0000805 0.000308  0.262        4.34       0.8056
             hd.primaryTRUE -0.0965806 0.071724 -1.347        7.07       0.2197
           hd.secondaryTRUE -0.1217729 0.105355 -1.156        7.32       0.2841
             sp.primaryTRUE -0.0805788 0.084845 -0.950        6.78       0.3749
           sp.secondaryTRUE -0.1283986 0.103530 -1.240        5.27       0.2672
                  agHH0TRUE -0.0349765 0.056862 -0.615        8.55       0.5545
       TotalValue:agHH0TRUE  0.0004918 0.000538  0.913        3.75       0.4159
     TotalDecimal:agHH0TRUE -0.0003191 0.000158 -2.025        5.28
0.0958      .
   hd.primaryTRUE:agHH0TRUE  0.0749344 0.087377  0.858        8.27       0.4153
 hd.secondaryTRUE:agHH0TRUE  0.1793737 0.146972  1.220        8.18       0.2563
   sp.primaryTRUE:agHH0TRUE -0.1350227 0.116585 -1.158        7.19       0.2838
 sp.secondaryTRUE:agHH0TRUE -0.0560735 0.112067 -0.500        7.01       0.6321
```

```r
options(width = 100)
Ftest.all ← summary(F.all, test = Ftest())$test
Ftest.ag ← summary(F.ag, test = Ftest())$test
print(data.frame(Fstat = Ftest.all$fstat, dof = Ftest.all$df, pval = Ftest.all$pval))
```

```
    Fstat dof        pval
1 2.69499  13 0.0010736
2 2.69499 570 0.0010736
```

```r
print(p.all)
```

```
         Simultaneous Tests for General Linear Hypotheses

Fit: lm(formula = attrit ~ (TotalValue + TotalDecimal + hd.primary +
    hd.secondary + sp.primary + sp.secondary) * agHH0, data = asrH)

Linear Hypotheses:
                                  Estimate Std. Error t value Pr(>|t|)
TotalValue == 0                  0.0006280  0.0003435    1.83     0.49
TotalDecimal == 0                0.0000805  0.0002496    0.32     1.00
hd.primaryTRUE == 0             -0.0965806  0.0671112   -1.44     0.78
hd.secondaryTRUE == 0           -0.1217729  0.0759591   -1.60     0.66
sp.primaryTRUE == 0             -0.0805788  0.0729591   -1.10     0.94
sp.secondaryTRUE == 0           -0.1283986  0.0918633   -1.40     0.81
agHH0TRUE == 0                  -0.0349765  0.0506719   -0.69     1.00
TotalValue:agHH0TRUE == 0        0.0004918  0.0004907    1.00     0.97
TotalDecimal:agHH0TRUE == 0     -0.0003191  0.0002785   -1.15     0.93
hd.primaryTRUE:agHH0TRUE == 0    0.0749344  0.0871158    0.86     0.99
hd.secondaryTRUE:agHH0TRUE == 0  0.1793737  0.1003943    1.79     0.52
sp.primaryTRUE:agHH0TRUE == 0   -0.1350227  0.0937687   -1.44     0.78
sp.secondaryTRUE:agHH0TRUE == 0 -0.0560735  0.1392496   -0.40     1.00
(Adjusted p values reported -- single-step method)
```

```r
print(data.frame(Fstat = Ftest.ag$fstat, dof = Ftest.ag$df, pval = Ftest.ag$pval))
```

```
     Fstat dof     pval
1 0.851904   7 0.544626
2 0.851904 570 0.544626
```

```r
print(p.ag)
```

```
         Simultaneous Tests for General Linear Hypotheses

Fit: lm(formula = attrit ~ (TotalValue + TotalDecimal + hd.primary +
    hd.secondary + sp.primary + sp.secondary) * agHH0, data = asrH)

Linear Hypotheses:
                                 Estimate Std. Error t value Pr(>|t|)
agHH0TRUE == 0                  -0.034977   0.050672   -0.69     0.99
TotalValue:agHH0TRUE == 0        0.000492   0.000491    1.00     0.91
TotalDecimal:agHH0TRUE == 0     -0.000319   0.000278   -1.15     0.84
hd.primaryTRUE:agHH0TRUE == 0    0.074934   0.087116    0.86     0.95
hd.secondaryTRUE:agHH0TRUE == 0  0.179374   0.100394    1.79     0.39
sp.primaryTRUE:agHH0TRUE == 0   -0.135023   0.093769   -1.44     0.64
sp.secondaryTRUE:agHH0TRUE == 0 -0.056074   0.139250   -0.40     1.00
(Adjusted p values reported -- single-step method)
```

```r
thesecols ← c("attrit", "TotalValue", "TotalDecimal",
  "hd.primary", "hd.secondary", "sp.primary", "sp.secondary")
AttritComp ← NULL
for (kk in thesecols) {
  if (kk == "attrit") {
    d0 ← asrH[agHH0==0, kk, with = F]
    d1 ← asrH[agHH0==1, kk, with = F]
  } else {
    d0 ← asrH[grepl("^10", exist) & agHH0==0, kk, with = F]
```

```
    d1 ← asrH[grepl("^10", exist) & agHH0==1, kk, with = F]
  }
  ttestK ← t.test(d1, d0)
  AttritComp ← rbind(AttritComp,
    cbind(kk, var(d1, na.rm = T)^(.5), var(d0, na.rm = T)^(.5),
      round(-diff(unlist(ttestK["estimate"])), 3), # -diff = -(y - x) = AgHH - nonagHH
      t(as.numeric(unlist(lapply(ttestK[c("estimate", "conf.int", "stderr", "p.value")], r
    )
  )
}
AttritComp ← data.table(AttritComp)
setnames(AttritComp, c("variable", "se.agHH", "se.nonagHH", "AgNonag", "agHH", "nonagHH",
  "lb95", "ub95", "se", "pvalue"))
ac1 ← AttritComp[, .(variable, agHH, nonagHH, AgNonag)]
ac2 ← AttritComp[, .(variable, se.agHH, se.nonagHH, pvalue)]
# ac1[grepl("TotalV", variable), agHH := formatC(as.numeric(agHH), digits = 0, format = "f
# ac1[grepl("TotalV", variable), nonagHH := formatC(as.numeric(nonagHH), digits = 0, forma
# ac1[grepl("TotalV", variable), AgNonag := formatC(as.numeric(AgNonag), digits = 0, forma
# ac2[grepl("TotalV", variable), se.agHH :=
#   paste0("(", formatC(as.numeric(se.agHH), digits = 0, format = "f"),")")]
 ac2[, se.agHH :=
   paste0("(", formatC(as.numeric(se.agHH), digits = 3, format = "f"),")")]
# ac2[grepl("TotalV", variable), se.nonagHH :=
#   paste0("(", formatC(as.numeric(se.nonagHH), digits = 0, format = "f"),")")]
 ac2[, se.nonagHH :=
   paste0("(", formatC(as.numeric(se.nonagHH), digits = 3, format = "f"),")")]
ac2[, pvalue :=
  paste0("[", formatC(as.numeric(pvalue)*100, digits = 2, format = "f"),"]")]
newAC ← NULL
for (r in 1:nrow(ac1))
  newAC ← rbind(newAC, rbindlist(list(ac1[r, ], ac2[r, ]), use.names = F))

dtsatt ← data.table(Satt2)
dtsatt[, Pstar := "\\phantom{^{*}}"]
dtsatt[p_Satt<.1, Pstar := "^{*}"]
dtsatt[p_Satt<.05, Pstar := "^{**}"]
dtsatt[p_Satt<.01, Pstar := "^{***}"]
dfsatt ← data.frame(Satt2)[, c("beta", "SE", "p_Satt")]
tbsatt ← tabstarP(dfsatt, DispSE = T)
sta ← matrix(rep(dtsatt[, Pstar], each = 2), ncol = 2)
sta[seq(2, nrow(sta), 2), ] ← ""
dfsatt ← data.frame(variables = rownames(tbsatt)[1:14],
  Base=paste0(tbsatt[1:14, ], sta[, 1]), AddagHH=paste0(tbsatt[-(1:14), ], sta[ ,2]))
dfsatt2 ← rbind("", "", dfsatt)
newAC2 ← rbind(newAC[1:2, ], t(rep("", 4)), t(rep("", 4)), newAC[-(1:2), ], use.names = F
matatt ← cbind(newAC2, dfsatt2[, -1])
matatt[, variable :=
rep(c("Attrition", "(Intercept)", "Total asset holding (BDT1000)", "Total landholding (dec
  "Head primary education", "Head secondary education",
  "Spouse primary education", "Spouse secondary education"
  ), each = 2)]
matatt[seq(2, nrow(matatt), 2), variable := ""]
matatt[, variable := paste("\\makebox[3.5cm]{\\hfill", variable, "}")]
setnames(matatt, c("AgNonag", "AddagHH"), c("agHH - NonagHH", "Base $\\times$ agHH"))
TabAttrit ← latextab(as.matrix(matatt),
  hleft = "\\footnotesize\\hfil$", hcenter = c(3.5, rep(1.95, ncol(matatt)-1)),
```

```
  hright = "$",
  headercolor = "gray80", adjustlineskip = "-.8ex", delimiterline= NULL,
  alternatecolor2 = "gray90",
  addseparatingcols = 3, separatingcolwidth = .2,
  separatingcoltitle = c("\\textsf{Descriptive statistics}", "\\textsf{OLS estimates}"),
  addsubcoltitlehere = T)
write.tablev(TabAttrit,
  paste0(pathsaveThisVer, "AttritionEstimation.tex")
  , colnamestrue = F)
```

Table 11: Attrition comparison by agHHs vs. nonagHHs

	Descriptive statistics			OLS estimates	
variable	agHH	nonagHH	agHH - NonagHH	Base	Base × agHH
Attrition	0.2096 (0.408)	0.2186 (0.414)	−0.009 [79.23]		
(Intercept)				0.2418 (0.1429)	−0.0350 (0.0569)
Total asset holding (BDT1000)	75.8336 (72.989)	74.1008 (71.839)	1.733 [89.37]	0.0006 (0.0009)	0.0005 (0.0005)
Total landholding (decimal)	106.1092 (126.084)	70.5729 (96.580)	35.536 [8.49]	0.0001 (0.0003)	−0.0003* (0.0002)
Head primary education	0.1486 (0.358)	0.1852 (0.392)	−0.037 [59.04]	−0.0966 (0.0717)	0.0749 (0.0874)
Head secondary education	0.1757 (0.383)	0.1667 (0.376)	0.009 [89.46]	−0.1218 (0.1054)	0.1794 (0.1470)
Spouse primary education	0.0541 (0.228)	0.1111 (0.317)	−0.057 [26.28]	−0.0806 (0.0848)	−0.1350 (0.1166)
Spouse secondary education	0.0405 (0.199)	0.0556 (0.231)	−0.015 [70.12]	−0.1284 (0.1035)	−0.0561 (0.1121)

Source: Compiled from IFPRI data.

Notes: 1. Attrition is true if a household is missing in round 2. All covariates are of round 1.

2. Descriptive statistics panel shows attriter's characteristics. For each baseline covariates, top rows show the means and bottom rows show the standard errors in columns (1) and (2), respectively. In column (3), top rows show mean differences and bottom rows show associated p values of mean differences in per centage. OLS estimation panel shows results from linear probability model of attrition on baseline variables and their interaction with the agricultural household dummy. Top rows show point estimates and bottom rows show standard errors. Estimates of nonag HHs are shown in (4) and interaction terms of each variables with ag HH are shown in (5). Number of observations for LPM is 570, $\bar{R} = 0.058$. Standard errors are clustered at the Thana level with a Satterthwaite correction for a small number of clusters. $*$ indicates a p value between 5% and 10%.

- Table 11 shows descriptive statistics of attrition and linear probability of attrition. In Descriptive statistics panel shows attriter's characteristics. For each baseline covariates, top rows show the means and bottom rows show the standard errors in columns (1) and (2), respectively. In column (3), top rows show mean differences and bottom rows show associated p values of mean differences in per centage. OLS estimation panel shows results from linear probability model of attrition on baseline variables and their interaction with the agricultural household dummy. Top rows show point estimates and bottom rows show standard errors. Estimates of nonag HHs are shown in (4) and interaction terms of each variables with ag HH are shown in (5).
- Based on linear probability estimation, attrition seems random between agHHs and nonag HHs at the household level. There is an indication that smaller land holders of agHHs may be more prone to attrit at the rate of 3% per one acre reduction in landholding.
- The implied magnitude of correlation between landholding and attrition is small given the mean landholding of agHHs is 1.46 acre. In addition, it is not easy to guess the direction of the bias it gives to enrollment rates: When smaller landholding has smaller labor demand

for children therefore higher enrollment rates, their attrition can understate enrollment rates. When smaller landholders, or less wealthy households, stop schooling early that results in lower enrollment rates, their attrition can overstate enrollment rates. Given the small magnitude of possible impacts that may potentially cancel out each other and a relatively large p value associated with it, we restrict our attention to the complete panel portion of the data. We also note that we include landholding as a covariate in the main estimation.

IV Estimation

IV.1 Main and placebo estimation

results [[ii]][[jj]][[j]][[ge]][[m]][[s]][[k]]
ii: main, placebo
jj: zE, zS samples
j: only nuclear (sd == 1) or include extended (sd == 0)
ge: boys, girls, boys+girls
m: agHH def
s: age cutoff
k: specification
Estimation steps:

1. Use fdrobust to try all specifications and pick the data matrix that has the smallest number of observations. This data is the estimation data to be used for the all specifications so we get the same number of observations for all specifications. We retrieve the first-differenced estimation data.
   - ✍ A programming note. If taking a first-difference in the conventional way, diff function takes $t-(t-1)$ differences. We want $(t-1)-t$ differences to see how enrollment rates change as time passes.
   - ✍ If we set opposite.time.order==F, then diff function gives $t-(t-1)$ differences. If a child drops out, then LHS changes from 1 to 0, and a $t-(t-1)$ difference gives -1. If the child is from an agricultural household, then agHH.yr2 (agHH==1 & 1999==1) changes from 1 to 0, so the $t-(t-1)$ difference gives -1. OLS of ΔLHS on ΔagHH.yr2 gives a positive estimate under the maintained hypothesis "agricultural households experienced a larger drop in enrollment rates."
   - ✍ To retrieve a negative estimate under the maintained hypothesis, we set opposite.time.order==F in fdrobust to get $t-(t-1)$ differenced data. On the differenced data we define agHH.yr2 as positive, by multiplying agHH.yr2 with -1. The same negative multiplication is applied to all other time-varying covariates.
     - A positive agHH.yr2 is effectively an agHH * year 2 (2002) dummy. This turns out to be a lexicographically correct definition.
2. Use FDestimation with the first-differenced estimation data.

IV.1.1 Main and placebo

Small number of clusters correction for CRSE: BRL (Pustejovsky and Tipton, 2018) and WCB (**?**). There are warnings on small number of unique draws in WCB when WCB weight is drawn from a Rademacher distribution. We use Webb weights as suggested by the boottest message.

```
# Estimation by main/placebo * aghh.defs * age lb * gender * demeaned/level interaction *
# with LiangZeger or Satterthwaite CRSEs.
# source(paste0(pathprogram, "PartialFile.R"))
```

```
library(clubSandwich)
clusterlevel ← "thana"
DivInto2Tables ← T
source(paste0(pathprogram0, "TabGeneric.R"))
regressors.list ← list(
  main = regressorsM,
  placebo = regressorsM2002
)
zEm.1999 ← readRDS(paste0(pathsaveThisVer, "zEm1999.rds"))
zEm.1999[, agHH0 :=  as.numeric(agHH0 > 0)]
# non ag HHs have no siblings in agriculture...this is how we defined ag HHs.
zEm.1999[survey==1999 & age ≥ 10 & age ≤ 18,
  .(AgSibM=mean(UDOldAgSibM, na.rm= T), SibM=mean(UDOldSibM)), by = agHH0]
zSm.1999 ← readRDS(paste0(pathsaveThisVer, "zSm1999.rds"))
zEp.1999 ← readRDS(paste0(pathsaveThisVer, "zEp1999.rds"))
zEp.2002 ← readRDS(paste0(pathsaveThisVer, "zEp2002.rds"))
zSp.1999 ← readRDS(paste0(pathsaveThisVer, "zSp1999.rds"))
zSp.2002 ← readRDS(paste0(pathsaveThisVer, "zSp2002.rds"))
zYp.1999 ← readRDS(paste0(pathsaveThisVer, "zYp1999.rds"))
zEp.1999[, AgeIn1999 := Age[survey == 2002] - 3, by = uniquid]
zSp.1999[, AgeIn1999 := Age[survey == 2002] - 3, by = uniquid]
samples ← c("main", "placebo")
z234 ← c("z2", "z3", "z4")
zsobj ← c("zmobj", "zpobj")
zmobj ← c("zEm.1999", "zSm.1999")[1]
# jj: 1,2 = 10-18 in 2002, 3,4 = 10-18 in 1999, 5 = 6-9 in 1999
zpobj ← c("zEp.2002", "zSp.2002", "zEp.1999", "zSp.1999", "zYp.1999")[c(1, 3)]
cohort.years.list ← list(# year age is defined
  main = 1999,  # main: use 1999 age to set age range
  placebo = c(2002, 1999)
  # placebo: use 1999 and 2002 age to set age range
  # placebo: cohorts 10-18 in 1999, 10-18 in 2002 are
  #   tested for impacts between 2002-2006
  )
cutout.years← c(2006, 1999) # year to drop in data, main = 2006, placebo 1999
# Used in "interaction with year InterYears" in results table
InterYearsList ← list(main = rep(2002, 2), placebo = rep(2006, 2))
variables.always.use ← "schoolp|Enrolled|^agHH.yr2|^agHH$|^thana$|uniqu|^UDnon|^UDfl|^UD
yrXs ← c("yr2", "yr3")
mix.reorder ← function(x, y=main.reorder.JHR)
  paste0(c(y[1], x, y[3], y[4]), collapse = "")
sub.reorder ← function(x, z, y=main.reorder.JHR)
  paste0(c(y[1], gsub(x, z, y[2]), y[3], y[4]), collapse = "")
reorder.list ← list(
    main = main.reorder.JHR
  , placebo = main.reorder.JHR
)
boxWidth ← 4
centerWidth ← 1.3
Enr.Base ← Enrchg.Base ← NULL
results ← resultsN ← vector("list", length = length(samples)) # ii
names(results) ← names(resultsN) ← samples
ii ← jj ← j ← m ← s ← 1
ii ← 2; jj ← 2
SkipLowerBound ← 40
for (ii in 1:length(samples)) {
```

```
#for (ii in 2) {
  zSobj ← get(zsobj[ii])
  regressorsS ←  regressors.list[[ii]]
  cohort.years ← cohort.years.list[[ii]]
  cutout.year ← cutout.years[ii]
  InterYears ← InterYearsList[[ii]]
  yrX ← yrXs[ii]
  var.always.use ← gsub("yr2", yrX, variables.always.use)
  reorder ← reorder.list[[ii]]
  regsnd ← rep("schoolp", length(regressorsS))
  est ← res ← vector("list", length = length(regressorsS)) # k, specification
  res ← list("LiangZeger" = res, "Satterthwaite" = res, "WildClusterBoot" = res) # cl, cl
  res ← list(res, res, res, res) # m, agHH definition
  names(res) ← aghh.defs
  res ← list(boys = res, girls = res, "boys+girls" = res) # ge, gender
  res ← list("extended" = res, "nuclear" = res) # j, nuclear, extended, extended only HHs
  res ← list("LB10" = res, "LB11" = res, "LB12" = res) # s, age lowerbound
  # res[[s]][[j]][[ge]][[m]][[clnum]][[k]] is same for each jj in zSobj: An element of res
  results0 ← resultsN0 ← vector("list", length = length(zSobj)) # jj, zE/zS sample selec
  names(results0) ← names(resultsN0) ← zSobj
  for (jj in 1:length(zSobj)) {
    resultsN0[[jj]] ← results0[[jj]] ← res
    cat("\n\n")
    print0(zSobj[jj])
    cat("\n")
    z01 ← changehyphen(get(zSobj[jj]))
      z1 = copy(z01)
      z1[, grepout("dummy[A-Z].*HH0?.yr.$", colnames(z1)) := NULL]
      # keep UDOldSib, UDhdsex, UDnonmuslim, UDflooded as undemeaned levels
      setnames(z1,
        grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1)),
        gsub("UD", "ud", grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1))))
      z1[, grepout("^UD", colnames(z1)) := NULL]
      setnames(z1,
        grepout("^ud", colnames(z1)),
        gsub("ud", "UD", grepout("^ud", colnames(z1))))
      for (s in 1:3)
      #  choice of age cutoff
      {
        s0 ← (10:12)[s]
        i ← paste0("older", s0)
        # latter panel: s ≤ age < maxAge in 1999/2002
        iiid ← unique(z1[
          s0 ≤ eval(parse(text = paste0("AgeIn", cohort.years[jj]))) &
          eval(parse(text = paste0("AgeIn", cohort.years[jj]))) ≤ maxAge
          , uniquid])
        # Keep only former complete panel and respective years.
        z2 ← z1[uniquid %in% iiid & survey != cutout.year, ]
        z2[, grepout("exist|In", colnames(z2)) := NULL]
        z2 ← dropunbalanced(z2, returnDT = T)
        # z3: nuclear family
        z3 ← z2[sd == 1, ]
        z3 ← dropunbalanced(z3, returnDT = T)
        z4 ← z2[sd != 1, ]
        z4 ← dropunbalanced(z4, returnDT = T)
        cat("\n\nage cutoff:", i, "\n\n")
```

```
    print(table0(z1[, .(survey, agegroup = (uniquid %in% iiid))]))
    cat("dimension of original z1:", dim(z1), "\n")
    cat("dimension of z2 after keeping only", s0, "-", maxAge, "year olds:",
    dim(z1)[1], "==>", dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], "\n")
    cat("dimension of z2 after keeping only balanced portion:",
    dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], "==>", dim(z2)[1], "\n")
    cat("number of individuals in the panel:")
    print(table(table(z2[, uniquid])))
    cat("dimension of z3 after keeping only nuclear members:", dim(z3), "\n\n")
    cat("first-diffference estimator\n")
    for (j in 1:2) {
      zz00 ← get(z234[j])
      setkey(zz00, uniquid, survey)
      zz00[, survey := NULL]
      for (ge in 1:3)
      {
        if (ge == 1) {
          zz0 = copy(zz00[sex ≤ 0, ])
          zz0[, grepout("^sex", colnames(zz0)) := NULL]
        } else  if (ge == 2){
          zz0 = copy(zz00[sex > 0, ])
          zz0[, grepout("^sex", colnames(zz0)) := NULL]
        } else zz0 = copy(zz00)
        if (nrow(zz0) < SkipLowerBound) {
          cat("Skipped due to small number of obs:", nrow(zz0), "\n")
          next
        }
        for (m in 1:length(aghh.defs))
        {
          zz = copy(zz0)
          # Use a particular agHH definition.
          # change the name of current ag HH (agHH0, isagHH, ocagHH) to "agHH"
          setnames(zz,
            grepout(aghh.defs[m], colnames(zz))
            ,
            gsub(aghh.defs[m], "agHH", grepout(aghh.defs[m], colnames(zz)))
          )
          # drop other ag HH definition
          zz[, grepout(paste0(aghh.defs.regexpr[-m], collapse = "|"), colnames(zz)) :=
          zz[, grepout(paste0("^", aghh.defs[-m], "$", collapse = "|"), colnames(zz))
          ns ← NULL
          resul ← est ← vector("list", length = length(regressorsS))
          # First run: Estimation loop for getting N (number of obs) and first-differe
          for (k in 1:length(regressorsS))
          {
            if (s0 == 10 & j == 1 & m == 1) {
              cat(paste0("(", k, ")\n"))
              print0(paste0("+ ",
                grepout(paste(regressorsS[k], sep = "", collapse = "|"), colnames(zz)
            }
            regrsr ← paste(regressorsS[1:k], sep = "", collapse = "|")
            # pick covariates for k-th regression:
            #  paste " ..|.." & "..|.." with collapse = "|" then use it in grepout
            covariates ← grepout(
              paste(var.always.use, regrsr, sep = "|", collapse = "|")
              , colnames(zz))
```

```
            #if (grepl("zEp.2|zSp", zSobj[jj]))
            # zEp.2002: UDOldSibF is all 0, UDOldSibM is all 0 but 2 obs, so drop them
            #  covariates ← covariates[!grepl("OldSib", covariates)]
            covariates ← covariates[!grepl("^UD|^pc.*[dt]$", covariates)] # drop real
            zr ← zz[, covariates, with = F]
            # source("EstimatorFunctions.R")
            rs ← DID1(data.frame(zr), regressand = regsnd[k],
              clusterstring = clusterlevel, group = "^uniquid$",
              NotToBeDifferenced = "^agHH$|^UD|^pc.*[dt]$",
              intercept = T,
              TimeVariant = "program|age2|meanY",
              PeriodToDropForLC = 2,
              # opposite.time.order: set to F to get t-(t-1) difference.
              # (to be used in FDestimation in the later chunk)
              # Under F, diff(LHS) = -1 if schoolp 1 (1999) -> 0 (2002).
              # agHH.yr2 is demeaned interaction (of agHH and yr2=1999 dummies),
              #   275 of obs (agHH==0) =  .59 because   -.39  (1999)  ->
.20 (2002)
              #   407 of obs (agHH==1) = -.401 because  .266 (1999) -> -.135 (2002)
              # In diff data, ag HH who dropped out: LHS = -1, agHH.yr2 = -.4 => OLS
              # A larger drop in LHS (more negative) for agHH == 1 dummy
              # needs agHH.yr2 to be defined as a positive value.
              # Similarly, sex (female) == 1 gives diff(sex.yr2) < 0 for females in t
              # X.yr2 needs to be defind as positive. To do so, in FDestimation,
              # one needs to set opposite.time.order = F & all time variant covariate
              # to be X.yr2 := -1 * X.yr2 [so diff(agHH.yr2) > 0].
              opposite.time.order = F, # Use t - (t-1) diff
              TurnFactorToNumeric = T, returnV = T, print.messages = F)
            resul[[k]] ← list(level.data = rs$level, diff.data = rs$diff, est = rs$es
            est[[k]] ← round(rs$est[, -3], 5)
            ns ← c(ns, rs$N)
          }
          if (!any(grepl("latrine.agHH.yr|water.agHH.yr", rownames(est[[k]])))) {
            cat(zSobj[jj], "agelb", s0, z234[j], c("boys", "girls", "boys+girls")[ge],
              aghh.defs[m], "\n")
            cat("Skipped, some covariates cannot be used due to too small number of ob
            next
          }
          # resultsN0: raw results (not under same obs)
          resultsN0[[jj]][[s]][[j]][[ge]][[m]] ← resul
          # First run estimation data is stored in resul.
          # Pick the last item of data list which has the least num of obs.
          # (This is data to use for all specifications.)
          # zidd: Differenced data of the last item in resul.
          # zid2: Level data to reconstruct and demean interaction terms of covariates
            # Reconstruct covariates and take demeaned interactions are done in the fi
            source(paste0(pathprogram0, "ReconstructCovariatesForDemeanedInteractions
          zidd[, tee := 1]
          enrr ← zid[, .(EnRate = mean(Enrolled), Num = .N), by = .(agHH, tee)]
          Enr.Base ← rbind(Enr.Base,
            cbind(zSobj[jj], c("all", "direct", "exonly")[j], c("default", aghh.defs[-
              s0, enrr),
            use.names = F
          )
          # Save mean enrollment rate changes
          # x: agHH, y: nonagHH
```

```
        if (any(grepl("LHS", colnames(zidd)))) setnames(zidd, "LHS", "Enrolled")
        ttestE <- t.test(zidd[agHH == 1, Enrolled], zidd[agHH == 0, Enrolled])
        Enrchg.Base <- rbind(Enrchg.Base,
          cbind(
            zSobj[jj], c("all", "direct", "exonly")[j], c("default", aghh.defs[-1
            s0, -diff(unlist(ttestE["estimate"])), # -diff = -(y - x) = AgHH - nor
            t(as.numeric(unlist(lapply(ttestE[c("estimate", "conf.int", "p.value")
            )
          )
        #for (cl in c("LiangZeger", "satterthwaite", "wildclusterboot"))
        for (cl in c("LiangZeger", "satterthwaite"))
        {
          Rs <- ns <- NULL
          est <- vector("list", length(regressorsS))
          UseSmallClusterCorrection <- cl
          cat("\n\n###", cl, "###\n\n")
          #if (grepl("Yp|S", zSobj[jj]) & grepl("wild", cl) & any(grepl("Sib", colna
          if (grepl("Yp|S", zSobj[jj]) & grepl("wild", cl)) {
            cat("fwildclusterboot fails in Julia for zSm.1999, zYp.1999 because Sib'
              "covariates are near zero. Skip to next.\n\n" )
            next
          }
          for (k in 1:length(regressorsS))
          {
            # Julia fails for specification 6 in zEm.1999, zEp.1999, zEp.2002
            if (grepl("wild", cl) & k == 6) next
            #if (ii == 1 & grepl("S", zSobj[jj]) & s >= 1 & m == 4 & k >=
5 & grepl("wild", cl))
            #zSm1999FDOlder10Occ
            #  next
            regrsr <- paste(regressorsS[1:k], sep = "", collapse = "|")
            covariates <- grepout(paste(var.always.use, regrsr, sep = "|"),
              colnames(zidd))
            # var.always.use has level variables used only for destat purpose, so dr
            covariates <- covariates[!grepl("^UD|^pc.*[dt]$", covariates)]
            # Commented out: Aug 2, 2023 Start
            #if (grepl("zEp|zSp", zSobj[jj]))
            #  covariates <- covariates[!grepl("OldSib", covariates)]
            # Commented out: Aug 2, 2023 End
            zr <- zidd[, c(covariates, "tee"), with = F]
          # source("EstimatorFunctions.R")
            rsl <- DID2(dX0 = zr, Regressand = "Enrolled",
                    Group = "^uniquid$", TimeVar = "tee", Cluster = "thana",
                    TimeVariant = "program|age2|meanY|yield",
                    opposite.time.order = F, Exclude = "^agHH$", intercept = T,
                    SmallClusterCorrection = UseSmallClusterCorrection,
                    WCBType = "webb",
                    return.V = T, print.messages = T)
            if (grepl("satter", UseSmallClusterCorrection)) {
              # Correct format of estimation results for clubSandwich outputs
              rsl$est <- as.data.frame(rsl$est)
              rsl$est <- rsl$est[, -1]
              colnames(rsl$est)[c(1:2, 4:5)] <- c("Estimate", "Std. Error", "Satt. I
            } else if (grepl("wild", UseSmallClusterCorrection)) {
              # Correct format of estimation results for wildclusterboot outputs
              rsl$est <- as.data.frame(rsl$est)
```

```
          colnames(rsl$est)[c(1:2, 4)] ← c("Estimate", "Std. Error", "Pr(>|t|)"
        } else {
          # Correct format of estimation results for Liang-Zeger outputs
          rsl$est ← as.matrix(rsl$est)
          colnames(rsl$est)[c(1:2, 4)] ← c("Estimate", "Std. Error", "Pr(>|t|)"
        }
        # results0: results under same obs
        clnum ← 1
        if (cl == "satterthwaite") clnum ← 2 else if (cl == "wildclusterboot")
3
        results0[[jj]][[s]][[j]][[ge]][[m]][[clnum]][[k]] ←
          list(est = rsl$est, ci = rsl$CI,
            df = rsl$reg$df, reg = rsl$reg,
            #level.data = leveldata[, gsub("Enrolled", "LHS", covariates), with
            level.data = zid,
            diff.data = rsl$data)
        est[[k]] ← round(rsl$est[, -3], 5)
        # Sign reversion is done before FDestimation. Below is redundant.
        # Take19992002Diff is set to F in "read data chunk" at the beginning
        # If (t-1) - t difference (opposite time order), signs of yrX cross term
        #if (Take19992002Diff) est[[k]][grepout("Inter|yr.$", rownames(est[[k]])
        #  -1 * est[[k]][grepout("Inter|yr.$", rownames(est[[k]])), c(1, 3)]
        Rs ← c(Rs, summary(rsl$nonrobust)$adj.r)
        ns ← c(ns, rsl$N)
      } # k: reg specification
      assign(paste0("addthis", j),
        rbind("\\hspace{.5em}thana dummies" =
          paste0("\\mbox{", c(rep("", length(regressorsS)-1), rep("yes", 1)),
         "$\\bar{R}^{2}$" = gsub("^0", "", formatC(Rs, digits = 4, format = "f
         "n" = ns,
         "control mean at baseline" =
           rep(formatC(enrr[tee == 1 & agHH == 0, EnRate],
             digits = 2, format = "f"), length(regressorsS)),
         "control mean at follow up" =
           rep(formatC(enrr[tee == 2 & agHH == 0, EnRate],
             digits = 2, format = "f"), length(regressorsS)),
         "treated mean at baseline" =
           rep(formatC(enrr[tee == 1 & agHH == 1, EnRate],
             digits = 2, format = "f"), length(regressorsS)),
         "treated mean at follow up" =
           rep(formatC(enrr[tee == 2 & agHH == 1, EnRate],
             digits = 2, format = "f"), length(regressorsS)),
         "raw DID" =
           rep(formatC(
           enrr[tee == 2 & agHH == 1, EnRate] - enrr[tee == 1 & agHH == 1, En
           -(enrr[tee == 2 & agHH == 0, EnRate] - enrr[tee == 1 & agHH == 0, E
             digits = 2, format = "f"), length(regressorsS))
         )
      )
      INformat ← "LZ"
      OUTformat ← "ep"
      if (cl == "wildclusterboot") {
        INformat ← "wcb"
        OUTformat ← "epc"
      } else if (cl == "satterthwaite") {
        INformat ← "satt"
```

```
      OUTformat <- "epc"
      OUTformat <- "esDoF"
    }
    # Incorporate CI/DoF in table
    # reorder needs to be corrected
    # Tab.Est is in tabulate_est.R
    # source("tabulate_est.R")
    tbest <- Tab.Est(est, reorder, output.in.list = T,
      Informat = INformat, Outformat = OUTformat,
      AddStars = T,
      CIInTinySize = T,
      LastLineVariables = c("lowMeanY$", "kut.*e.yr.$"),
      InterWithTexts = paste0(InterYears[jj], c("", "*agricultural household")
      DeleteRowStrings = "^p\\$|^se\\$|^CI\\$|^DoF\\$",
      addbottom = get(paste0("addthis", j)), subst.table = sbt)
      # Split a table in to 2 tables
    if (DivInto2Tables) {
      # Split a table in to 2 tables
      if (grepl("e[ps]$", OUTformat))
        NumRowsAfterEst <- 2 else
        NumRowsAfterEst <- 3
      tbest11 <- tbest[[1]][1:(grep("inter.*200..*ag", tbest[[1]])-NumRowsAf
      tbest12 <- tbest[[2]][1:(grep("inter.*200..*ag", tbest[[1]])-NumRowsAf
      tbest21 <- tbest[[1]][grep("inter.*200..*ag", tbest[[1]]):length(tbest[[
      tbest22 <- tbest[[2]][grep("inter.*200..*ag", tbest[[1]]):length(tbest[[
      iispace11 <- which(
        grepl(".", tbest11) &
        !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest11
        )
      iispace12 <- iispace11[seq(2, length(iispace11), 2)]
      iispace21 <- which(
        grepl(".", tbest21) &
        !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest21
        )
      # drop last rows of tbest2 to shrink row space
      iispace21 <- iispace21[iispace21 < max(grep("toilet|water", tbest21))]
      iispace22 <- iispace21[seq(2, length(iispace21), 2)]
      if (grepl("e[ps]$", OUTformat)) {
      # ep, es: 2 rows per estimate
        AdjustLineSkipRows1 <- iispace11
        AltColorRows1 <- c(iispace12, iispace12+1)
        AdjustLineSkipRows2 <- iispace21
        AltColorRows2 <- c(iispace22, iispace22+1)
      } else {
      # epc, esc, satt: 3 rows per estimate
        AdjustLineSkipRows1 <- c(iispace11, iispace11+1)
        AltColorRows1 <- c(iispace12, iispace12+1, iispace12+2)
        AdjustLineSkipRows2 <- c(iispace21, iispace21+1)
        AltColorRows2 <- c(iispace22, iispace22+1, iispace22+2)
      }
      tbl1 <- saveEstTable(tbest12, tbest11, boxWidth,
        hleft = "\\hfil\\scriptsize$", hright = "$",
        hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
        delimiterline = NULL, adjustlineskip = "-0.7ex",
        adjlskiprows = AdjustLineSkipRows1,
        alternatecolorManual = AltColorRows1,
```

```
    alternatecolorManualColor = "gray80")
  tbl2 ← saveEstTable(tbest22, tbest21, boxWidth,
    estimationspacelast = grep("thana dummi", tbest21),
    hleft = "\\hfil\\scriptsize$", hright = "$",
    hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
    delimiterline = NULL, adjustlineskip = "-0.7ex",
    adjlskiprows = AdjustLineSkipRows2,
    alternatecolorManual = AltColorRows2,
    alternatecolorManualColor = "gray80")
  # Modify "interaction with ..." lines to use multicolumn
  InterRows1 ← grep("nteract.*\\d", tbl1)
  InterRows2 ← grep("nteract.*\\d", tbl2)
  for (ir in InterRows1) {
    if (any(grepl("rowcolor", tbl1[ir])))
      tbl1[ir] ←
        # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
        # For rows with rowcolor command at the end
        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
          gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
          #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
          gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
          )
          ) else
        # For rows without rowcolor command at the end
      tbl1[ir] ←
        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
          gsub("(\\\\\\\\.*ex.$)", "}\\1",
          #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
          gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
          )
          )
    # \multicolumn{5}{l}{\makebox[Xcm]{inter with A}} \\\rowcolor{}
    # => \multicolumn{5}{l}{\makebox[10cm]{\textit{inter with A}\hfill}}\\
    tbl1[ir] ← gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl1[ir])
    tbl1[ir] ← gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl1[ir])
    tbl1[ir] ← gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl1[ir])
  }
  for (ir in InterRows2) {
    if (any(grepl("rowcolor", tbl2[ir])))
      tbl2[ir] ←
        # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
        # For rows with rowcolor command at the end
        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
          gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
          #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
          gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
          )
          ) else
        # For rows without rowcolor command at the end
      tbl2[ir] ←
        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
          gsub("(\\\\\\\\.*ex.$)", "}\\1",
          #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
          gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
          )
          )
```

```
        tbl2[ir] <- gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl2[ir])
        tbl2[ir] <- gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl2[ir])
        tbl2[ir] <- gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl2[ir])
      }
      clCap <- paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100))
      # file path to saved table
      pathtosavedtable1 <- TabFilePathF(
        FolderPath = pathsaveThisVer,
        Sample = gsub("\\.", "", zSobj[jj]),
        AgeCutoff = paste0("Older", (10:12)[s]),
        HHType = paste0(c("Boys", "Girls", "")[ge],
          c("", "Nuclear", "ExOnly")[j]),
        AgHHDef = c("", "Is", "Hd", "Occ")[m],
        CRSEMethod = paste0(clCap, 1)
        )
      pathtosavedtable2 <- TabFilePathF(
        FolderPath = pathsaveThisVer,
        Sample = gsub("\\.", "", zSobj[jj]),
        AgeCutoff = paste0("Older", (10:12)[s]),
        HHType = paste0(c("Boys", "Girls", "")[ge],
          c("", "Nuclear", "ExOnly")[j]),
        AgHHDef = c("", "Is", "Hd", "Occ")[m],
        CRSEMethod = paste0(clCap, 2)
        )
      write.tablev(tbl1, pathtosavedtable1, colnamestrue = F, rownamestrue = F
      write.tablev(tbl2, pathtosavedtable2, colnamestrue = F, rownamestrue = F
      cat("Table saved as", pathtosavedtable1, "\n")
      cat("Table saved as", pathtosavedtable2, "\n")
    } else {
      # iispace2, iispace2+1, iispace2+2: (group of) rows to be coloured
      iispace <- which(
        # rows with \hspace{.5em} and "non-estimate" rows (R2, n, ...)
        grepl(".", tbest[[1]]) &
        !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest[[
        )
      iispace2 <- iispace[seq(2, length(iispace), 2)]
      # iispace, iispace+1: rows i to shrink rowspace between row i+1 to group
      # adjlskiprows = c(iispace, iispace+1)
      tbl <- saveEstTable(tbest[[2]], tbest[[1]], boxWidth,
        estimationspacelast = grep("thana dummi", tbest[[1]]),
        hleft = "\\hfil\\tiny$", hright = "$",
        hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
        delimiterline = NULL, adjustlineskip = "-0.5ex",
        adjlskiprows = c(iispace, iispace+1),
        alternatecolorManual = c(iispace2, iispace2+1, iispace2+2),
        alternatecolorManualColor = "gray80")
      if (grepl("Liang", cl))
        tbl <- saveEstTable(tbest[[2]], tbest[[1]], boxWidth,
          estimationspacelast = grep("thana dummi", tbest[[1]]),
          hleft = "\\hfil\\tiny$", hright = "$",
          hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
          delimiterline = NULL, adjustlineskip = "-0.5ex",
          adjlskiprows = c(iispace),
          alternatecolorManual = c(iispace2, iispace2+1),
          alternatecolorManualColor = "gray80")
      # Modify "interaction with ..." lines to use multicolumn
```

```
                  InterRows ← grep("nteract.*\\d", tbl)
                  for (ir in InterRows)
                    if (any(grepl("rowcolor", tbl[ir])))
                      tbl[ir] ←
                        # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
                        # rows with rowcolor command at the end
                        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
                          gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
                          gsub("\\\\hfill", "}", gsub("\\&", "", tbl[ir]))
                          )
                          ) else
                        # rows without rowcolor command at the end
                        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
                          gsub("(\\\\\\\\.*ex.$)", "}\\1",
                          gsub("\\\\hfill", "}", gsub("\\&", "", tbl[ir]))
                          )
                          )
                  pathtosavedtable ← TabFilePathF(FolderPath = pathsaveThisVer,
                    Sample = gsub("\\.", "", zSobj[jj]),
                    AgeCutoff = paste0("Older", (10:12)[s]),
                    HHType = paste0(c("Boys", "Girls", "")[ge],
                      c("", "Nuclear", "ExOnly")[j]),
                    AgHHDef = c("", "Is", "Hd", "Occ")[m],
                    CRSEMethod = paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100)))
                  write.tablev(tbl, pathtosavedtable, colnamestrue = F, rownamestrue = F,
                  cat("Table saved as", pathtosavedtable, "\n")
                } # if end: DivInto2Tables
              } # cl: SE clustering option
            }  # m: ag HH definitions
          } # ge: gendered or both gender
      }  # s: lowerbound age cutoffs (10, 11, 12)
    }  # j: all children or direct offspring
  }  # jj: zE / zS sample selection
  results[[ii]] ← results0
  resultsN[[ii]] ← resultsN0
}  # ii: main / placebo samples
# results: Results under same obs with BRL (satterthwaith dof) information
#    [[ii]][[jj]][[s]][[j]][[ge]][[m]][[clnum]][[k]]
# resultsN: Results under varying number of obs between specifications
#    [[ii]][[jj]][[s]][[j]][[ge]][[m]][[k]]
# https://cran.r-project.org/web/packages/qs/vignettes/vignette.html
library(qs)
qsave(results, paste0(pathsaveThisVer, "DID_MainResults.qs"))
qsave(resultsN, paste0(pathsaveThisVer, "DID_N_MainResults.qs"))
# results ← qread(paste0(pathsaveThisVer, "DID_MainResults.qs"))
Enr.Base ← data.table(Enr.Base)
Enrchg.Base ← data.table(Enrchg.Base)
setnames(Enrchg.Base, c("sample", "HHtype", "agHHdef", "demean", "age", "AgNonag",
  "agHH", "nonagHH", "lb95", "ub95", "pvalue")[-4])
setnames(Enr.Base, c("sample", "HHtype", "agHHdef", "demean", "age", "agHH", "tee", "rate"
qsave(Enr.Base, paste0(pathsaveThisVer, "Enr.Base.qs"))
qsave(Enrchg.Base, paste0(pathsaveThisVer, "Enrchg.Base.qs"))

library(ggplot2)
Res ← qread(paste0(pathsaveThisVer, "TabulatedMainSelectedResults1.qs"))
re ← Res[grepl("Em", data) & grepl("4|5|6|7", reg) & grepl("B", inference)
```

```
  & agelb == 10 & grepl("all|dir", HHtype), ]
re ← re[grepl("ma", coeff), ]
setkey(re, data, coeff, reg)
re[, hr := paste0(HHtype, "-", reg)]
re[, yintercept := 0]
g ← ggplot(data = re,
    aes(x = demean, y = beta, group = hr, fill = hr, shape = hr, colour = hr)) +
  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
    stat = "identity", fatten = 1.75,
    position = position_dodge(width = .5)) +
  scale_shape_manual(values = c(0:6, 8))+
  facet_grid(coeff ~ gender, scales = "free_y")+
  ThisThemeEnd+
  #scale_y_continuous(limits = c(-1, 1)/2)+
  xlab("interaction terms") +
  labs(color  = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 2),
    fill = guide_legend(title = "regression specifications", nrow = 2),
    shape = guide_legend(title = "regression specifications", nrow = 2)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "MainImpactsByGenderByDemeanAgelb10.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever ← dev.off()
```

```
library(ggplot2)
Res ← qread(paste0(pathsaveThisVer, "TabulatedMainSelectedResults1.qs"))
re ← Res[grepl("Ep.1", data) & grepl("4|5|6|7", reg) & grepl("B", inference)
  & agelb == 10 & grepl("all|dir", HHtype), ]
re ← re[grepl("ma", coeff), ]
setkey(re, data, coeff, reg)
re[, hr := paste0(HHtype, "-", reg)]
re[, yintercept := 0]
g ← ggplot(data = re,
    aes(x = demean, y = beta, group = hr, fill = hr, shape = hr, colour = hr)) +
  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
    stat = "identity", fatten = 1.75,
    position = position_dodge(width = .5)) +
  scale_shape_manual(values = c(0:6, 8))+
  facet_grid(coeff ~ gender, scales = "free_y")+
  ThisThemeEnd+
  #scale_y_continuous(limits = c(-1, 1)/2)+
  xlab("interaction terms") +
  labs(color  = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 2),
    fill = guide_legend(title = "regression specifications", nrow = 2),
    shape = guide_legend(title = "regression specifications", nrow = 2)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
```

```
  paste0(pathsaveThisVer, "PlaceboImpactsByGenderByDemeanAgelb10.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever ← dev.off()

library(ggplot2)
Res ← qread(paste0(pathsaveThisVer, "TabulatedMainSelectedResults1.qs"))
re ← Res[grepl("Ep.2", data) & grepl("4|5|6|7", reg) & grepl("B", inference)
   & agelb == 10 & grepl("all|dir", HHtype) & grepl(0, agdef), ]
re ← re[grepl("^agHH.yr.$|Sib.*H.*yr.$", Coef), ]
setkey(re, data, coeff, reg)
re[, hr := paste0(HHtype, "-", reg)]
re[, yintercept := 0]
g ← ggplot(data = re,
    aes(x = demean, y = beta, group = hr, fill = hr, shape = hr, colour = hr)) +
  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
    stat = "identity", fatten = 1.75,
    position = position_dodge(width = .5)) +
  scale_shape_manual(values = c(0:6, 8))+
  facet_grid(coeff ~ gender, scales = "free_y")+
  ThisThemeEnd+
  #scale_y_continuous(limits = c(-1, 1)/2)+
  xlab("interaction terms") +
  labs(color = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 2),
    fill = guide_legend(title = "regression specifications", nrow = 2),
    shape = guide_legend(title = "regression specifications", nrow = 2)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "Placebo2ImpactsByGenderByDemeanAgelb10.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever ← dev.off()

library(qs)
Enr.Base ← qread(paste0(pathsaveThisVer, "Enr.Base.qs"))
Enrchg.Base ← qread(paste0(pathsaveThisVer, "Enrchg.Base.qs"))

results ← qread(paste0(pathsaveThisVer, "DID_SubsampleAgeGroupGenderResults.qs"))
names(results[[1]][[1]])
zsobj ← c("zEm.1999", "zEp.2002", "zEp.1999", "zYp.1999")[-4]
# results[[ii]][[ge]][[m]][[j]][[gg]][[ag]][[cl]][[k]] levels.
# zsobj ← c("zEm.1999", "zEp.2002", "zEp.1999", "zYp.1999"): ii = 1, 2, 3, 4.
# ii = data, m = agHHdef, ge = gender, j = HH type, gg = AgeGroup1,
#  ag = age groups , cl = LiangZeger/satterthwaite
# age groups
AGEgrouping ← c("agewise", "AgeGroup1", "AgeGroup2", "AgeGroup3")[3:4]
agewise ← as.list(6:18); names(agewise) ← putzeroontop(6:18)
AgeGroup1 ← list(pri=6:10, jsec=11:13, sec=14:15, hsec=16:17, coll=18)
AgeGroup2 ← list(pri=6:10, sec=11:17, coll=18)
AgeGroup3 ← list(young=6:9, junior=10:15, senior=16:18)
names(results[[1]][[ge]][[m]][[j]][[gg]])
Res2 ← NR2 ← Enr2 ← NULL
```

```
for (ii in 1:length(zsobj)) {
  thisdata ← zsobj[[ii]]
  for (ge in 1:3) {
      for (m in 1:4) {
        for (j in 1:2) {
          for (gg in 1:length(AGEgrouping)) {
            AGEgroup ← get(AGEgrouping[gg])
            for (ag in 1:length(AGEgroup)) {
              for (clnum in 1:2) {
                estobj ← results[[ii]][[ge]][[m]][[j]][[gg]][[ag]][[clnum]]
                CIs ← lapply(estobj, "[[", "ci")
                if (length(CIs) == 0 || is.null(CIs[[1]])) {
                  cat("Skipped due to no estimation:",
                    paste0("ii==", zsobj[ii]),
                    paste0("ge==", genderitems[ge]),
                    paste0("m==", aghh.defs[m]),
                    paste0("j==", c("all", "direct")[j]),
                    paste0("gg==", AGEgrouping[gg]),
                    paste0("ag==", AGEgroup[ag]), "\n")
                  next
                }
                CIs ← lapply(CIs, data.table)
                CIs ← lapply(1:length(CIs), function(i) CIs[[i]][, reg := i])
                CIs ← rbindlist(CIs, use.names = T, fill = T)
                # if clnum == 1, estobj only contains CIs
                if (clnum == 1) {
                  esp ← lapply(estobj, "[[", "est")
                  esp ← lapply(esp, as.matrix)
                  esprn ← unlist(lapply(esp, rownames))
                  esp ← lapply(esp, function(x) as.data.table(x[, ]))
                  dfs ← lapply(lapply(estobj, "[[", "est"), function(x) attributes(x)$df
                  esp ← lapply(1:length(esp), function(i) esp[[i]][, df := dfs[[i]]])
                  esp ← rbindlist(esp, use.names = T, fill = T)
                  if (any(grepl("z value", colnames(esp)))) esp[, "z value" := NULL]
                  CIs ← cbind(Coef = esprn, esp, CIs)
                  setnames(CIs, c("Coef", "beta", "SE", "t", "p_val", "df", "CI_L", "CI_U
                  CIs[, t := NULL]
                }
                CIs[, inference := c("LZ", "BRL")[clnum]]
                CIs[, group := names(results[[ii]][[ge]][[m]][[j]][[gg]])[ag]]
                CIs[, agegroup := names(results[[ii]][[ge]][[m]][[j]])[gg]]
                CIs[, agdef := aghh.defs[m]]
                CIs[, HHtype := c("all", "direct", "exonly")[j]]
                CIs[, gender := genderitems[ge]]
                CIs[, data := thisdata]
                CIs[, p_val := round(p_val, 6)]
                CIs[, SE := round(SE, 8)]
                setcolorder(CIs, c("data", "gender", "agdef", "HHtype", "demean",
                  "agegroup", "group", "Coef", "beta", "SE", "df", "p_val", "CI_L", "CI_U"
                Res2 ← rbindlist(list(Res2, CIs), use.names = F)
                # n and R2
                nR ← lapply(lapply(estobj, "[[", "reg"),
                  function(x) t(c(length(summary(x)$res), summary(x)$r.sq)))
                nR ← lapply(nR, data.table)
                nR ← lapply(1:length(nR), function(i) nR[[i]][, spec := i])
                nR ← rbindlist(nR, use.names = T, fill = T)
```

```
                nR[, gender := genderitems[ge]]
                setnames(nR, c("n", "R", "spec", "gender"))
                nR[, n := formatC(n, digits = 0, format = "f")]
                nR[, R := formatC(R, digits = 4, format = "f")]
                # number of agHHs
                nR2 ← unique(unlist(lapply(lapply(estobj, "[[", "diff.data"),
                  function(x) sum(x[, agHH]>0))))
                nR[, Yes := formatC(nR2, digits = 0, format = "f")]
                nR[, inference := c("LZ", "BRL")[clnum]]
                nR[, group := names(results[[ii]][[ge]][[m]][[j]][[gg]])[ag]]
                nR[, agegroup := names(results[[ii]][[ge]][[m]][[j]])[gg]]
                nR[, agdef := aghh.defs[m]]
                nR[, HHtype := c("all", "direct", "exonly")[j]]
                nR[, data := thisdata]
                NR2 ← rbindlist(list(NR2, nR), use.names = F)
                # treated and control means
                zid ← estobj[[1]][["level.data"]]
                zidd ← estobj[[1]][["diff.data"]]
                zid ← zid[uniquid %in% zidd[, uniquid], ]
                zid[eval(parse(text=grepout("agHH$", colnames(x)))) > 0, agHH := 1L]
                zid[eval(parse(text=grepout("agHH$", colnames(x)))) < 0, agHH := 0L]
                zid[, tee := 1:.N, by = uniquid]
                if (any(grepl("Enrolled", colnames(zid)))) setnames(zid, "Enrolled", "scho
                enr ← zid[, .(EnRate = mean(schoolp), Num = .N), by = .(agHH, tee)]
                enr[, inference := c("LZ", "BRL")[clnum]]
                enr[, group := names(results[[ii]][[ge]][[m]][[j]][[gg]])[ag]]
                enr[, agegroup := names(results[[ii]][[ge]][[m]][[j]])[gg]]
                enr[, HHtype := c("all", "direct", "exonly")[j]]
                enr[, agdef := aghh.defs[m]]
                enr[, gender := genderitems[ge]]
                enr[, data := thisdata]
                Enr2 ← rbindlist(list(Enr2, enr), use.names = F)
              } # clnum
            } # ag
          } # gg
        } # j
      } # m
    } # ge
} # ii
setcolorder(Res2, c("data", "gender", "agegroup", "group",  "HHtype", "reg", "agdef",
  grepout("bet|SE|df|CI|^p", colnames(Res2))))
Res2[, agdef := factor(agdef)]
Res2[, gender := factor(gender)]
Res2[, agegroup := factor(agegroup)]
Res2[, reg := factor(reg)]
Res2[, Coef := factor(Coef)]
Res2[, HHtype := factor(HHtype)]
Res2[, inference := factor(inference)]
Res2[, data := factor(data)]
Res2[, gender := factor(gender, levels = genderitems)]
maxageinGroup ← max(as.numeric(as.character(unique(Res2[, group]))), na.rm = T)
Res2[, group := factor(group, levels = c("pri", "sec", "young", "junior", "senior", "coll"
Res2[, yintercept := 0]
qsave(Res2, paste0(pathsaveThisVer, "TabulatedMainResults2.qs"))
qsave(Enr2, paste0(pathsaveThisVer, "TabulatedMainResultsEnr2.qs"))
qsave(NR2, paste0(pathsaveThisVer, "TabulatedMainResultsNR2.qs"))
```

```
library(qs)
AddStar ← T
results1 ← qread(paste0(pathsaveThisVer, "DID_MainResults.qs"))
results2 ← qread(paste0(pathsaveThisVer, "DID_SubsampleAgeGroupGenderResults.qs"))
# results1[[ii]][[jj]][[s]][[j]][[ge]][[m]][[clnum]][[k]]
# cl: c("LiangZeger", "satterthwaite", "wildclusterboot")
# at k=4: program is added to covariates
# ii=2, jj = 1 is zEp.2002, dd = 2 is level interactions
# results2[[ii]][[ge]][[m]][[j]][[gg]][[ag]][[cl]][[k]]
## for results1,
zsobj ← c("zmobj", "zpobj")
zmobj ← c("zEm.1999", "zSm.1999")[1]
zpobj ← c("zEp.2002", "zSp.2002", "zEp.1999", "zSp.1999", "zYp.1999")[c(1, 3)]
samples ← c("main", "placebo")
z234 ← c("z2", "z3", "z4")
zsobj ← c("zmobj", "zpobj")
zmobj ← c("zEm.1999", "zSm.1999")[1]
zpobj ← c("zEp.2002", "zSp.2002", "zEp.1999", "zSp.1999")[c(1, 3)]
EstGen ← NR ← Enr ← NULL
results ← results1
for (ii in 1:2) {
  zSobj ← get(zsobj[[ii]])
  for (jj in 1:length(zSobj)) {
    thisdata ← zSobj[[jj]]
    for (s in 1:3) {
      for (j in 1:2) {
        for (ge in 1:3) {
          for (m in 1:4) {
            for (clnum in 1:2) {
              # cl: 1: LZ, 2: satterthwaite
              estGen1 ← results[[ii]][[jj]][[s]][[j]][[ge]][[m]][[clnum]]
              if (all(unlist(lapply(estGen1, is.null)))) next
              estGen ← lapply(estGen1, "[[", "ci")
              estGen ← lapply(estGen, data.table)
              estGen ← lapply(1:length(estGen), function(i) estGen[[i]][, reg := i])
              estGen ← rbindlist(estGen, use.names = T, fill = T)
              # if clnum == 1, estGen only contain CIs
              if (clnum == 1) {
                esp ← lapply(estGen1, "[[", "est")
                esp ← lapply(esp, as.matrix)
                esprn ← unlist(lapply(esp, rownames))
                esp ← lapply(esp, function(x) as.data.table(x[, ]))
                dfs ← lapply(lapply(estGen1, "[[", "est"), function(x) attributes(x)$df)
                esp ← lapply(1:length(esp), function(i) esp[[i]][, df := dfs[[i]]])
                esp ← rbindlist(esp, use.names = T, fill = T)
                if (any(grepl("z value", colnames(esp)))) esp[, "z value" := NULL]
                estGen ← cbind(Coef = esprn, esp, estGen)
                setnames(estGen, c("Coef", "beta", "SE", "t", "p_val", "df", "CI_L", "CI_
                estGen[, t := NULL]
              }
              estGen[, p_val := round(p_val, 6)]
              estGen[, SE := round(SE, 8)]
              estGen[, inference := c("LZ", "BRL")[clnum]]
              estGen[, gender := genderitems[ge]]
              estGen[, agdef := aghh.defs[m]]
              estGen[, agelb := c(10:12)[s]]
```

```
          estGen[, HHtype := c(”all”, ”direct”, ”exonly”)[j]]
          estGen[, data := thisdata]
          estGen[, objective := c(”main”, ”placebo”)[ii]]
          setcolorder(estGen,  c(”objective”, ”data”, ”gender”, ”agdef”, ”agelb”, ”HH
            ”demean”, ”Coef”, ”beta”, ”SE”, ”df”, ”p_val”, ”CI_L”, ”CI_U”, ”reg”, ”inf
          EstGen ← rbindlist(list(EstGen, estGen), use.names = T, fill = T)
          # n and R2
          nR ← lapply(lapply(estGen1, ”[[”, ”reg”),
            function(x) t(c(length(summary(x)$res), summary(x)$r.sq)))
          nR ← lapply(nR, data.table)
          nR ← lapply(1:length(nR), function(i) nR[[i]][, spec := i])
          nR ← rbindlist(nR, use.names = T, fill = T)
          nR[, gender := genderitems[ge]]
          setnames(nR, c(”n”, ”R”, ”spec”, ”gender”))
          nR[, n := formatC(n, digits = 0, format = ”f”)]
          nR[, R := formatC(R, digits = 4, format = ”f”)]
          # number of agHHs
          nR2 ← unique(unlist(lapply(lapply(estGen1, ”[[”, ”diff.data”),
            function(x) sum(x[, agHH]>0))))
          nR[, Yes := formatC(nR2, digits = 0, format = ”f”)]
          nR[, agdef := aghh.defs[m]]
          nR[, agelb := c(10:12)[s]]
          nR[, HHtype := c(”all”, ”direct”, ”exonly”)[j]]
          nR[, data := thisdata]
          nR[, objective := c(”main”, ”placebo”)[ii]]
          nR[, inference := c(”LZ”, ”BRL”)[clnum]]
          NR ← rbind(NR, nR, use.names = T, fill = T)
          # treated and control means
          zid ← lapply(estGen1, ”[[”, ”level.data”)
          zidd ← lapply(estGen1, ”[[”, ”diff.data”)
          zid ← lapply(1:length(zid), function(i) zid[[i]][uniquid %in% zidd[[i]][, u
          zid ← lapply(zid, function(x) x[eval(parse(text=grepout(”agHH$”, colnames(x
                  agHH := 1L])
          zid ← lapply(zid, function(x) x[eval(parse(text=grepout(”agHH$”, colnames(x
                  agHH := 0L])
          zid ← lapply(zid, function(x) x[, tee := 1:.N, by = uniquid])
          if (any(grepl(”Enrolled”, colnames(zid[[1]]))))
            lapply(zid, function(x) setnames(x, ”Enrolled”, ”schoolp”))
          enr ← lapply(zid, function(x) x[, .(EnRate = mean(schoolp), Num = .N), by =
          enr ← lapply(1:length(enr), function(i) enr[[i]][, spec := i])
          enr ← rbindlist(enr, use.names = T, fill = T)
          enr[, gender := genderitems[ge]]
          enr[, agdef := aghh.defs[m]]
          enr ← unique(enr[, spec := NULL])
          enr[, agelb := c(10:12)[s]]
          enr[, HHtype := c(”all”, ”direct”, ”exonly”)[j]]
          enr[, data := thisdata]
          enr[, objective := c(”main”, ”placebo”)[ii]]
          enr[, inference := c(”LZ”, ”BRL”)[clnum]]
          Enr ← rbind(Enr, enr, use.names = T, fill = T)
        } # clnum
      } # m
    } # ge
   } # j
  } # s
} # jj
```

```
} # ii
#EstGen[grepl("m", objective) & grepl("Em", data) & grepl("b.*g", gender) & agelb == 10 &
#  HHtype == "all" & grepl("^agHH.yr2$", Coef) & reg == 3 & grepl("B", inference), ]
setnames(EstGen, "p_val", "p")
EstGen[, coeff := as.character(NA)]
EstGen[grepl("^agHH.yr.$", Coef), coeff := "main"]
EstGen[grepl("SibF.*H", Coef), coeff := "older female siblings"]
EstGen[grepl("SibM.*H", Coef), coeff := "older male siblings"]
EstGen[, coeff := factor(coeff)]
EstGen[, Coef := factor(Coef)]
EstGen[, inference := factor(inference)]
EstGen[, objective := factor(objective)]
EstGen[, data := factor(data)]
EstGen[, agdef := factor(agdef)]
EstGen[, gender := factor(gender)]
EstGen[, HHtype := factor(HHtype)]
EstGen[, gender := factor(gender, levels = genderitems)]
qsave(EstGen, paste0(pathsaveThisVer, "TabulatedMainResults1.qs"))
qsave(Enr, paste0(pathsaveThisVer, "TabulatedMainResultsEnr1.qs"))
qsave(NR, paste0(pathsaveThisVer, "TabulatedMainResultsNR1.qs"))
```

```
Res1 <- qread(paste0(pathsaveThisVer, "TabulatedMainResults1.qs"))
Enr1 <- qread(paste0(pathsaveThisVer, "TabulatedMainResultsEnr1.qs"))
NR1 <- qread(paste0(pathsaveThisVer, "TabulatedMainResultsNR1.qs"))
Res2 <- qread(paste0(pathsaveThisVer, "TabulatedMainResults2.qs"))
Enr2 <- qread(paste0(pathsaveThisVer, "TabulatedMainResultsEnr2.qs"))
NR2 <- qread(paste0(pathsaveThisVer, "TabulatedMainResultsNR2.qs"))
Res <- rbindlist(list(Res1, Res2), use.names = T, fill = T)
Res[, gender := factor(gender, levels = genderitems)]
Res[, reg := as.integer(unlist(reg))]
setnames(Res, "stat", "SattDoF", skip_absent = T)
Res[grepl("F.*H", Coef), coeff := "older female siblings"]
Res[grepl("M.*H", Coef), coeff := "older male siblings"]
Enr <- rbindlist(list(Enr1, Enr2), use.names = T, fill = T)
NR <- rbindlist(list(NR1, NR2), use.names = T, fill = T)
NR[, objective := factor(objective)]
NR[, data := factor(data)]
NR[, agdef := factor(agdef)]
NR[, gender := factor(gender, levels = genderitems)]
NR[, HHtype := factor(HHtype)]
NR[, inference := factor(inference)]
NR[, group := factor(group)]
NR[, agegroup := factor(agegroup)]
setnames(NR, "spec", "reg")
Enr[, objective := factor(objective)]
Enr[, data := factor(data)]
Enr[, agdef := factor(agdef)]
Enr[, gender := factor(gender, levels = genderitems)]
Enr[, HHtype := factor(HHtype)]
Enr[, inference := factor(inference)]
Enr[, group := factor(group)]
Enr[, agegroup := factor(agegroup)]
qsave(Res, paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
qsave(Enr, paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
qsave(NR, paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
```

```
library(qs)
Enr.Base ← qread(paste0(pathsaveThisVer, "Enr.Base.qs"))
Enrchg.Base ← qread(paste0(pathsaveThisVer, "Enrchg.Base.qs"))
```

IV.1.2 Progression (number of added grades)

Number of added grades is a difference between class in 2002 and 1999 for individuals who are not classfied as not-in-school. Not-in-school is defined as individuals who have schooling only up to nursery in both 1999 and 2002, or who report non-enrollment in both 1999 and 2002, or who have zero grade progression between 2002 and 1999.

```
library(clubSandwich)
DivInto2Tables ← T
clusterlevel ← "thana"
regressors.list ← list(
  main = regressorsNumGrades,
  placebo = regressorsNumGrades2002
)
zEm.1999 ← readRDS(paste0(pathsaveThisVer, "zEm1999.rds"))
zEm.1999[, agHH0 :=  as.numeric(agHH0 > 0)]
zEp.1999 ← readRDS(paste0(pathsaveThisVer, "zEp1999.rds"))
zEp.2002 ← readRDS(paste0(pathsaveThisVer, "zEp2002.rds"))
zEp.1999[, AgeIn1999 := Age[survey == 2002] - 3, by = uniquid]
samples ← "main"
z234 ← c("z2", "z3", "z4")
zsobj ← "zmobjOther"
zmobjOther ← "zEm.1999"
cohort.years.list ← list(# year age is defined
  main = rep(1999, 1), # main: use 1999 age to set age range
  placebo = c(rep(2002, 1), rep(1999, 1))
  # placebo: use 1999 and 2002 age to set age range
  # placebo: cohorts 10-18 in 1999, 10-18 in 2002 are
  #   tested for impacts between 2002-2006
  )
cutout.years← c(2006, 1999) # year to drop in data, main = 2006, placebo 1999
# Used in "interaction with year InterYears" in results table
InterYearsList ← list(main = rep(2002, 1), placebo = rep(c(2006, 2002), each = 1))
variables.always.use ← "NumGrades|^agHH.yr2|^agHH$|^thana$|uniqu"
yrXs ← c("yr2", "yr3")
mix.reorder ← function(x, y=main.reorder.JHR)
  paste0(c(y[1], x, y[3], y[4]), collapse = "")
sub.reorder ← function(x, z, y=main.reorder.JHR)
  paste0(c(y[1], gsub(x, z, y[2]), y[3], y[4]), collapse = "")
reorder.list ← list(
    main = main.reorder.JHR
  , placebo = main.reorder.JHR
)
boxWidth ← 4
centerWidth ← 1.3
SkipLowerBound ← 50
NumGrades ← NumGradeschg ← NULL
results ← resultsN ← vector("list", length = length(samples)) # ii
for (ii in 1:length(samples)) {
  zSobj ← get(zsobj[ii])
  regressorsS ←  regressors.list[[ii]]
  cohort.years ← cohort.years.list[[ii]]
```

```
cutout.year ← cutout.years[ii]
InterYears ← InterYearsList[[ii]]
yrX ← yrXs[ii]
var.always.use ← gsub("yr2", yrX, variables.always.use)
reorder ← reorder.list[[ii]]
regsnd ← rep("NumGrades", length(regressorsS))
est ← res ← vector("list", length = length(regressorsS)) # k, specification
res ← list("LiangZeger" = res, "Satterthwaite" = res, "WildClusterBoot" = res) # cl, cl
res ← list(res, res, res, res) # m, agHH definition
names(res) ← aghh.defs
res ← list(boys = res, girls = res, "boys+girls" = res) # ge, gender
res ← list("extended" = res, "nuclear" = res, "exonly" = res) # j, nuclear, extended, e
res ← list("LB10" = res, "LB11" = res, "LB12" = res) # s, age lowerbound
res ← list("initial" = res,  "all time" = res) # en
# res[[s]][[j]][[ge]][[m]][[clnum]][[k]] is same for each jj in zSobj: An element of res
results0 ← resultsN0 ← vector("list", length = length(zSobj)) # jj, zE/zS sample selec
for (jj in 1:length(zSobj)) {
  resultsN0[[jj]] ← results0[[jj]] ← res
  cat("\n\n")
  print0(zSobj[jj])
  cat("\n")
  z01 ← changehyphen(get(zSobj[jj]))
  ## Select initial or all time enrollers ##
  # InitialEnrollers: enrolled in 1999.
  # AllTimeEnrollers: enrolled in 1999 and 2002.
  # Others: not enrolled or enrolled only in 2002
  z01[, EnrollerStatus := "others"]
  z01[, ss1 := schoolp[1], by = uniquid]
  z01[grepl(1, ss1), EnrollerStatus := "initial"]
  z01[, ss := cumsum(schoolp), by = uniquid]
  z01[, ss2 := ss[2], by = uniquid]
  z01[grepl(2, ss2), EnrollerStatus := "all time"]
  z01[, c("ss", "ss1", "ss2") := NULL]
  z01[, EnrollerStatus := factor(EnrollerStatus, levels =
    c("initial", "all time", "others"))]
  for (en in 1:2) {
    enrs ← c("initial", "all time", "others")[en]
    z02 ← z01[grepl(enrs, EnrollerStatus), ]
    # This gives a warning, so avoid: z01[grepl(c("initial", "all time", "others")[en],
    z1 = copy(z02)
    z1[, grepout("dummy[A-Z].*HH0?.yr.$", colnames(z1)) := NULL]
    tabextend ← c("yes", "", "yes", "")
    tabcohortdemeaned ← c("", "yes", "", "yes")
    # keep UDOldSib, UDhdsex, UDnonmuslim, UDflooded as undemeaned levels
    setnames(z1,
      grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1)),
      gsub("UD", "ud", grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1))))
    z1[, grepout("^UD", colnames(z1)) := NULL]
    setnames(z1,
      grepout("^ud", colnames(z1)),
      gsub("ud", "UD", grepout("^ud", colnames(z1))))
    if (ii == 2 & jj == 5) smax ← 1 else smax ← 3
    for (s in 1:3)
    #  choice of age cutoff
    {
      if (ii == 2 & jj == 5) {
```

```
    s0 ← 6
    MaxAge ← 9
  } else {
    MaxAge ← 18
  }
  i ← paste0("older", s0)
  s0 ← (10:12)[s]
  i ← paste0("older", s0)
  # latter panel: s ≤ age < maxAge in 1999/2002
  iiid ← unique(z1[
    s0 ≤ eval(parse(text = paste0("AgeIn", cohort.years[jj]))) &
    eval(parse(text = paste0("AgeIn", cohort.years[jj]))) ≤ MaxAge
    #maxAge
    , uniquid])
  # Keep only former complete panel and respective years.
  z2 ← z1[uniquid %in% iiid & survey != cutout.year, ]
  z2[, grepout("exist|In", colnames(z2)) := NULL]
  z2 ← dropunbalanced(z2, returnDT = T)
  # z3: nuclear family
  z3 ← z2[sd == 1, ]
  z3 ← dropunbalanced(z3, returnDT = T)
  cat("\n\nage cutoff:", i, "\n\n")
  print(table0(z1[, .(survey, agegroup = (uniquid %in% iiid))]))
  cat("dimension of original z1:", dim(z1), "\n")
  cat("dimension of z2 after keeping only", s0, "-", maxAge, "year olds:",
  dim(z1)[1], "==>", dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], "\n")
  cat("dimension of z2 after keeping only balanced portion:",
  dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], "==>", dim(z2)[1], "\n")
  cat("number of individuals in the panel:")
  print(table(table(z2[, uniquid])))
  cat("dimension of z3 after keeping only nuclear members:", dim(z3), "\n\n")
  cat("first-diffference estimator\n")
  for (j in 1:length(z23))
  {
    zz00 = copy(get(z234[j]))
    setkey(zz00, uniquid, survey)
    for (ge in 1:3)
    {
      if (ge == 1) {
        zz0 = copy(zz00[sex ≤ 0, ])
        zz0[, grepout("^sex", colnames(zz0)) := NULL]
      } else  if (ge == 2){
        zz0 = copy(zz00[sex > 0, ])
        zz0[, grepout("^sex", colnames(zz0)) := NULL]
      } else zz0 = copy(zz00)
      if (nrow(zz0) < SkipLowerBound) {
        cat("Skipped due to small number of obs:", nrow(zz0), "\n")
        next
      }
      setkey(zz0, uniquid, survey)
      zz0[, survey := NULL]
      for (m in 1:length(aghh.defs))
      {
        zz = copy(zz0)
        # Use a particular agHH definition.
        # change the name of current ag HH (agHH0, isagHH, ocagHH) to "agHH"
```

```r
        setnames(zz,
          grepout(aghh.defs[m], colnames(zz))
          ,
          gsub(aghh.defs[m], "agHH", grepout(aghh.defs[m], colnames(zz)))
        )
        # drop other ag HH definition
        zz[, grepout(paste0(aghh.defs.regexpr[-m], collapse = "|"), colnames(zz)) :=
        zz[, grepout(paste0("^", aghh.defs[-m], "$", collapse = "|"), colnames(zz))
        ns <- NULL
        resul <- vector("list", length = length(regressorsS))
        # First run: Estimation loop for getting N (number of obs) and first-differe
        for (k in 1:length(regressorsS))
        {
          if (s0 == 10 & j == 1 & m == 1) {
            cat(paste0("(", k, ")\n"))
            print0(paste0("+ ",
              grepout(paste(regressorsS[k], sep = "", collapse = "|"), colnames(zz)
          }
          regrsr <- paste(regressorsS[1:k], sep = "", collapse = "|")
          covariates <- grepout(
            paste(var.always.use, regrsr, sep = "|", collapse = "|")
            , colnames(zz))
          zr <- zz[, covariates, with = F]
          rs <- DID1(data.frame(zr), regressand = regsnd[k],
               clusterstring = clusterlevel, group = "^uniquid$",
               NotToBeDifferenced = "^agHH$",
               intercept = T,
               TimeVariant = "program|age2|meanY",
               PeriodToDropForLC = 2,
               opposite.time.order = F,
               TurnFactorToNumeric = T, returnV = T, print.messages = F)
          resul[[k]] <- list(level.data = rs$level, diff.data = rs$diff, est = rs$e
          est[[k]] <- round(rs$est[, -3], 5)
          ns <- c(ns, rs$N)
        }
        # resultsN0: raw results (not under same obs)
        resultsN0[[jj]][[en]][[s]][[j]][[ge]][[m]] <- resul
          # Reconstruct covariates and take demeaned interactions are done in the fi
          source(paste0(pathprogram0, "ReconstructCovariatesForDemeanedInteractions
        zidd[, tee := 1]
        zid[, tee := 1:.N, by = uniquid]
        if (any(grepl("NumGrades", colnames(zidd)))) setnames(zidd, "NumGrades", "LH
        if (any(grepl("NumGrades", colnames(zid)))) setnames(zid, "NumGrades", "LHS"
        # Save mean number of grades
        enrr <- zid[, .(MeanNumGrades = mean(LHS), Num = .N), by = .(agHH, tee)]
        NumGrades <- rbind(NumGrades,
          cbind(zSobj[jj], c("all", "nuclear")[j], c("default", aghh.defs[-1])[m],
            c("initial", "all time")[en], c("boys", "girls", "boys+girls")[ge], s0,
          use.names = F
        )
        # Save mean progression rate changes
        # x: agHH, y: nonagHH
        ttestE <- t.test(zidd[agHH == 1, LHS], zidd[agHH == 0, LHS])
        NumGradeschg <- rbind(NumGradeschg,
          cbind(
              zSobj[jj], c("all", "nuclear")[j], c("default", aghh.defs[-1])[m],
```

```
          c("initial", "all time")[en], c("boys", "girls", "boys+girls")[ge],
          s0, round(-diff(unlist(ttestE["estimate"])), 3), # -diff = -(y - x) =
          t(as.numeric(unlist(lapply(ttestE[c("estimate", "conf.int", "p.value")
          )
        )
    if (any(grepl("LHS", colnames(zidd)))) setnames(zidd, "LHS", "NumGrades")
    for (cl in c("LiangZeger", "satterthwaite"))#, "wildclusterboot"))
    {
      Rs ← ns ← NULL
      est ← vector("list", length(regressorsS))
      UseSmallClusterCorrection ← cl
      cat("\n\n###", cl, "###\n\n")
      if (grepl("Yp|S", zSobj[jj]) & grepl("wild", cl)) {
        cat("fwildclusterboot fails in Julia for zSm.1999, zYp.1999 because Sib'
          "covariates are near zero. Skip to next.\n\n" )
        next
      }
      for (k in 1:length(regressorsS))
      {
        regrsr ← paste(regressorsS[1:k], sep = "", collapse = "|")
        covariates ← grepout(paste(var.always.use, regrsr, sep = "|"),
          colnames(zidd))
        zr ← zidd[, c(covariates, "tee"), with = F]
        source("c:/seiro/settings/Rsetting/panel_estimator_functions.R")
        rsl ← DID2(dX0 = zr, Regressand = "NumGrades",
                Group = "^uniquid$", TimeVar = "tee", Cluster = "thana",
                TimeVariant = "program|age2|meanY|yield",
                opposite.time.order = F, Exclude = "^agHH$", intercept = T,
                SmallClusterCorrection = UseSmallClusterCorrection,
                WCBType = "webb",
                return.V = T, print.messages = T)
        if (!is.logical(UseSmallClusterCorrection) && grepl("satter", UseSmallC
          # Correct format of estimation results for clubSandwich outputs
          rsl$est ← as.data.frame(rsl$est)
          rsl$est ← rsl$est[, -1]
          colnames(rsl$est)[c(1:2, 4:5)] ← c("Estimate", "Std. Error", "Satt. I
        } else if (!is.logical(UseSmallClusterCorrection) && grepl("wild", UseS
          # Correct format of estimation results for wildclusterboot outputs
          #   estimate, Std.Error, statistic, Pr(>|t|), ci.lb, ci.ub
          rsl$est ← as.data.frame(rsl$est)
          colnames(rsl$est)[c(1:2, 4)] ← c("Estimate", "Std. Error", "Pr(>|t|)'
        } else {
          # Correct format of estimation results for Liang-Zeger outputs
          #   Estimate, Std. Error, t-value, Pr(>|t|)
          rsl$est ← as.matrix(rsl$est)
          colnames(rsl$est)[c(1:2, 4)] ← c("Estimate", "Std. Error", "Pr(>|t|)'
        }
        # results0: results under same obs
        clnum ← 1
        if (cl == "satterthwaite") clnum ← 2 else if (cl == "wildclusterboot")
3
        results0[[jj]][[en]][[s]][[j]][[ge]][[m]][[clnum]][[k]] ←
          list(est = rsl$est, ci = rsl$CI,
            df = rsl$reg$df, reg = rsl$reg,
            level.data = zid2[, covariates, with = F],
            diff.data = rsl$data)
```

```
      est[[k]] ← round(rsl$est[, −3], 5)
      Rs ← c(Rs, summary(rsl$nonrobust)$adj.r)
      ns ← c(ns, rsl$N)
    } # k: reg specification
    assign(paste0("addthis", j),
      rbind("\\hspace{.5em}thana dummies" =
        paste0("\\mbox{", c(rep("", length(regressorsS)−1), rep("yes", 1)),
        "$\\bar{R}^{2}$" = gsub("^0", "", formatC(Rs, digits = 4, format = "f
        "n" = ns,
        "control mean at baseline" =
          rep(formatC(enrr[tee == 1 & agHH == 0, MeanNumGrades],
            digits = 2, format = "f"), length(regressorsS)),
        "control mean at follow up" =
          rep(formatC(enrr[tee == 2 & agHH == 0, MeanNumGrades],
            digits = 2, format = "f"), length(regressorsS)),
        "treated mean at baseline" =
          rep(formatC(enrr[tee == 1 & agHH == 1, MeanNumGrades],
            digits = 2, format = "f"), length(regressorsS)),
        "treated mean at follow up" =
          rep(formatC(enrr[tee == 2 & agHH == 1, MeanNumGrades],
            digits = 2, format = "f"), length(regressorsS)),
        "raw DID" =
          rep(formatC(
          enrr[tee == 2 & agHH == 1, MeanNumGrades] − enrr[tee == 1 & agHH ==
          −(enrr[tee == 2 & agHH == 0, MeanNumGrades] − enrr[tee == 1 & agHH
            digits = 2, format = "f"), length(regressorsS))
      )
    )
    INformat ← "LZ"
    OUTformat ← "ep"
    if (cl == "wildclusterboot") {
      INformat ← "wcb"
      OUTformat ← "epc"
    } else if (cl == "satterthwaite") {
      INformat ← "satt"
      OUTformat ← "esDoF"
    }
    # Incorporate CI/DoF in table
    # reorder needs to be corrected
    # Tab.Est is in tabulate_est.R
    # source(paste0(pathprogram, "tabulate_est.R"))
    # source("c:/seiro/settings/Rsetting/functions.R")
    tbest ← Tab.Est(est, reorder, output.in.list = T,
      Informat = INformat, Outformat = OUTformat,
      AddStars = T, #TableFormat = tabformat,
      LastLineVariables = c("lowMeanY$", "kut.∗e.yr.$"),
      InterWithTexts = paste0(InterYears[jj], c("", "∗agricultural household")
      DeleteRowStrings = "^p\\$|^se\\$|^CI\\$|^DoF\\$",
      CIInTinySize = T,
      addbottom = get(paste0("addthis", j)), subst.table = sbt)
    if (DivInto2Tables) {
      # Split a table in to 2 tables
      if (grepl("Lian", cl))
        NumRowsAfterEst ← 2 else
        NumRowsAfterEst ← 3
      tbest11 ← tbest[[1]][1:(grep("inter.∗200..∗ag", tbest[[1]])−NumRowsAft
```

```
tbest12 ← tbest[[2]][1:(grep("inter.*200..*ag", tbest[[1]])-NumRowsAft
tbest21 ← tbest[[1]][grep("inter.*200..*ag", tbest[[1]]):length(tbest[[
tbest22 ← tbest[[2]][grep("inter.*200..*ag", tbest[[1]]):length(tbest[[
iispace11 ← which(
  grepl(".", tbest11) &
  !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest11
  )
iispace12 ← iispace11[seq(2, length(iispace11), 2)]
iispace21 ← which(
  grepl(".", tbest21) &
  !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest21
  )
# drop last rows of tbest2 to shrink row space
iispace21 ← iispace21[iispace21 < max(grep("toilet|water|nonla", tbest2
iispace22 ← iispace21[seq(2, length(iispace21), 2)]
if (grepl("Lian|^e[ps]$", cl)) {
# ep: 2 rows per estimate
  AdjustLineSkipRows1 ← iispace11
  AltColorRows1 ← c(iispace12, iispace12+1)
  AdjustLineSkipRows2 ← iispace21
  AltColorRows2 ← c(iispace22, iispace22+1)
} else {
# epc, satt: 3 rows per estimate
  AdjustLineSkipRows1 ← c(iispace11, iispace11+1)
  AltColorRows1 ← c(iispace12, iispace12+1, iispace12+2)
  AdjustLineSkipRows2 ← c(iispace21, iispace21+1)
  AltColorRows2 ← c(iispace22, iispace22+1, iispace22+2)
}
# source("C:/seiro/settings/Rsetting/functions.R", echo=F)
tbl1 ← saveEstTable(tbest12, tbest11, boxWidth,
  hleft = "\\hfil\\scriptsize$", hright = "$",
  hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
  delimiterline = NULL, adjustlineskip = "-.7ex",
  adjlskiprows = AdjustLineSkipRows1,
  AddTopStripSpace = "1.0ex",
  alternatecolorManual = AltColorRows1,
  alternatecolorManualColor = "gray80")
tbl2 ← saveEstTable(tbest22, tbest21, boxWidth,
  estimationspacelast = grep("thana dummi", tbest21),
  hleft = "\\hfil\\scriptsize$", hright = "$",
  hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
  delimiterline = NULL, adjustlineskip = "-.7ex",
  adjlskiprows = AdjustLineSkipRows2,
  alternatecolorManual = AltColorRows2,
  alternatecolorManualColor = "gray80")
# Modify "interaction with ..." lines to use multicolumn
InterRows1 ← grep("nteract.*\\d", tbl1)
InterRows2 ← grep("nteract.*\\d", tbl2)
for (ir in InterRows1) {
  if (any(grepl("rowcolor", tbl1[ir])))
    tbl1[ir] ←
      # \makbox[XXcm]{inter with A} &&&& \\
      #  => \multicolumn{5}{l}{\makebox[10cm]{inter with A}} \\
      # For rows with rowcolor command at the end
      paste0("\\multicolumn{", ncol(tbest[[2]])+1, "}{l}{",
        gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
```

```
                #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
                gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
                )
                ) else
              # For rows without rowcolor command at the end
            tbl1[ir] <-
              paste0("\\multicolumn{", ncol(tbest[[2]])+1, "}{l}{",
                gsub("(\\\\\\\\.*ex.$)", "}\\1",
                #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
                gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
                )
                )
            # \multicolumn{5}{l}{\makebox[Xcm]{inter with A}} \\\rowcolor{}
            # => \multicolumn{5}{l}{\makebox[10cm]{\textit{inter with A}\hfill}}
            tbl1[ir] <- gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl1[ir])
            tbl1[ir] <- gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl1[ir])
            tbl1[ir] <- gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl1[ir])
        }
        for (ir in InterRows2) {
          if (any(grepl("rowcolor", tbl2[ir])))
            tbl2[ir] <-
              # For rows with rowcolor command at the end
              paste0("[1ex]\\multicolumn{", ncol(tbest[[2]])+1, "}{l}{",
                gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
                #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
                gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
                )
                ) else
              # For rows without rowcolor command at the end
            tbl2[ir] <-
              paste0("[1ex]\\multicolumn{", ncol(tbest[[2]])+1, "}{l}{",
                gsub("(\\\\\\\\.*ex.$)", "}\\1",
                #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
                gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
                )
                )
            tbl2[ir] <- gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl2[ir])
            tbl2[ir] <- gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl2[ir])
            tbl2[ir] <- gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl2[ir])
        }
        clCap <- paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100))
        # file path to saved table
        pathtosavedtable1 <- TabFilePathF(
          FolderPath = pathsaveThisVer,
          Sample = paste0(gsub("\\.", "", zSobj[jj]),
            c("Initial", "AllTime", "Others")[en]),
          AgeCutoff = paste0("NumGradesOlder", (10:12)[s]),
          HHType = paste0(c("", "Nuclear")[j], c("Boys", "Girls", "")[ge]),
          AgHHDef = c("", "Is", "Hd", "Occ")[m],
          CRSEMethod = paste0(clCap, 1)
          )
        pathtosavedtable2 <- TabFilePathF(
          FolderPath = pathsaveThisVer,
          Sample = paste0(gsub("\\.", "", zSobj[jj]),
            c("Initial", "AllTime", "Others")[en]),
          AgeCutoff = paste0("NumGradesOlder", (10:12)[s]),
```

```
      HHType = paste0(c("", "Nuclear")[j], c("Boys", "Girls", "")[ge]),
      AgHHDef = c("", "Is", "Hd", "Occ")[m],
      CRSEMethod = paste0(clCap, 2)
      )
    write.tablev(tbl1, pathtosavedtable1, colnamestrue = F, rownamestrue = F
    write.tablev(tbl2, pathtosavedtable2, colnamestrue = F, rownamestrue = F
    cat("Table saved as", pathtosavedtable1, "\n")
    cat("Table saved as", pathtosavedtable2, "\n")
  } else {
  # iispace, iispace+1: rows i to shrink rowspace between row i+1 to group t
  # iispace2, iispace2+1, iispace2+2: (group of) rows to be coloured
  iispace <- which(
    # rows with \hspace{.5em} and "non-estimate" rows (R2, n, ...)
    grepl(".", tbest[[1]]) &
    !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest[[1
    )
  iispace2 <- iispace[seq(2, length(iispace), 2)]
  # adjlskiprows = c(iispace, iispace+1)
  # saveEstTable is in functions.R
  # source("C:/seiro/settings/Rsetting/functions.R", echo=F)
  tbl <- saveEstTable(tbest[[2]], tbest[[1]], boxWidth,
    estimationspacelast = grep("thana dummi", tbest[[1]]),
    hleft = "\\hfil\\tiny$", hright = "$",
    hcenter = c(boxWidth, rep(centerWidth-.15, ncol(tbest[[2]]))),
    delimiterline = NULL, adjustlineskip = "-0.5ex",
    adjlskiprows = c(iispace, iispace+1),
    alternatecolorManual = c(iispace2, iispace2+1, iispace2+2),
    alternatecolorManualColor = "gray80")
  # Modify "interaction with ..." lines to use multicolumn
  InterRows <- grep("nteract.*\\d", tbl)
  for (ir in InterRows)
    if (any(grepl("rowcolor", tbl[ir])))
      tbl[ir] <-
        # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\makeb
        # rows with rowcolor command at the end
        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
          gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
          gsub("\\\\hfill", "}", gsub("\\&", "", tbl[ir]))
          )
          ) else
        # rows without rowcolor command at the end
        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
          gsub("(\\\\\\\\.*ex.$)", "}\\1",
          gsub("\\\\hfill", "}", gsub("\\&", "", tbl[ir]))
          )
          )
    # file path to saved table
    pathtosavedtable <- TabFilePathF(FolderPath = pathsaveThisVer,
      Sample = paste0(gsub("\\.", "", zSobj[jj]),
        c("Initial", "AllTime", "Others")[en]),
      AgeCutoff = paste0("NumGradesOlder", (10:12)[s]),
      HHType = paste0(c("", "Nuclear")[j], c("Boys", "Girls", "")[ge]),
      AgHHDef = c("", "Is", "Hd", "Occ")[m],
      CRSEMethod = paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100)))
    write.tablev(tbl, pathtosavedtable, colnamestrue = F, rownamestrue = F,
    cat("Table saved as", pathtosavedtable, "\n")
```

```
                } # If: DivInto2Tables ends
              } # cl: SE clustering option
            }  # m: ag HH definitions
          } # ge: gender
        }  # j: z2 (incl. extended) or z3 (nuclear)
      }  # s: lowerbound age cutoffs (10, 11, 12)
    }# en: enroller selection, 1=initial enrollers, 2=all time enrollers
  }  # jj: zE / zS sample selection
  results[[ii]] ← results0 # [[jj]][[s]][[j]][[ge]][[m]][[clnum]][[k]]
  resultsN[[ii]] ← resultsN0
}  # ii: main / placebo samples
# results: Results under same obs with BRL (satterthwaith dof) information
# resultsN: Results under varying number of obs between specifications
# https://cran.r-project.org/web/packages/qs/vignettes/vignette.html
library(qs)
qsave(results, paste0(pathsaveThisVer, "DID_NumGradesEnrollersGenderResults.qs"))
qsave(resultsN, paste0(pathsaveThisVer, "DID_N_NumGradesEnrollersGenderResults.qs"))
NumGrades ← data.table(NumGrades)
NumGradeschg ← data.table(NumGradeschg)
setnames(NumGradeschg, c("sample", "HHtype", "agHHdef", "enroll", "gender", "agelb", "AgN
  "agHH", "nonagHH", "lb95", "ub95", "pvalue"))
setnames(NumGrades, c("sample", "HHtype", "agHHdef", "enroll", "gender",
  "agelb", "agHH", "tee", "rate", "Obs"))
qsave(NumGrades, paste0(pathsaveThisVer, "NumGradesEnrollersGender.qs"))
qsave(NumGradeschg, paste0(pathsaveThisVer, "NumGradeschgEnrollersGender.qs"))
```

IV.1.3 Days absent in June-August

Days absent is mean number of days per month absent from school between June-August (2000, Table A.2.A 3 [seca2a_6.dta sabsl3]) and July and August (2003, Table 1B 5, 6 [hh01b_005.dta q1b05, q1b06]). For "all children" results, I use 0 for non-enrollers. This is misleading. Absent days can only be defined for enrollers. One needs to use the sample of all-time enrollers.

```
library(clubSandwich)
clusterlevel ← "thana"
DivInto2Tables ← T
zEm.1999 ← readRDS(paste0(pathsaveThisVer, "zEm1999.rds"))
zEm.1999[, agHH0 :=  as.numeric(agHH0 > 0)]
zEp.1999 ← readRDS(paste0(pathsaveThisVer, "zEp1999.rds"))
zEp.2002 ← readRDS(paste0(pathsaveThisVer, "zEp2002.rds"))
zEp.1999[, AgeIn1999 := Age[survey == 2002] − 3, by = uniquid]
samples ← "main"
z23 ← c("z2", "z3")
zsobj ← c("zmobjDays", "zpobjDays")
zmobjDays ← c("zEm.1999", "zSm.1999")[1]
zpobjDays ← c("zEp.2002", "zSp.2002", "zEp.1999", "zSp.1999")[c(1, 3)]
cohort.years.list ← list(# year age is defined
  main = rep(1999, 2),
  placebo = c(rep(2002, 1), rep(1999, 1))
  )
cutout.years← c(rep(2006, 1), rep(1999, 1), rep(2006, 1)) # year to drop in data, main =
# Used in "interaction with year InterYears" in results table
InterYearsList ← list(main = rep(2002, 1), placebo = rep(c(2006, 2002), each = 2))
regressors.list ← list(
  main = regressorsM,
  placebo = regressorsM2002
```

```
)
variables.always.use ← "^DaysAbsent$|^agHH.yr2|^agHH$|^thana$|uniqu"
yrXs ← c("yr2", "yr3")
mix.reorder ← function(x, y=main.reorder.JHR)
  paste0(c(y[1], x, y[3], y[4]), collapse = "")
sub.reorder ← function(x, z, y=main.reorder.JHR)
  paste0(c(y[1], gsub(x, z, y[2]), y[3], y[4]), collapse = "")
reorder.list ← list(
    main = main.reorder.JHR
  , placebo = main.reorder.JHR
)
boxWidth ← 4
centerWidth ← 1.3
DaysAbsent ← DaysAbsentchg ← NULL
results ← resultsN ← vector("list", length = length(samples)) # ii
for (ii in 1:length(samples)) {
  zSobj ← get(zsobj[ii])
  regressorsS ←  regressors.list[[ii]]
  cohort.years ← cohort.years.list[[ii]]
  cutout.year ← cutout.years[ii]
  InterYears ← InterYearsList[[ii]]
  var.always.use ← gsub("yr2", yrXs[ii], variables.always.use)
  reorder ← reorder.list[[ii]]
  regsnd ← rep("DaysAbsent", length(regressorsS))
  est ← res ← vector("list", length = length(regressorsS)) # k, specification
  # Use satterthwaite only.
  est ← res ← vector("list", length = length(regressorsS)) # k, specification
  res ← list("LiangZeger" = res, "Satterthwaite" = res, "WildClusterBoot" = res) # cl, c
  res ← list(res, res, res, res) # m, agHH definition
  names(res) ← aghh.defs
  res ← list(boys = res, girls = res, "boys+girls" = res) # ge, gender
  res ← list("extended" = res, "nuclear" = res, "exonly" = res) # j, nuclear, extended, e
  res ← list("LB10" = res, "LB11" = res, "LB12" = res) # s, age lowerbound
  # res[[s]][[j]][[ge]][[m]][[clnum]][[k]] is same for each jj in zSobj: An element of res
  results0 ← resultsN0 ← vector("list", length = length(zSobj)) # jj, zE/zS sample selec
  for (jj in 1:length(zSobj)) {
    resultsN0[[jj]] ← results0[[jj]] ← res
    cat("\n\n")
    print0(zSobj[jj])
    cat("\n")
    z01 ← changehyphen(get(zSobj[jj]))
    # ss == 2: enrolled in 1999 and 2002. Number of grade progression?
    z01[, ss := cumsum(schoolp), by = uniquid]
    z01[, ss := ss[2], by = uniquid]
    z02 ← z01[ss==2, ]
      z1 = copy(z02)
      z1[, grepout("dummy[A-Z].*HH0?.yr.$", colnames(z1)) := NULL]
      # keep UDOldSib, UDhdsex, UDnonmuslim, UDflooded as undemeaned levels
      setnames(z1,
        grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1)),
        gsub("UD", "ud", grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1))))
      z1[, grepout("^UD", colnames(z1)) := NULL]
      setnames(z1,
        grepout("^ud", colnames(z1)),
        gsub("ud", "UD", grepout("^ud", colnames(z1))))
      tabextend ← c("yes", "", "yes", "")
```

```
    tabcohortdemeaned ← c("", "yes", "", "yes")
    for (s in 1:3)
    #  choice of age cutoff
    {
      s0 ← (10:12)[s]
      if (ii == 2 & jj == 5) {
        s0 ← 6
        MaxAge ← 9
      } else {
        MaxAge ← 18
      }
      i ← paste0("older", s0)
      # latter panel: 5 ≤ age < s0 in 1999/2002
      iiid ← unique(z1[
        s0 ≤ eval(parse(text = paste0("AgeIn", cohort.years[jj]))) &
        eval(parse(text = paste0("AgeIn", cohort.years[jj]))) ≤ MaxAge
        #maxAge
        , uniquid])
      # Keep only former complete panel and respective years.
      z2 ← z1[uniquid %in% iiid & survey != cutout.year, ]
      z2[, grepout("exist|In", colnames(z2)) := NULL]
      z2 ← dropunbalanced(z2, returnDT = T)
      # z3: nuclear family
      z3 ← z2[sd == 1, ]
      z3 ← dropunbalanced(z3, returnDT = T)
      cat("\n\nage cutoff:", i, "\n\n")
      print(table0(z1[, .(survey, agegroup = (uniquid %in% iiid))]))
      cat("dimension of original z1:", dim(z1), "\n")
      cat("dimension of z2 after keeping only", s0, "-", maxAge, "year olds:",
      dim(z1)[1], "==>", dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], "\n")
      cat("dimension of z2 after keeping only balanced portion:",
      dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], "==>", dim(z2)[1], "\n")
      cat("number of individuals in the panel:")
      print(table(table(z2[, uniquid])))
      cat("dimension of z3 after keeping only nuclear members:", dim(z3), "\n\n")
      cat("first-diffference estimator\n")
      for (j in 1:length(z23))
      {
        zz00 = copy(get(z23[j]))
        for (ge in 1:3)
        {
          if (ge == 1) {
            zz0 = copy(zz00[sex ≤ 0, ])
            zz0[, grepout("^sex", colnames(zz0)) := NULL]
          } else  if (ge == 2){
            zz0 = copy(zz00[sex > 0, ])
            zz0[, grepout("^sex", colnames(zz0)) := NULL]
          } else zz0 = copy(zz00)
          if (nrow(zz0) < SkipLowerBound) {
            cat("Skipped due to small number of obs:", nrow(zz0), "\n")
            next
          }
          setkey(zz0, uniquid, survey)
          zz0[, survey := NULL]
          for (m in 1:length(aghh.defs))
          {
```

```
      zz = copy(zz0)
      # Use a particular agHH definition.
      # change the name of current ag HH (agHH0, isagHH, ocagHH) to "agHH"
      setnames(zz,
        grepout(aghh.defs[m], colnames(zz))
        ,
        gsub(aghh.defs[m], "agHH", grepout(aghh.defs[m], colnames(zz)))
      )
      # drop other ag HH definition
      zz[, grepout(paste0(aghh.defs.regexpr[-m], collapse = "|"), colnames(zz)) :=
      zz[, grepout(paste0("^", aghh.defs[-m], "$", collapse = "|"), colnames(zz))
      ns <- NULL
      resul <- vector("list", length = length(regressorsS))
      # First run: Estimation loop for getting N (number of obs) and first-differe
      for (k in 1:length(regressorsS))
      {
        if (s0 == 10 & j == 1 & m == 1) {
          cat(paste0("(", k, ")\n"))
          print0(paste0("+ ",
            grepout(paste(regressorsS[k], sep = "", collapse = "|"), colnames(zz))
        }
        regrsr <- paste(regressorsS[1:k], sep = "", collapse = "|")
        covariates <- grepout(
          paste(var.always.use, regrsr, sep = "|", collapse = "|")
          , colnames(zz))
        zr <- zz[, covariates, with = F]
        rs <- DID1(data.frame(zr), regressand = regsnd[k],
           clusterstring = clusterlevel, group = "^uniquid$",
           NotToBeDifferenced = "^agHH$",
           intercept = T,
           TimeVariant = "program|age2|meanY",
           PeriodToDropForLC = 2,
           opposite.time.order = F,
           TurnFactorToNumeric = T, returnV = T, print.messages = F)
        resul[[k]] <- list(level.data = rs$level, diff.data = rs$diff, est = rs$es
        est[[k]] <- round(rs$est[, -3], 5)
        ns <- c(ns, rs$N)
      }
      # resultsN0: raw results (not under same obs)
      resultsN0[[jj]][[s]][[j]][[ge]][[m]] <- resul
        source(paste0(pathprogram0, "ReconstructCovariatesForDemeanedInteractions
      zidd[, tee := 1]
      zid[, tee := 1:.N, by = uniquid]
      if (any(grepl("DaysAbsent", colnames(zidd)))) setnames(zidd, "DaysAbsent", "
      if (any(grepl("DaysAbsent", colnames(zid)))) setnames(zid, "DaysAbsent", "LH
      # Save mean days of absence
      enrr <- zid[, .(MeanDaysAbsent = mean(LHS), Num = .N), by = .(agHH, tee)]
      DaysAbsent <- rbind(DaysAbsent,
        cbind(zSobj[jj], c("all", "nuclear")[j], c("default", aghh.defs[-1])[m],
          c("boys", "girls", "boys+girls")[ge],
          s0, enrr),
        use.names = F
      )
      # Save mean progression rate changes
      # x: agHH, y: nonagHH
      ttestE <- t.test(zidd[agHH == 1, LHS], zidd[agHH == 0, LHS])
```

```
        DaysAbsentchg ← rbind(DaysAbsentchg,
          cbind(
              zSobj[jj], c("all", "nuclear")[j], c("default", aghh.defs[-1])[m],
              c("boys", "girls", "boys+girls")[ge],
              s0, round(-diff(unlist(ttestE["estimate"])), 3), # -diff = -(y - x) =
              t(as.numeric(unlist(lapply(ttestE[c("estimate", "conf.int", "p.value")
              )
            )
        if (any(grepl("LHS", colnames(zidd)))) setnames(zidd, "LHS", "DaysAbsent")
        zidd[, tee := 1]
        for (cl in c("LiangZeger", "satterthwaite", "wildclusterboot")[-3])
        {
          Rs ← ns ← NULL
          est ← vector("list", length(regressorsS))
          UseSmallClusterCorrection ← cl
          cat("\n\n###", cl, "###\n\n")
          if (grepl("Yp|S", zSobj[jj]) & grepl("wild", cl)) {
            cat("fwildclusterboot fails in Julia for zSm.1999, zYp.1999 because Sib'
              "covariates are near zero. Skip to next.\n\n" )
            next
          }
          for (k in 1:length(regressorsS))
          {
            regrsr ← paste(regressorsS[1:k], sep = "", collapse = "|")
            covariates ← grepout(paste(var.always.use, regrsr, sep = "|"),
              colnames(zidd))
            zr ← zidd[, c(covariates, "tee"), with = F]
            source("EstimatorFunctions.R")
            rsl ← DID2(dX0 = zr, Regressand = "DaysAbsent",
                    Group = "^uniquid$", TimeVar = "tee", Cluster = "thana",
                    TimeVariant = "program|age2|meanY|yield",
                    opposite.time.order = F, Exclude = "^agHH$", intercept = T,
                    SmallClusterCorrection = UseSmallClusterCorrection,
                    WCBType = "webb",
                    return.V = T, print.messages = T)
            if (!is.logical(UseSmallClusterCorrection) && grepl("satter", UseSmallC
              # Correct format of estimation results for clubSandwich outputs
              rsl$est ← as.data.frame(rsl$est)
              rsl$est ← rsl$est[, -1]
              colnames(rsl$est)[c(1:2, 4:5)] ← c("Estimate", "Std. Error", "Satt. I
            } else if (!is.logical(UseSmallClusterCorrection) && grepl("wild", UseS
              # Correct format of estimation results for wildclusterboot outputs
              rsl$est ← as.data.frame(rsl$est)
              colnames(rsl$est)[c(1:2, 4)] ← c("Estimate", "Std. Error", "Pr(>|t|)'
            } else {
              # Correct format of estimation results for Liang-Zeger outputs
              rsl$est ← as.matrix(rsl$est)
              colnames(rsl$est)[c(1:2, 4)] ← c("Estimate", "Std. Error", "Pr(>|t|)'
            }
            # results0: results under same obs
            clnum ← 1
            if (cl == "satterthwaite") clnum ← 2 else if (cl == "wildclusterboot")
3
            results0[[jj]][[s]][[j]][[ge]][[m]][[clnum]][[k]] ←
              list(est = rsl$est, ci = rsl$CI,
                df = rsl$reg$df, reg = rsl$reg,
```

```
          level.data = zid2[, covariates, with = F],
          diff.data = rsl$data)
      est[[k]] ← round(rsl$est[, -3], 5)
      Rs ← c(Rs, summary(rsl$nonrobust)$adj.r)
      ns ← c(ns, rsl$N)
    } # k: reg specification
    assign(paste0("addthis", j),
       rbind("\\hspace{.5em}thana dummies" =
          paste0("\\mbox{", c(rep("", length(regressorsS)-1), rep("yes", 1)),
         "$\\bar{R}^{2}$" = gsub("^0", "", formatC(Rs, digits = 4, format = "f
         "n" = ns,
         "control mean at baseline" =
           rep(formatC(enrr[tee == 1 & agHH == 0, MeanDaysAbsent],
             digits = 2, format = "f"), length(regressorsS)),
         "control mean at follow up" =
           rep(formatC(enrr[tee == 2 & agHH == 0, MeanDaysAbsent],
             digits = 2, format = "f"), length(regressorsS)),
         "treated mean at baseline" =
           rep(formatC(enrr[tee == 1 & agHH == 1, MeanDaysAbsent],
             digits = 2, format = "f"), length(regressorsS)),
         "treated mean at follow up" =
           rep(formatC(enrr[tee == 2 & agHH == 1, MeanDaysAbsent],
             digits = 2, format = "f"), length(regressorsS)),
         "raw DID" =
           rep(formatC(
           enrr[tee == 2 & agHH == 1, MeanDaysAbsent] - enrr[tee == 1 & agHH =
           -(enrr[tee == 2 & agHH == 0, MeanDaysAbsent] - enrr[tee == 1 & agHH
             digits = 2, format = "f"), length(regressorsS))
       )
    )
    INformat ← "LZ"
    OUTformat ← "ep"
    if (cl == "wildclusterboot") {
      INformat ← "wcb"
      OUTformat ← "epc"
    } else if (cl == "satterthwaite") {
      INformat ← "satt"
      OUTformat ← "satt"
      OUTformat ← "esDoF"
    }
    # Incorporate CI/DoF in table
    # reorder needs to be corrected
    # Tab.Est is in tabulate_est.R
    # source(paste0(pathprogram, "tabulate_est.R"))
    tbest ← Tab.Est(est, reorder, output.in.list = T,
      Informat = INformat, Outformat = OUTformat,
      AddStars = T, #TableFormat = tabformat,
      LastLineVariables = c("lowMeanY$", "kut.*e.yr.$"),
      InterWithTexts = paste0(InterYears[jj], c("", "*agricultural household")
      DeleteRowStrings = "^p\\$|^se\\$|^CI\\$|^DoF\\$",
      CIInTinySize = T,
      addbottom = get(paste0("addthis", j)), subst.table = sbt)
    clCap ← paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100))
    if (DivInto2Tables) {
      # Split a table in to 2 tables
      if (grepl("Lian", cl))
```

```
      NumRowsAfterEst <- 2 else
      NumRowsAfterEst <- 3
    tbest11 <- tbest[[1]][1:(grep("inter.*200..*ag", tbest[[1]])-NumRowsAf
    tbest12 <- tbest[[2]][1:(grep("inter.*200..*ag", tbest[[1]])-NumRowsAf
    tbest21 <- tbest[[1]][grep("inter.*200..*ag", tbest[[1]]):length(tbest[[
    tbest22 <- tbest[[2]][grep("inter.*200..*ag", tbest[[1]]):length(tbest[[
    iispace11 <- which(
      grepl(".", tbest11) &
      !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest11
      )
    iispace12 <- iispace11[seq(2, length(iispace11), 2)]
    iispace21 <- which(
      grepl(".", tbest21) &
      !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest21
      )
    # drop last rows of tbest2 to shrink row space
    iispace21 <- iispace21[iispace21 < max(grep("toilet|water|nonla", tbest2
    iispace22 <- iispace21[seq(2, length(iispace21), 2)]
    if (grepl("Lian", cl)) {
    # ep: 2 rows per estimate
      AdjustLineSkipRows1 <- iispace11
      AltColorRows1 <- c(iispace12, iispace12+1)
      AdjustLineSkipRows2 <- iispace21
      AltColorRows2 <- c(iispace22, iispace22+1)
    } else {
    # epc, satt: 3 rows per estimate
      AdjustLineSkipRows1 <- c(iispace11, iispace11+1)
      AltColorRows1 <- c(iispace12, iispace12+1, iispace12+2)
      AdjustLineSkipRows2 <- c(iispace21, iispace21+1)
      AltColorRows2 <- c(iispace22, iispace22+1, iispace22+2)
    }
    tbl1 <- saveEstTable(tbest12, tbest11, boxWidth,
      hleft = "\\hfil\\scriptsize$", hright = "$",
      hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
      delimiterline = NULL, adjustlineskip = "-0.7ex",
      adjlskiprows = AdjustLineSkipRows1,
      alternatecolorManual = AltColorRows1,
      alternatecolorManualColor = "gray80")
    tbl2 <- saveEstTable(tbest22, tbest21, boxWidth,
      estimationspacelast = grep("thana dummi", tbest21),
      hleft = "\\hfil\\scriptsize$", hright = "$",
      hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
      delimiterline = NULL, adjustlineskip = "-0.7ex",
      adjlskiprows = AdjustLineSkipRows2,
      alternatecolorManual = AltColorRows2,
      alternatecolorManualColor = "gray80")
    # Modify "interaction with ..." lines to use multicolumn
    InterRows1 <- grep("nteract.*\\d", tbl1)
    InterRows2 <- grep("nteract.*\\d", tbl2)
    for (ir in InterRows1) {
      if (any(grepl("rowcolor", tbl1[ir])))
        tbl1[ir] <-
          # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
          # For rows with rowcolor command at the end
          paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
            gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
```

```
            #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
            gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
            )
            ) else
          # For rows without rowcolor command at the end
        tbl1[ir] ←
          paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
            gsub("(\\\\\\\\.*ex.$)", "}\\1",
            #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
            gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
            )
            )
        # \multicolumn{5}{l}{\makebox[Xcm]{inter with A}} \\\rowcolor{}
        # => \multicolumn{5}{l}{\makebox[10cm]{\textit{inter with A}\hfill}
        tbl1[ir] ← gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl1[ir])
        tbl1[ir] ← gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl1[ir])
        tbl1[ir] ← gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl1[ir])
      }
      for (ir in InterRows2) {
        if (any(grepl("rowcolor", tbl2[ir])))
        tbl2[ir] ←
          # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
          # For rows with rowcolor command at the end
          paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
            gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
            #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
            gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
            )
            ) else
          # For rows without rowcolor command at the end
        tbl2[ir] ←
          paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
            gsub("(\\\\\\\\.*ex.$)", "}\\1",
            #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
            gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
            )
            )
        tbl2[ir] ← gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl2[ir])
        tbl2[ir] ← gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl2[ir])
        tbl2[ir] ← gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl2[ir])
      }
      # file path to saved table
      pathtosavedtable1 ← TabFilePathF(
        FolderPath = pathsaveThisVer,
        Sample = gsub("\\.", "", zSobj[jj]),
        AgeCutoff = paste0("DaysAbsentEnrollersOlder", (10:12)[s]),
        HHType = paste0(c("", "Nuclear")[j], c("Boys", "Girls", "")[ge]),
        AgHHDef = c("", "Is", "Hd", "Occ")[m],
        CRSEMethod = paste0(clCap, 1)
        )
      pathtosavedtable2 ← TabFilePathF(
        FolderPath = pathsaveThisVer,
        Sample = gsub("\\.", "", zSobj[jj]),
        AgeCutoff = paste0("DaysAbsentEnrollersOlder", (10:12)[s]),
        HHType = paste0(c("", "Nuclear")[j], c("Boys", "Girls", "")[ge]),
        AgHHDef = c("", "Is", "Hd", "Occ")[m],
```

```
          CRSEMethod = paste0(clCap, 2)
          )
        write.tablev(tbl1, pathtosavedtable1, colnamestrue = F, rownamestrue = F
        write.tablev(tbl2, pathtosavedtable2, colnamestrue = F, rownamestrue = F
        cat("Table saved as", pathtosavedtable1, "\n")
        cat("Table saved as", pathtosavedtable2, "\n")
      } else {
        # iispace, iispace+1: rows i to shrink rowspace between row i+1 to group
        # iispace2, iispace2+1, iispace2+2: (group of) rows to be coloured
        iispace ← which(
          # rows with \hspace{.5em} and "non-estimate" rows (R2, n, ...)
          grepl(".", tbest[[1]]) &
          !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest[[
          )
        iispace2 ← iispace[seq(2, length(iispace), 2)]
        # adjlskiprows = c(iispace, iispace+1)
        # saveEstTable is in functions.R
        # source("C:/seiro/settings/Rsetting/functions.R", echo=F)
        tbl ← saveEstTable(tbest[[2]], tbest[[1]], boxWidth,
          estimationspacelast = grep("thana dummi", tbest[[1]]),
          hleft = "\\hfil\\scriptsize$", hright = "$",
          hcenter = c(boxWidth, rep(centerWidth-.15, ncol(tbest[[2]]))),
          delimiterline = NULL, adjustlineskip = "-0.7ex",
          adjlskiprows = c(iispace, iispace+1),
          alternatecolorManual = c(iispace2, iispace2+1, iispace2+2),
          alternatecolorManualColor = "gray80")
        # Modify "interaction with ..." lines to use multicolumn
        InterRows ← grep("nteract.*\\d", tbl)
        for (ir in InterRows)
          if (any(grepl("rowcolor", tbl[ir])))
            tbl[ir] ←
              # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
              # rows with rowcolor command at the end
              paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
                gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
                gsub("\\\\hfill", "}", gsub("\\&", "", tbl[ir]))
                )
                ) else
              # rows without rowcolor command at the end
              paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
                gsub("(\\\\\\\\.*ex.$)", "}\\1",
                gsub("\\\\hfill", "}", gsub("\\&", "", tbl[ir]))
                )
                )
        # file path to saved table
        pathtosavedtable ← TabFilePathF(FolderPath = pathsaveThisVer,
          Sample = gsub("\\.", "", zSobj[jj]),
          AgeCutoff = paste0("DaysAbsentEnrollersOlder", (10:12)[s]),
          HHType = paste0(c("", "Nuclear")[j], c("Boys", "Girls", "")[ge]),
          AgHHDef = c("", "Is", "Hd", "Occ")[m],
          CRSEMethod = paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100)))
        write.tablev(tbl, pathtosavedtable, colnamestrue = F, rownamestrue = F,
        cat("Table saved as", pathtosavedtable, "\n")
      } # If: DivInto2Tables ends
    } # cl: SE clustering choice ends
  }  # m: ag HH definitions
```

```
          } # ge: gender
        }  # j: z2 (incl. extended) or z3 (nuclear)
      }  # s: upperbound age cutoffs (10, 15)
  }  # jj: zE / zS sample selection
  results[[ii]] ← results0
  resultsN[[ii]] ← resultsN0
}  # ii: main / placebo samples
# results: Results under same obs with BRL (satterthwaith dof) information
# resultsN: Results under varying number of obs between specifications
# https://cran.r-project.org/web/packages/qs/vignettes/vignette.html
library(qs)
qsave(results, paste0(pathsaveThisVer, "DID_DaysAbsentEnrollersGenderResults.qs"))
qsave(resultsN, paste0(pathsaveThisVer, "DID_N_DaysAbsentEnrollersGenderResults.qs"))
DaysAbsent ← data.table(DaysAbsent)
DaysAbsentchg ← data.table(DaysAbsentchg)
setnames(DaysAbsentchg, c("sample", "HHtype", "agHHdef", "demean", "gender", "agelb", "Agl
  "agHH", "nonagHH", "lb95", "ub95", "pvalue")[-4])
setnames(DaysAbsent, c("sample", "HHtype", "agHHdef", "demean", "gender", "agelb",
   "agHH", "tee", "rate", "Obs")[-4])
qsave(DaysAbsent, paste0(pathsaveThisVer, "DaysAbsentEnrollersGender.qs"))
qsave(DaysAbsentchg, paste0(pathsaveThisVer, "DaysAbsentchgEnrollersGender.qs"))
```

```
library(clubSandwich)
clusterlevel ← "thana"
DivInto2Tables ← T
SkipLowerBound ← 40
zEm.1999 ← readRDS(paste0(pathsaveThisVer, "zEm1999.rds"))
zEp.1999 ← readRDS(paste0(pathsaveThisVer, "zEp1999.rds"))
zEp.2002 ← readRDS(paste0(pathsaveThisVer, "zEp2002.rds"))
zEp.1999[, AgeIn1999 := Age[survey == 2002] - 3, by = uniquid]
samples ← c("main", "placebo")
z23 ← c("z2", "z3")
zsobj ← c("zmobjDays", "zpobjDays")
zmobjDays ← c("zEm.1999", "zSm.1999")[1]
zpobjDays ← c("zEp.2002", "zSp.2002", "zEp.1999", "zSp.1999")[1]
cohort.years.list ← list(# year age is defined
  main = rep(1999, 2),
  placebo = c(rep(2002, 1), rep(1999, 1))
  )
cutout.years← c(rep(2006, 1), rep(1999, 1), rep(2006, 1)) # year to drop in data, main =
# Used in "interaction with year InterYears" in results table
InterYearsList ← list(main = rep(2002, 1), placebo = rep(c(2006, 2002), each = 2))
regressors.list ← list(
  main = regressorsM,
  placebo = regressorsM2002
)
variables.always.use ← "^DaysAbsent$|^agHH$|^thana$|uniqu"
yrXs ← c("yr2", "yr3")
mix.reorder ← function(x, y=main.reorder.JHR)
  paste0(c(y[1], x, y[3], y[4]), collapse = "")
sub.reorder ← function(x, z, y=main.reorder.JHR)
  paste0(c(y[1], gsub(x, z, y[2]), y[3], y[4]), collapse = "")
reorder.list ← list(
    main = main.reorder.JHR
  , placebo = main.reorder.JHR
)
```

```
boxWidth ← 4
centerWidth ← 1.3
DaysAbsent ← DaysAbsentchg ← CIs ← NULL
results ← resultsN ← vector("list", length = length(samples)) # ii
for (ii in 1:length(samples)) {
  zSobj ← get(zsobj[ii])
  # take away all .yr2$ and .*2 from regressorsS
  regressorsS ←  regressors.list[[ii]]
  regressorsS ← gsub("\\.yr.|\\.\\*yr[23]", "", regressorsS)
  regressorsS ← gsub("\\.\\*[23]", "", regressorsS)
  regressorsS ← gsub("\\$", "", regressorsS)
  cohort.years ← cohort.years.list[[ii]]
  cutout.year ← cutout.years[ii]
  InterYears ← InterYearsList[[ii]]
  var.always.use ← gsub("yr[23]", yrXs[ii], variables.always.use)
  reorder ← reorder.list[[ii]]
  sampleyears ← list(c(1999, 2002), c(2002, 2006))[[ii]]
  regsnd ← rep("DaysAbsent", length(regressorsS))
  est ← res ← vector("list", length = length(regressorsS)) # k, specification
  # Use satterthwaite only.
  est ← res ← vector("list", length = length(regressorsS)) # k, specification
  res ← list(res, res, res, res) # m, agHH definition
  names(res) ← aghh.defs
  res ← list(boys = res, girls = res, "boys+girls" = res) # ge, gender
  res ← list("extended" = res, "nuclear" = res, "exonly" = res) # j, nuclear, extended, e
  res ← list("LB10" = res, "LB11" = res, "LB12" = res) # s, age lowerbound
  res ← list("1999" = res, "2002" = res) # yy, cross section year
  # res[[s]][[j]][[ge]][[m]][[k]] is same for each jj in zSobj: An element of results0[[j
  results0 ← vector("list", length = length(zSobj)) # jj, zE/zS sample selection
  for (jj in 1) {
    results0[[jj]] ← res
    cat("\n\n")
    print0(zSobj[jj])
    cat("\n")
    z01 ← changehyphen(get(zSobj[jj]))
    # ss == 2: enrolled in 1999 and 2002. Number of grade progression?
    z01[, ss := cumsum(schoolp), by = uniquid]
    z01[, ss := ss[2], by = uniquid]
    for (rr in 1:2) {
      # Choose year
      for (yy in 1:2) {
        z02 = copy(z01[survey == sampleyears[yy] & schoolp == 1 & ss ≥ rr &
          !is.na(sp.edulevel.primary) & !is.na(sp.edulevel.secondary) & !is.na(pcland), ])
          z1 = copy(z02)
          z1[, grepout("dummy[A-Z].*HH0?.yr.$", colnames(z1)) := NULL]
    #       # keep UDOldSib, UDhdsex, UDnonmuslim, UDflooded as undemeaned levels
    #       setnames(z1,
    #         grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1)),
    #         gsub("UD", "ud", grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1))))
    #       z1[, grepout("^UD", colnames(z1)) := NULL]
    #       setnames(z1,
    #         grepout("^ud", colnames(z1)),
    #         gsub("ud", "UD", grepout("^ud", colnames(z1))))
          tabextend ← c("yes", "", "yes", "")
          tabcohortdemeaned ← c("", "yes", "", "yes")
          for (s in 1:3)
```

```
#  choice of age cutoff
{
  s0 ← (10:12)[s]
  if (ii == 2 & jj == 5) {
    s0 ← 6
    MaxAge ← 9
  } else {
    MaxAge ← 18
  }
  i ← paste0(”older”, s0)
  # latter panel: 5 ≤ age < s0 in 1999/2002
  iiid ← unique(z1[
    s0 ≤ eval(parse(text = paste0(”AgeIn”, cohort.years[jj]))) &
    eval(parse(text = paste0(”AgeIn”, cohort.years[jj]))) ≤ MaxAge
    #maxAge
    , uniquid])
  # Keep only former complete panel and respective years.
  z2 ← z1[uniquid %in% iiid & survey != cutout.year, ]
  z2[, grepout(”exist|In”, colnames(z2)) := NULL]
  z2 ← dropunbalanced(z2, returnDT = T)
  # z3: nuclear family
  z3 ← z2[sd == 1, ]
  z3 ← dropunbalanced(z3, returnDT = T)
  cat(”\n\nage cutoff:”, i, ”\n\n”)
  print(table0(z1[, .(survey, agegroup = (uniquid %in% iiid))]))
  cat(”dimension of original z1:”, dim(z1), ”\n”)
  cat(”dimension of z2 after keeping only”, s0, ”−”, maxAge, ”year olds:”,
  dim(z1)[1], ”==>”, dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], ”\
  cat(”dimension of z2 after keeping only balanced portion:”,
  dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], ”==>”, dim(z2)[1], ”\
  cat(”number of individuals in the panel:”)
  print(table(table(z2[, uniquid])))
  cat(”dimension of z3 after keeping only nuclear members:”, dim(z3), ”\n\n”)
  cat(”first−diffference estimator\n”)
  for (j in 2) {
    zz00 = copy(get(z23[j]))
    for (ge in 1:3) {
      if (ge == 1) {
        zz0 = copy(zz00[UDsex ≤ 0, ])
        zz0[, grepout(”^sex”, colnames(zz0)) := NULL]
      } else  if (ge == 2){
        zz0 = copy(zz00[sex > 0, ])
        zz0[, grepout(”^sex”, colnames(zz0)) := NULL]
      } else zz0 = copy(zz00)
      if (nrow(zz0) < SkipLowerBound) {
        cat(”Skipped due to small number of obs:”, nrow(zz0), ”\n”)
        next
      }
      setkey(zz0, uniquid, survey)
      zz0[, survey := NULL]
      for (m in 1:length(aghh.defs)) {
        zz = copy(zz0)
        # Use a particular agHH definition.
        # change the name of current ag HH (agHH0, isagHH, ocagHH) to ”agHH”
        setnames(zz,
          grepout(aghh.defs[m], colnames(zz))
```

```
      ,
      gsub(aghh.defs[m], "agHH", grepout(aghh.defs[m], colnames(zz)))
    )
    # drop other ag HH definitions
    zz[, grepout(paste0(aghh.defs.regexpr[-m], collapse = "|"), colnames(zz
    zz[, grepout(paste0("^", aghh.defs[-m], "$", collapse = "|"), colnames(
    zz[, grepout(paste0("^UD", aghh.defs[-m], "$", collapse = "|"), colnames
    # Create X.agHH terms
    # add sex as covariate for UDTerms to have corresponding DemeanedTerms
    zz[, sex := UDsex - mean(UDsex)]
    # 1. Extract interaction terms
    yrXTerms <- grepout("\\.yr.$", colnames(zz))
    agIntTerms <- gsub("\\.yr.", "", grepout("\\.ag.*?\\.yr", yrXTerms))
    agIntHead <- gsub("\\.agHH", "", agIntTerms)
    UDagIntHead <- paste0("UD", agIntHead)
    UDagIntTerms <- paste0("UD", agIntTerms)
    # 2. Create UDagIntTerms (undemeaned interaction) UDX.agHH0 terms
    zz[, (UDagIntTerms) := NA]
    # agHH def is already demeaned
    zz[, agHH := as.integer(agHH>0)]
    for (v in 1:length(UDagIntTerms))
      set(zz, j = UDagIntTerms[v], value = zz[[UDagIntHead[v]]]*zz[["agHH"]
    # 4. Create demeaned X terms
    # Restore demeaned terms to form demeaned interactions
    # (Also demean agHH def which is included in DemeanedTerms)
    for (v in 1:length(UDagIntHead))
      set(zz, j = agIntHead[v],
        value = zz[[UDagIntHead[v]]]-mean(zz[[UDagIntHead[v]]]))
    # 4. Create agIntTerms (demeaned X.agHH terms)
    zz[, (agIntTerms) := NA]
    for (v in 1:length(agIntTerms))
      set(zz, j = agIntTerms[v], value = zz[[agIntHead[v]]]*zz[["agHH"]])
    # drop yrX terms
    zz[, grepout("\\.yr.$", colnames(zz)) := NULL]
    ns <- Rs <- NULL
    resul <- est <- vector("list", length = length(regressorsS))
    for (k in 1:length(regressorsS)) {
      if (s0 == 10 & j == 1 & m == 1) {
        cat(paste0("(", k, ")\n"))
        print0(paste0("+ ",
          grepout(paste(regressorsS[k], sep = "", collapse = "|"), colnames(
      }
      regrsr <- paste(regressorsS[1:k], sep = "", collapse = "|")
      covariates <- grepout(
        paste(var.always.use, regrsr, sep = "|", collapse = "|")
        , colnames(zz))
      zr <- zz[, covariates, with = F]
      RHS <- covariates[!grepl("^uniquid$|^thana$|^DaysAbsent$|^UD", covaria
      form <- as.formula(paste0(regsnd[k], "~", paste(RHS, collapse = "+")))
      rsl <- lm(data=data.frame(zr), form)
      estres <- clubSandwich::coef_test(rsl, vcov = "CR2",
        cluster = as.numeric(zr[, thana]), test = "Satterthwaite")
      estres <- as.data.frame(estres)
      estres <- estres[, -1]
      estci <- clubSandwich::conf_int(rsl, vcov = "CR2", level = 0.95,
        test = "Satterthwaite", cluster = as.numeric(zr[, thana]), coefs = "
```

```
        estci ← as.data.frame(estci)
        colnames(estres)[c(1:2, 4:5)] ← c("Estimate", "Std. Error", "Satt. Do
        estresLZ ← clx(rsl, cluster = matrix(as.numeric(zr[, thana])),
          returnV = T, deviation = F)
        enrr ← zr[, .(MeanDaysAbsent = mean(DaysAbsent), Num = .N), by = agHH
        resul[[k]] ←
          list(est = summary(rsl)$coeff, estBRL = estres, ciBRL = estci,
            estLZ = estresLZ$est, ciLZ = estresLZ$ci,
            df = rsl$df.residual, reg = rsl,
            R = summary(rsl)$adj.r, n = nrow(rsl$model),
            rate = enrr, level.data = zr)
        est[[k]] ← round(estres[, -3], 5)
        Rs ← c(Rs, summary(rsl)$adj.r)
        ns ← c(ns, nrow(rsl$model))
      }
      results0[[jj]][[yy]][[s]][[j]][[ge]][[m]] ← resul
      ciBRL ← lapply(resul, "[[", "ciBRL")
      ciBRL ← lapply(ciBRL, as.matrix)
      ciBRL ← lapply(ciBRL, function(x) as.data.table(x[, ]))
      ciBRL ← lapply(1:length(ciBRL), function(i) ciBRL[[i]][, reg := i])
      dfs ← lapply(resul, "[[", "df")
      ciBRL ← lapply(1:length(ciBRL), function(i) ciBRL[[i]][, df := dfs[[i]
      ciBRL ← lapply(1:length(ciBRL), function(i) ciBRL[[i]][, n := ns[i]])
      ciBRL ← lapply(1:length(ciBRL), function(i) ciBRL[[i]][, R2 := Rs[i]])
      ciBRL ← rbindlist(ciBRL, use.names = T, fill = T)
      ciBRL[, inference := "BRL"]
      setcolorder(ciBRL, c("reg", "n", "df", "R2", "inference", "Coef", "beta
      esp ← lapply(resul, "[[", "ciLZ")
      esp ← lapply(esp, as.matrix)
      esprn ← unlist(lapply(esp, rownames))
      esp ← lapply(esp, function(x) as.data.table(x[, ]))
      esp ← lapply(1:length(esp), function(i) esp[[i]][, reg := i])
      dfs ← lapply(resul, "[[", "df")
      esp ← lapply(1:length(esp), function(i) esp[[i]][, df := dfs[[i]]])
      esp ← lapply(1:length(esp), function(i) esp[[i]][, n := ns[i]])
      esp ← lapply(1:length(esp), function(i) esp[[i]][, R2 := Rs[i]])
      esp ← rbindlist(esp, use.names = T, fill = T)
      if (any(grepl("z value", colnames(esp)))) esp[, "z value" := NULL]
      estlz ← lapply(resul, "[[", "estLZ")
      estlz ← lapply(estlz, as.matrix)
      estrn ← unlist(lapply(estlz, rownames))
      estlz ← lapply(estlz, function(x) as.data.table(x[, ]))
      estlz ← rbindlist(estlz, use.names = T, fill = T)
      ciLZ ← cbind(Coef = estrn, estlz, esp)
      setnames(ciLZ, c("Coef", "beta", "SE", "t", "p_val", "CI_L", "CI_U", "r
      ciLZ[, t := NULL]
      ciLZ[, inference := "LZ"]
      cis ← rbindlist(list(ciBRL, ciLZ), use.names = T)
      cis[, data := zSobj[jj]]
      cis[, HHtype := c("all", "direct")[j]]
      cis[, agdef := aghh.defs[m]]
      cis[, agelb := s0]
      cis[, year := sampleyears[yy]]
      cis[, sample := c("contemporaneous", "all time")[rr]]
      cis[, gender := genderitems[ge]]
      CIs ← rbind(CIs, cis)
```

```
          enrr <- zr[, .(MeanDaysAbsent = mean(DaysAbsent), Num = .N), by = agHH]
          DaysAbsent <- rbind(DaysAbsent,
            cbind(zSobj[jj], c("all", "nuclear")[j],
              sampleyears[yy], c("contemporaneous", "all time")[rr],
              c("default", aghh.defs[-1])[m],
              c("boys", "girls", "boys+girls")[ge],
              s0, enrr),
            use.names = F
          )
          # Save mean progression rate changes
          # x: agHH, y: nonagHH
          ttestE <- t.test(zr[agHH == 1L, DaysAbsent], zr[agHH == 0L, DaysAbsent])
          DaysAbsentchg <- rbind(DaysAbsentchg,
            cbind(
                zSobj[jj], c("all", "nuclear")[j],
                sampleyears[yy], c("contemporaneous", "all time")[rr],
                c("default", aghh.defs[-1])[m],
                c("boys", "girls", "boys+girls")[ge],
                s0, round(-diff(unlist(ttestE["estimate"])), 3), # -diff = -(y - x
                t(as.numeric(unlist(lapply(ttestE[c("estimate", "conf.int", "p.val
                )
              )
        }  # m: ag HH definitions
      } # ge: gender
    }  # j: z2 (incl. extended) or z3 (nuclear)
   }  # s: upperbound age cutoffs (10, 15)
  } # yy: 1999 or 2002
 } # rr: 1 contemporanesou enroller or 2 all time enroller
 }  # jj: zE / zS sample selection
 results[[ii]] <- results0
}  # ii: main / placebo samples
# results: Results under same obs with BRL (satterthwaith dof) information
# resultsN: Results under varying number of obs between specifications
# https://cran.r-project.org/web/packages/qs/vignettes/vignette.html
setcolorder(CIs,  c("data", "sample", "year", "HHtype", "agdef", "agelb", "gender", "reg"
   "Coef", "beta", "SE", "p_val", "CI_L", "CI_U"))
thesecols <- c("n", "df", "R2", "beta", "SE", "p_val", "CI_L", "CI_U")
CIs[, (thesecols) := lapply(.SD, as.numeric), .SDcols = thesecols]
thesecols <- colnames(CIs)[!colnames(CIs) %in% thesecols]
CIs[, (thesecols) := lapply(.SD, as.factor), .SDcols = thesecols]
library(qs)
qsave(results, paste0(pathsaveThisVer, "DID_DaysAbsentCrossSection_results.qs"))
qsave(CIs, paste0(pathsaveThisVer, "DID_DaysAbsentCrossSection_CIs.qs"))

CIs[grepl("Em", data) & grepl("4|5|7", reg) & grepl("^agH", Coef) & grepl("all", sample) &
  agelb == 10 & grepl("B", inference) & grepl("s.g", gender), ]

DaysAbsent <- data.table(DaysAbsent)
DaysAbsentchg <- data.table(DaysAbsentchg)
setnames(DaysAbsentchg, c("data", "HHtype", "year", "sample", "agHHdef",
  "gender", "agelb", "AgNonag", "agHH", "nonagHH", "lb95", "ub95", "pvalue"))
setnames(DaysAbsent, c("data", "HHtype", "year", "sample", "agHHdef", "gender", "agelb",
   "agHH",  "rate", "Obs"))
DaysAbsent[, gender := factor(gender, levels=genderitems)]
DaysAbsent[, agHHdef := factor(agHHdef, levels=aghh.defs)]
qsave(DaysAbsent, paste0(pathsaveThisVer, "DaysAbsentCrossSection.qs"))
```

```
qsave(DaysAbsentchg, paste0(pathsaveThisVer, "DaysAbsentchgCrossSection.qs"))

# grades: results[[ii]][[jj]][[ge]][[s]][[j]][[m]][[clnum]][[k]]
resultsGG ← qread( paste0(pathsaveThisVer, "DID_NumGradesEnrollersGenderResults.qs"))
# days absent: results[[ii]][[jj]][[ge]][[s]][[j]][[m]][[clnum]][[k]]
resultsDE ← qread(paste0(pathsaveThisVer, "DID_DaysAbsentEnrollersGenderResults.qs"))
#resultsDN ← qread(paste0(pathsaveThisVer, "FD_N_DaysAbsentGenderCRCoV_results.qs"))
# G: 1, D: 2, GE: 3, GIE: 4, DE: 5
# GG: en: 1=initial enrollers, 2=all time enrollers
# G: 1, D: 2, GG[[2]] all time: 3, GG[[1]] initial: 4, DE: 5
zsobj ← c("zmobj", "zpobj")
zmobj ← "zEm.1999"
zpobj ← c("zEp.2002", "zEp.1999")
eGD ← NR ← Enr ← NULL
for (gd in 1:3) {
  for (ii in 1) {
    zSobj ← get(zsobj[[ii]])
    for (jj in 1:length(zSobj)) {
      thisdata ← zSobj[[jj]]
      for (s in 1:3) {
        for (j in 1:2) {
          for (ge in 1:3) {
            for (m in 1:4) {
              for (clnum in 1:2) {
                if (gd == 1)  {
                  # grades, initial enrollers
                  estGDs1 ← resultsG[[ii]][[jj]][[1]][[s]][[j]][[ge]][[m]][[clnum]]
                } else if (gd == 2) { # all time enrollers
                  # grades, all time enrollers
                  estGDs1 ← resultsG[[ii]][[jj]][[2]][[s]][[j]][[ge]][[m]][[clnum]]
                } else if (gd == 3) {
                  # days absent, all time enrollers
                  estGDs1 ← resultsD[[ii]][[jj]][[s]][[j]][[ge]][[m]][[clnum]]
                }
                estGDs ← lapply(estGDs1, "[[", "ci")
                estGDs ← lapply(estGDs, data.table)
                estGDs ← lapply(1:length(estGDs), function(i) estGDs[[i]][, reg := i])
                estGDs ← rbindlist(estGDs)
                # if clnum == 1, estFM only contain CIs
                if (clnum == 1) {
                  esp ← lapply(estGDs1, "[[", "est")
                  esp ← lapply(esp, as.matrix)
                  esprn ← unlist(lapply(esp, rownames))
                  esp ← lapply(esp, function(x) as.data.table(x[, ]))
                  dfs ← lapply(lapply(estGDs1, "[[", "est"), function(x) attributes(x)$df
                  esp ← lapply(1:length(esp), function(i) esp[[i]][, df := dfs[[i]]])
                  esp ← rbindlist(esp, use.names = T, fill = T)
                  if (any(grepl("z value", colnames(esp)))) esp[, "z value" := NULL]
                  estGDs ← cbind(Coef = esprn, esp, estGDs)
                  setnames(estGDs, c("Coef", "beta", "SE", "t", "p_val", "df", "CI_L", "C
                  estGDs[, t := NULL]
                }
                setcolorder(estGDs, c("Coef", "beta", "SE", "df", "p_val", "CI_L", "CI_U"
                estGD ← estGDs
                estGD[, file := c("grade", "absent", "grade enr", "grade initial enr", "ab
                estGD[, agelb := (10:12)[s]]
```

```
                estGD[, agdef := aghh.defs[m]]
                estGD[, HHtype := c("all", "direct")[j]]
                estGD[, inference := c("LZ", "BRL")[clnum]]
                estGD[, gender := genderitems[ge]]
                estGD[, data := thisdata]
                eGD ← rbind(eGD, estGD)
                # n and R2
                nR ← lapply(lapply(estGDs1, "[[", "reg"),
                  function(x) t(c(length(summary(x)$res), summary(x)$r.sq)))
                nR ← lapply(nR, data.table)
                nR ← lapply(1:length(nR), function(i) nR[[i]][, reg := i])
                nR ← rbindlist(nR)
                nR[, file := c("grade", "absent", "grade enr", "grade initial enr", "abser
                nR[, agelb := (10:12)[s]]
                nR[, agdef := aghh.defs[m]]
                nR[, HHtype := c("all", "direct")[j]]
                nR[, gender := genderitems[ge]]
                nR[, data := thisdata]
                setnames(nR, paste0("V", 1:2), c("n", "R"))
                nR[, n := formatC(n, digits = 0, format = "f")]
                nR[, R := formatC(R, digits = 4, format = "f")]
                NR ← rbind(NR, nR)
                # treated and control means
                zid ← lapply(estGDs1, "[[", "level.data")
                zidd ← lapply(estGDs1, "[[", "diff.data")
                zid ← lapply(1:length(zid), function(i) zid[[i]][uniquid %in% zidd[[i]][,
                zid ← lapply(zid, function(x) x[eval(parse(text=grepout("agHH$", colnames
                          agHH := 1L])
                zid ← lapply(zid, function(x) x[eval(parse(text=grepout("agHH$", colnames
0,
                          agHH := 0L])
                zid ← lapply(zid, function(x) x[, tee := 1:.N, by = uniquid])
                if (gd %in% c(1, 3, 4))
                  lapply(zid, function(x) setnames(x, "NumGrades", "LHS")) else
                  lapply(zid, function(x) setnames(x, "DaysAbsent", "LHS"))
                enr ← lapply(zid, function(x) x[, .(EnRate = mean(LHS), Num = .N), by = .
                enr ← lapply(1:length(enr), function(i) enr[[i]][, spec := i])
                enr ← rbindlist(enr)
                enr[, agelb := (10:12)[s]]
                enr[, agdef := aghh.defs[m]]
                enr[, HHtype := c("all", "direct")[j]]
                enr[, gender := genderitems[ge]]
                enr[, data := thisdata]
                enr[, file := c("grade", "absent", "grade enr", "grade initial enr", "abse
                enr ← unique(enr[, spec := NULL])
                Enr ← rbind(Enr, enr)
              } # clnum
            } # m
          } # ge
        } # j
      } # s
    } # jj
  } # ii
} # gd
eGD[, file := factor(file)]
eGD[, reg := factor(reg)]
```

```
eGD[, agelb := factor(agelb)]
eGD[, agdef := factor(agdef)]
eGD[, HHtype := factor(HHtype)]
eGD[, inference := factor(inference)]
eGD[, gender := factor(gender, levels = genderitems)]
eGD[, data := factor(data)]
qsave(eGD, paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulated.qs"))
qsave(NR, paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulatedNR.qs"))
qsave(Enr, paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulatedEnr.qs"))
```

IV.2 Subsample estimation: age groups, non Muslims, flood

IV.2.1 Age wise subsamples

```
library(clubSandwich)
library(fwildclusterboot)
SkipLowerBound <- 40
clusterlevel <- "thana"
zEm.1999 <- readRDS(paste0(pathsaveThisVer, "zEm1999.rds"))
zEm.1999[, agHH0 := as.numeric(agHH0 > 0)]
zSm.1999 <- readRDS(paste0(pathsaveThisVer, "zSm1999.rds"))
zEp.1999 <- readRDS(paste0(pathsaveThisVer, "zEp1999.rds"))
zEp.2002 <- readRDS(paste0(pathsaveThisVer, "zEp2002.rds"))
zSp.1999 <- readRDS(paste0(pathsaveThisVer, "zSp1999.rds"))
zSp.2002 <- readRDS(paste0(pathsaveThisVer, "zSp2002.rds"))
zYp.1999 <- readRDS(paste0(pathsaveThisVer, "zYp1999.rds"))
zEp.1999[, AgeIn1999 := Age[survey == 2002] - 3, by = uniquid]
zSp.1999[, AgeIn1999 := Age[survey == 2002] - 3, by = uniquid]
zf <- unique(zEm.1999[, .(uniquid, AgeGroup1999, Agegroup1999)])
zf[, AgeGroup1999 := droplevels(AgeGroup1999)]
zf[, Agegroup1999 := droplevels(Agegroup1999)]
setkey(zf, uniquid)
ze <- unique(zEm.1999[, .(uniquid, Edu1999)])
ze <- ze[!grepl("other", Edu1999), ]
ze[, Edu1999 := droplevels(Edu1999)]
setkey(ze, uniquid)
z23 <- c("z2", "z3")
# Edu1999 is actual class in 1999 which is not defined for outofschool children.
#    6-10: Primary (primary0103, primary0405)
#  11-13: Junior secondary (secondary 0608)
#  14-15: Secondary (secondary0912)
#  16-17: Higher secondary (secondary0912)
## Age wise agHH.yrX was created in Construct3RoundPanel_JHR.rnw
#  zEm.1999: Main, exist sample.
#  zEp.1999: Placebo, 2002 shocks on 1999 cohort.
#  zEp.2002: Placebo, 2002 shocks on 2002 cohort.
for (zob in c("zEm.1999", "zEp.1999", "zEp.2002")) {
  zdata <- get(zob)
  for (agstring in aghh.defs) {
    for (aa in 6:maxAge) {
      if (grepl("m", zob)) # zEm.1999
      {
        zdata[, dumage := as.numeric(eval(parse(text=paste0("Age==", aa, "")))))]
        zdata[, dumage := dumage - mean(dumage, na.rm = T)]
        zdata[, (paste0("DummyAgeIn1999_", putzeroontop(aa, F, 2), ".yr2")) :=
```

```
          eval(parse(text="(survey == 1999)*dumage"))]
        # agHH.yr2 * dumage
        zdata[, (paste0("DummyAgeIn1999.", putzeroontop(aa, F, 2), ".", agstring, ".yr2")) :=
          eval(parse(text=paste0(agstring, ".yr2*dumage")))]
      } else if (grepl("p.1", zob)) # zEp.1999
      {
        zdata[, dumage := as.numeric(eval(parse(text=paste0("Age==", aa, ""))))]
        zdata[, dumage := dumage - mean(dumage, na.rm = T)]
        zdata[, (paste0("DummyAgeIn1999.", putzeroontop(aa, F, 2), ".yr3")) :=
          eval(parse(text="(survey == 2002)*dumage"))]
        zdata[, (paste0("DummyAgeIn1999.", putzeroontop(aa, F, 2), ".", agstring, ".yr3")) :=
          eval(parse(text=paste0(agstring, ".yr3*dumage")))]
      } else { # zEp.2002
        zdata[, dumage := as.numeric(eval(parse(text=paste0("Age==", aa, ""))))]
        zdata[, dumage := dumage - mean(dumage, na.rm = T)]
        zdata[, (paste0("DummyAgeIn2002.", putzeroontop(aa, F, 2), ".yr3")) :=
          eval(parse(text="(survey == 2002)*dumage"))]
        zdata[, (paste0("DummyAgeIn2002.", putzeroontop(aa, F, 2), ".", agstring, ".yr3")) :=
          eval(parse(text=paste0(agstring, ".yr3*dumage")))]
      }
    }
  }
  assign(zob, zdata)
}
zsobj <- c("zEm.1999", "zEp.2002", "zEp.1999")
names(zsobj) <- c("main", "placebo2", "placebo9")
# Data vector elements.
# Except for Y, each has 3 elements because there are 3 age groupings.
# zEm.1999: 1999 shocks on 1999 cohorts (agewise, AgeGroup, Agegroup)
# zEp.2002: 2002 shocks on 2002 cohorts (agewise, AgeGroup, Agegroup)
# zEp.1999: 2002 shocks on 1999 cohorts (agewise, AgeGroup, Agegroup)
# zYp.1999: 2002 shocks on young 1999 cohorts
cohort.years.list <- list(
    main = 1999
  , placebo2 = 2002
  , placebo9 = 1999
)
# year to drop from data
cutout.years <- c(2006, 1999, 1999, 1999)[-4]
InterYearsList <- list(
    main = 2002
  , placebo2 = 2006
  , placebo9 = 2002
)
yrXs <- c("yr2", "yr3", "yr3")
ShockYears <- c(1999, 2002, 2002)
AGEgrouping <- c("AgeGroup2", "AgeGroup3")
AgeGroup2 <- list(pri=6:10, sec=11:17, coll=18)
AgeGroup3 <- list(young=6:9, junior=10:15, senior=16:18)
  # AgeGroup2 = Agegroup: 6-10, 11-17, above17
  # AgeGroup3 = Agegroup: 6-10, 11-15, above16
variables.always.use <- "schoolp|Enrolled|^agHH.yr2|^agHH$|^thana$|uniqu|^UDO|UDhds"
# year to interact with agHH. yr2 is yr1-yr2 diff, yr3 is yr2-yr3 diff.
reorder.list <- list(
    main = main.reorder.JHR
  , placebo = main.reorder.JHR
```

```
  , placebo2 = main.reorder.JHR
)
regressors.list ← list(
  main = regressorsM,
  placebo2 = regressorsM2002,
  placebo9 = regressorsM2002
)
# EnrCV.age: enrollment rates by agHH*agegroup*period
# EnrCVchg.age: enrollment rate changes by agHH*agegroup*period
Enr.Agegroup ← Enrchg.Agegroup ← NULL
boxWidth ← 4
centerWidth ← 1.2
old ← F
results ← vector("list", length(zsobj)) # ii
names(results) ← names(zsobj)
for (ii in 1:length(zsobj)) {
  z001 ← changehyphen(get(zsobj[ii]))
  regressorsS ←  regressors.list[[ii]]
  cohort.years ← cohort.years.list[[ii]] # tested on cohort 1999 or cohort 2002
  cutout.year ← cutout.years[ii]
  InterYears ← InterYearsList[[ii]]
  reorder ← reorder.list[[ii]]
  yrxYear ← ShockYears[ii] # Supposed shock year: 1999 or 2002
  yrX ← yrXs[ii]  # Supposed shock year in yrY description: yr2 or yr3
  resge ← list(boys = NULL, girls = NULL, "boys+girls" = NULL) # j
  for (ge in 1:3) {
    if (ge == 1) z01 ← z001[sex ≤ 0, ] else if (ge == 2) z01 ← z001[sex > 0, ] else z01
z001
    resdd ← list(demeaned = NULL, undemeaned = NULL)
      z1 = copy(z01)
      # keep UDOldSib, UDhdsex, UDnonmuslim, UDflooded as undemeaned levels
      setnames(z1,
        grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1)),
        gsub("UD", "ud", grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1))))
      z1[, grepout("^UD", colnames(z1)) := NULL]
      setnames(z1,
        grepout("^ud", colnames(z1)),
        gsub("ud", "UD", grepout("^ud", colnames(z1))))
      z1[, grepout("^UD", colnames(z1)) := NULL]
      z1[, village := factor(gsub(" ", "", village))]
      z1[, grepout("exist|\\-\\d$|DummyAge", colnames(z1)) := NULL]
      resm ← vector("list", length = length(aghh.defs)) # m
      names(resm) ← aghh.defs
      for (m in 1:4) {
        z11 = copy(z1)
        # change the name of current ag HH (agHH0, isagHH, ocagHH) to "agHH"
        setnames(z11,
          grepout(aghh.defs[m], colnames(z1))
          ,
          gsub(aghh.defs[m], "agHH", grepout(aghh.defs[m], colnames(z11)))
        )
        # drop other ag HH definition
        z11[, grepout(paste0(aghh.defs.regexpr[-m], collapse = "|"), colnames(z11)) := NU
        # change yr2 => yr3 if placebo, yr3 => yr2 if main
        var.always.use ← variables.always.use
        if (grepl("yr2", yrX))
```

```
      var.always.use ← gsub("yr3", "yr2", var.always.use) else
      var.always.use ← gsub("yr2", "yr3", var.always.use)
    z2 ← z11[survey != cutout.year, ]
    # Drop yrX other than yrx
    if (any(grepl(unique(yrXs[yrX != yrXs]), colnames(z2))))
      z2[, grepout(unique(yrXs[yrX != yrXs]), colnames(z2)) := NULL]
    # Do not drop agHH.yrX becase we use it as the regressor of reference category
    z2 ← dropunbalanced(z2, returnDT = T)
    z3 ← z2[sd == 1, ]
    z3 ← dropunbalanced(z3, returnDT = T)
    resj ← vector("list", length = 2) # j
    names(resj) ← c("all", "direct")
    regsnd ← rep("schoolp", length(regressorsS))
    for (j in 1:2) {
      zz0 ← get(z23[j])
      setkey(zz0, uniquid, survey)
      zz = copy(zz0)
      resgg ← vector("list", length = length(AGEgrouping)) # gg
      names(resgg) ← AGEgrouping
      for (gg in 1:length(AGEgrouping)) {
        AGEgroup ← get(AGEgrouping[gg])  # agewise, AgeGroup1, AgeGroup2
        aghhvar ← aghh.defs[1]
        ns ← NULL
        cat("\n\n")
        print0(zSobj[gg])
        cat("\n")
        cat(AGEgrouping[gg])
        cat("\n\n")
        print(grepout("agHH\\.|Age", grepout(var.always.use, colnames(z3))))
        resag ← vector("list", length = length(AGEgroup)) # ag
        names(resag) ←  names(AGEgroup)
        for (ag in 1:length(AGEgroup))
        {
          # target ages: minAge - maxAge in cohort.years
          iiid ← unique(z2[eval(parse(text = paste0("AgeIn", cohort.years))) ≥
min(AGEgroup[[ag]])
            & eval(parse(text = paste0("AgeIn", cohort.years))) ≤ max(AGEgroup[[ag]])
          zzg ← zz[uniquid %in% iiid, ]
          if (nrow(zzg) < SkipLowerBound) {
            cat("Skipped due to small number of obs:", nrow(zzg), "\n")
            next
          }
          ns ← NULL
          resul ← est ← vector("list", length = length(regressorsS))
          for (k in 1:length(regressorsS))
          {
            regrsr ← paste(regressorsS[1:k], sep = "", collapse = "|")
            covariates ← grepout(paste(var.always.use, regrsr, sep = "|"), colnames(z
            print0(paste0("+ ", grepout(regressorsS[k], colnames(z3))))
            zr ← zzg[, covariates, with = F]
            # source("EstimatorFunctions.R")
            rs ← DID1(data.frame(zr), regressand = regsnd[k],
                clusterstring = clusterlevel, group = "^uniquid$",
                NotToBeDifferenced = "^agHH$|^UD|^pc.*[dt]$",
                intercept = T, PeriodToDropForLC = 2,
                TimeVariant = "program|age2|meanY",
```

```
          opposite.time.order = F,
          TurnFactorToNumeric = T, returnV = T, print.messages = F)
        resul[[k]] <- list(level.data = rs$level, diff.data = rs$diff, est = rs$es
        est[[k]] <- round(rs$est[, -3], 5)
        ns <- c(ns, rs$N)
      }
        # Reconstruct covariates and take demeaned interactions are done in the fi
        source(paste0(pathprogram0, "ReconstructCovariatesForDemeanedInteractions
      zt = copy(zz) # zz is z2/z3
      if (any(grepl("schoolp", colnames(zt)))) setnames(zt, "schoolp", "Enrolled")
      # save mean enrollment rate changes
      zt[, aghh := 1L]
      zt[agHH <= 0, aghh := 0L]
      zt[, tee := 1]
      zt[survey == max(survey), tee := 2]
      enrr <- zt[, .(EnRate = mean(Enrolled), Obs = .N),
        by = .(aghh, tee)]
      d0 <- zt[aghh == 0L, .(diff = diff(Enrolled)), by = uniquid][, diff]
      d1 <- zt[aghh == 1L, .(diff = diff(Enrolled)), by = uniquid][, diff]
      ttestE <- t.test(d1, d0)
      Enr.Agegroup <- rbind(Enr.Agegroup,
        cbind(zSobj[jj], aghh.defs[m],
          names(resj)[j], AGEgrouping[gg], names(AGEgroup)[ag], names(resge)[ge],
          enrr)
        , use.names = T, fill = T)
      Enrchg.Agegroup <- rbind(Enrchg.Agegroup,
        t(c(zSobj[jj], aghh.defs[m],
          names(resj)[j], AGEgrouping[gg], names(AGEgroup)[ag], names(resge)[ge],
          round(-diff(unlist(ttestE["estimate"])), 3),
          unlist(lapply(ttestE[c("estimate", "conf.int", "p.value")], round, 4)))
        , use.names = F)
      if (any(grepl("LHS", colnames(zidd)))) setnames(zidd, "LHS", "Enrolled")
      # Drop covariates not used in 1st run for zYp.1999 data, because they are al
      # Covariates of: AgeIn1999.06, AgeIn1999.07.
      iiAllZero <- sapply(zidd, function(x) all(x == 0))
      zidd <- zidd[, !iiAllZero, with = F]
      zidd[, tee := 1] # redundant but needed in FDestimation.
      res <- vector("list", length(ClusteringMethod)) # ii
      names(res) <- names(ClusteringMethod)
      for (cl in ClusteringMethod[-3]) {
        Rs <- ns <- NULL
        est <- vector("list", length(regressorsS))
        UseSmallClusterCorrection <- cl
        cat("\n\n###", cl, "###\n\n")
        est <- res <- resul <- vector("list", length = length(regressorsS)) # k
        res <- rep(list(res), length(ClusteringMethod)) # cl:
        names(res) <- ClusteringMethod
        clnum <- 1
        if (grepl("satt", cl)) clnum <- 2
        # res[[cl]][[k]]: this is stored for each cl in resge[[ag]]
        # resultsN: raw results (not under same obs)
        for (k in 1:length(regressorsS)) {
          regrsr <- paste(regressorsS[1:k], sep = "", collapse = "|")
          covariates <- grepout(paste(var.always.use, regrsr, sep = "|"),
            colnames(zidd))
          # var.always.use has level variables used only for destat purpose, so dr
```

```
        covariates <- covariates[!grepl("^UD|^pc.*[dt]$", covariates)]
        zr <- zidd[, c(covariates, "tee"), with = F]
        # zidd took t - (t-1) difference, so schoolp is usually 0 or -1 (1 in 19
        # In our estimation, we take (t-1) - t difference.
        # source("EstimatorFunctions.R")
        rsl <- DID2(dX0 = zr, Regressand = "Enrolled",
                 Group = "^uniquid$", TimeVar = "tee", Cluster = "thana",
                 TimeVariant = "program|age2|meanY|yield",
                 opposite.time.order = F, Exclude = "^agHH$", intercept = T,
                 SmallClusterCorrection = UseSmallClusterCorrection,
                 WCBType = "webb",
                 return.V = T, print.messages = T)
        if (!is.logical(UseSmallClusterCorrection) && grepl("satter", UseSmallC
          # Correct format of estimation results for clubSandwich outputs
          rsl$est <- as.data.frame(rsl$est)
          rsl$est <- rsl$est[, -1]
          colnames(rsl$est)[c(1:2, 4:5)] <- c("Estimate", "Std. Error", "Satt. D
        } else if (!is.logical(UseSmallClusterCorrection) && grepl("wild", UseS
          # Correct format of estimation results for wildclusterboot outputs
          rsl$est <- as.data.frame(rsl$est)
          colnames(rsl$est)[c(1:2, 4)] <- c("Estimate", "Std. Error", "Pr(>|t|)"
        }
        # results0: results under same obs
        res[[clnum]][[k]] <- list(
          est = rsl$est, ci = rsl$CI,
          df = rsl$reg$df, reg = rsl$reg,
          level.data = z2[uniquid %in% zidd[, uniquid], gsub("Enrolled", "school
          diff.data = rsl$data)
        est[[k]] <- round(rsl$est[, -3], 5)
        Rs <- c(Rs, summary(rsl$nonrobust)$adj.r)
        ns <- c(ns, rsl$N)
      } # k: reg specification
      assign(paste0("addthis", j),
        rbind("\\hspace{.5em}thana dummies" =
          paste0("\\mbox{", c(rep("", length(regressorsS)-1), rep("yes", 1)),
          "$\\bar{R}^{2}$" = gsub("^0", "", formatC(Rs, digits = 4, format = "f
          "n" = ns,
          "control mean at baseline" =
            rep(formatC(enrr[tee == 1 & aghh == 0, EnRate],
              digits = 2, format = "f"), length(regressorsS)),
          "control mean at follow up" =
            rep(formatC(enrr[tee == 2 & aghh == 0, EnRate],
              digits = 2, format = "f"), length(regressorsS)),
          "treated mean at baseline" =
            rep(formatC(enrr[tee == 1 & aghh == 1, EnRate],
              digits = 2, format = "f"), length(regressorsS)),
          "treated mean at follow up" =
            rep(formatC(enrr[tee == 2 & aghh == 1, EnRate],
              digits = 2, format = "f"), length(regressorsS)),
          "raw DID" =
            rep(formatC(
            enrr[tee == 2 & aghh == 1, EnRate] - enrr[tee == 1 & aghh == 1, Enl
            -(enrr[tee == 2 & aghh == 0, EnRate] - enrr[tee == 1 & aghh == 0, E
              digits = 2, format = "f"), length(regressorsS))
        )
      )
```

```
INformat ← "LZ"
OUTformat ← "ep"
if (cl == "wildclusterboot") {
  INformat ← "wcb"
  OUTformat ← "epc"
} else if (cl == "satterthwaite") {
  INformat ← "satt"
  OUTformat ← "satt"
  OUTformat ← "esDoF"
}
# Incorporate CI/DoF in table
# reorder needs to be corrected
# Tab.Est is in tabulate_est.R
# source("tabulate_est.R")
tbest ← Tab.Est(est, reorder, output.in.list = T,
  Informat = INformat, Outformat = OUTformat,
  AddStars = T, #TableFormat = tabformat,
  LastLineVariables = c("lowMeanY$", "kut.*e.yr.$"),
  InterWithTexts = paste0(InterYears, c("", "*agricultural household")),
  DeleteRowStrings = "^p\\$|^se\\$|^CI\\$|^DoF\\$",
  addbottom = get(paste0("addthis", j)), subst.table = sbt)
  # If base::":"(from, to) error, check reorder.
# Split a table in to 2 tables
tbest11 ← tbest[[1]][1:(grep(paste0("inter.*", InterYears, ".*ag"), tbest
tbest12 ← tbest[[2]][1:(grep(paste0("inter.*", InterYears, ".*ag"), tbest
tbest21 ← tbest[[1]][grep(paste0("inter.*", InterYears, ".*ag"), tbest[[
tbest22 ← tbest[[2]][grep(paste0("inter.*", InterYears, ".*ag"), tbest[[
iispace11 ← which(
  grepl(".", tbest11) &
  !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest11)
  )
if (nrow(tbest12) == max(iispace11)) iispace11 ← iispace11[iispace11 != n
iispace12 ← iispace11[seq(2, length(iispace11), 2)]
iispace21 ← which(
  grepl(".", tbest21) &
  !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest21)
  )
if (nrow(tbest22) == max(iispace21)) iispace21 ← iispace21[iispace21 != n
# drop last rows of tbest2 to shrink row space
iispace22 ← iispace21[seq(2, length(iispace21), 2)]
if (grepl("Lian", cl)) {
# ep: 2 rows per estimate
  AdjustLineSkipRows1 ← iispace11
  AltColorRows1 ← c(iispace12, iispace12+1)
  AdjustLineSkipRows2 ← iispace21
  AltColorRows2 ← c(iispace22, iispace22+1)
} else {
# epc, satt: 3 rows per estimate
  AdjustLineSkipRows1 ← c(iispace11, iispace11+1)
  AltColorRows1 ← c(iispace12, iispace12+1, iispace12+2)
  AdjustLineSkipRows2 ← c(iispace21, iispace21+1)
  AltColorRows2 ← c(iispace22, iispace22+1, iispace22+2)
}
tbl1 ← saveEstTable(tbest12, tbest11, boxWidth,
  hleft = "\\hfil\\tiny$", hright = "$",
  hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
```

```
  delimiterline = NULL, adjustlineskip = "-0.7ex",
  adjlskiprows = AdjustLineSkipRows1,
  alternatecolorManual = AltColorRows1,
  alternatecolorManualColor = "gray80")
tbl2 ← saveEstTable(tbest22, tbest21, boxWidth,
  estimationspacelast = grep("thana dummi", tbest21),
  hleft = "\\hfil\\tiny$", hright = "$",
  hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
  delimiterline = NULL, adjustlineskip = "-0.7ex",
  adjlskiprows = AdjustLineSkipRows2,
  alternatecolorManual = AltColorRows2,
  alternatecolorManualColor = "gray80")
# Modify "interaction with ..." lines to use multicolumn
InterRows1 ← grep("nteract.*\\d", tbl1)
InterRows2 ← grep("nteract.*\\d", tbl2)
for (ir in InterRows1) {
  if (any(grepl("rowcolor", tbl1[ir])))
    tbl1[ir] ←
      # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\makeb
      # For rows with rowcolor command at the end
      paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
        gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
        #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
        gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
        )
        ) else
      # For rows without rowcolor command at the end
    tbl1[ir] ←
      paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
        gsub("(\\\\\\\\.*ex.$)", "}\\1",
        #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
        gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
        )
        )
    # \multicolumn{5}{l}{\makebox[Xcm]{inter with A}} \\\rowcolor{}
    # => \multicolumn{5}{l}{\makebox[10cm]{\textit{inter with A}\hfill}}\\
    tbl1[ir] ← gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl1[ir])
    tbl1[ir] ← gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl1[ir])
    tbl1[ir] ← gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl1[ir])
}
for (ir in InterRows2) {
  if (any(grepl("rowcolor", tbl2[ir])))
    tbl2[ir] ←
      # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\makeb
      # For rows with rowcolor command at the end
      paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
        gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
        #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
        gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
        )
        ) else
      # For rows without rowcolor command at the end
    tbl2[ir] ←
      paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
        gsub("(\\\\\\\\.*ex.$)", "}\\1",
        #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
```

```
                        gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
                        )
                        )
                    # \multicolumn{5}{l}{\makebox[Xcm]{inter with A}} \\\rowcolor{}
                    # => \multicolumn{5}{l}{\makebox[10cm]{\textit{inter with A}\hfill}}\\
                    tbl2[ir] ← gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl2[ir])
                    tbl2[ir] ← gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl2[ir])
                    tbl2[ir] ← gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl2[ir])
                }
                clCap ← paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100))
                pathtosavedtable1 ← TabFilePathF(
                  FolderPath = pathsaveThisVer,
                  Sample = gsub("\\.", "", zSobj[jj]),
                  AgeCutoff = paste0(AGEgrouping[gg], names(AGEgroup)[ag]),
                  HHType = paste0(c("", "Nuclear")[j], c("Boys", "Girls", "")[ge]),
                  AgHHDef = "",
                  CRSEMethod = paste0(clCap, 1)
                )
                pathtosavedtable2 ← TabFilePathF(
                  FolderPath = pathsaveThisVer,
                  Sample = gsub("\\.", "", zSobj[jj]),
                  AgeCutoff = paste0(AGEgrouping[gg], names(AGEgroup)[ag]),
                  HHType = paste0(c("", "Nuclear")[j], c("Boys", "Girls", "")[ge]),
                  AgHHDef = "",
                  CRSEMethod = paste0(clCap, 2)
                )
                write.tablev(tbl1, pathtosavedtable1, colnamestrue = F, rownamestrue = F,
                write.tablev(tbl2, pathtosavedtable2, colnamestrue = F, rownamestrue = F,
                cat("Table saved as", pathtosavedtable1, "\n")
                cat("Table saved as", pathtosavedtable2, "\n")
              } # cl: SE clustering option
              # res has [[clnum]][[k]] levels for each ag.
              # resag has [[ag]][[clnum]][[k]] levels.
              resag[[ag]] ← res
            } # ag: age group
            # resgg has [[gg]][[ag]][[clnum]][[k]] levels.
            resgg[[gg]] ← resag
          } # gg: AGEgrouping
          # resj has [[j]][[gg]][[ag]][[clnum]][[k]] levels.
          resj[[j]] ← resgg
        } # j: household type
        # resm has [[m]][[j]][[gg]][[ag]][[clnum]][[k]] levels.
        resm[[m]] ← resj
      } # m: agHH def
    # resge has [[ge]][[j]][[gg]][[ag]][[clnum]][[k]] levels.
    resge[[ge]] ← resm
  } # ge: gender: 1 = boys, 2 = girls, 3 = boys+girls
  # results has [[ii]][[ge]][[m]][[j]][[gg]][[ag]][[clnum]][[k]] levels.
  results[[ii]] ← resge
} # ii: main/placebo
library(qs)
qsave(results, paste0(pathsaveThisVer, "DID_SubsampleAgeGroupGenderResults.qs"))
Enr.Agegroup ← data.table(Enr.Agegroup)
Enrchg.Agegroup ← data.table(Enrchg.Agegroup)
setnames(Enrchg.Agegroup, c("sample", "agdef", "HHtype",
  "AgeGrouping", "ages", "gender",
```

```
  "AgNonag", "agHH", "nonagHH", "lb95", "ub95", "pvalue"))
setnames(Enr.Agegroup, c("sample", "agdef", "HHtype", "AgeGrouping",
  "ages", "gender", "agHH", "survey", "rate", "Obs"))
Enr.Agegroup[, gender := factor(gender, levels = genderitems)]
Enr.Agegroup[, ages := factor(ages)]
Enr.Agegroup[, AgeGrouping := factor(AgeGrouping)]
Enr.Agegroup[, HHtype := factor(HHtype)]
Enr.Agegroup[, agdef := factor(agdef)]
Enr.Agegroup[, sample := factor(sample)]
qsave(Enr.Agegroup, paste0(pathsaveThisVer, "Enr.AgegroupGender.qs"))
qsave(Enrchg.Agegroup, paste0(pathsaveThisVer, "Enrchg.AgegroupGender.qs"))
Enr.Agegroup ← qread(paste0(pathsaveThisVer, "Enr.AgegroupGender.qs"))

ThisTheme ← theme(
    axis.text.x = element_text(size = 12, angle = 0, vjust = 1, hjust = .5),
    axis.text.y = element_text(size = 12),
    axis.title = element_text(size = 10),
    strip.text.x = element_text(color = "blue", size = 8,
      margin = margin(0, 1.25, 0, 1.25, "cm")),
    strip.text.y = element_text(color = "blue", size = 8,
      margin = margin(1.5, 0, 1.5, 0, "cm")),
    panel.spacing.x = unit(c(.1), units = "cm"),
    panel.spacing.y = unit(.1, units = "cm"),
    legend.position = "none")
ThisThemeEnd ← ThisTheme + theme(legend.position="bottom")

library(ggplot2)
Res2 ← qread(paste0(pathsaveThisVer, "TabulatedMainResults2.qs"))
Res2[, gender := factor(gender, levels = genderitems)]
mbga ← Res2[grepl("4|5|7", reg) & grepl("di", HHtype) & grepl("^de", demean) &
  grepl(0, agdef) & grepl("^agHH.yr2$", Coef), ]
mbga[, hr := paste0(HHtype, "-", reg)]
PointRange ←  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
     stat = "identity", fatten = 1.75,
     position = position_dodge(width = .25))
g ←
ggplot(data = mbga[grepl("A.*2", agegroup) & !is.na(group), ],
     aes(x = group, y = beta, group = hr, fill = hr, shape = hr, colour = hr)) +
  PointRange + ThisTheme + facet_grid( ~ gender) +
  xlab("age groups") +
  labs(color  = "regression specifications", fill = "regression specifications",
     shape = "regression specifications") +
  ThisThemeEnd +
  guides(
     colour = guide_legend(title = "regression specifications", nrow = 1),
     fill = guide_legend(title = "regression specifications", nrow = 1),
     shape = guide_legend(title = "regression specifications", nrow = 1)
     ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "GenderAgeGroup2Impacts.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever ← dev.off()

library(ggplot2)
```

```
Res2 <- qread(paste0(pathsaveThisVer, "TabulatedMainResults2.qs"))
Res2[, gender := factor(gender, levels = genderitems)]
mbga <- Res2[grepl("4|5|7", reg) & grepl("di", HHtype) & grepl("^de", demean) &
  grepl(0, agdef) & grepl("^agHH.yr2$", Coef), ]
mbga[, hr := paste0(HHtype, "-", reg)]
g <-
ggplot(data = mbga[grepl("3", agegroup), ],
    aes(x = group, y = beta, group = hr, fill = hr, shape = hr, colour = hr)) +
  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
    stat = "identity", fatten = 1.75,
    position = position_dodge(width = .5)) +
  facet_grid(agdef ~ gender)+
  ThisThemeEnd+
  xlab("age groups") +
  labs(color  = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 1),
    fill = guide_legend(title = "regression specifications", nrow = 1),
    shape = guide_legend(title = "regression specifications", nrow = 1)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "GenderAgegroup3Impacts.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever <- dev.off()
```

```
# Not an interesting nor convincing figure (better if we plot results of 10-18 for boys, 
library(ggplot2)
mbga <- qread(paste0(pathsaveThisVer, "MainByGenderAge.qs"))
mbga[, hs := paste0(HHtype, "-", spec)]
mbga[, Sib := gsub("OldSib", "", gsub("\\..*", "", Coef))]
mbga[, gs := paste0(Gender, "-", Sib)]
mbga <- mbga[grepl("3", Agegroup) & grepl("4|5|6", spec) & grepl("Sib.*H.yr2$", Coef), ]
g <-
ggplot(data = mbga,
    aes(x = Group, y = beta, group = hs, fill = hs, shape = hs, colour = hs)) +
  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
    stat = "identity", fatten = 1.75,
    position = position_dodge(width = .5)) +
  facet_grid(Agdef ~ gs)+
  ThisThemeEnd+
  xlab("age groups") +
  scale_y_continuous(limits = c(-.75, .5))+
  labs(color  = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 1),
    fill = guide_legend(title = "regression specifications", nrow = 1),
    shape = guide_legend(title = "regression specifications", nrow = 1)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "GenderAgegroup3SibInteractionImpacts.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
```

```r
print(g)
whatever ← dev.off()
```

```r
library(ggplot2)
g ← ggplot(data = MainByAge[grepl("A.*2", Agegroup), ],
    aes(x = Group, y = beta, group = spec, fill = spec, shape = spec, colour = spec)) +
  PointRange + ThisTheme + facet_grid(. ~ HHtype) +
  xlab("age groups") +
  labs(color  = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 1),
    fill = guide_legend(title = "regression specifications", nrow = 1),
    shape = guide_legend(title = "regression specifications", nrow = 1)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "AgeGroup2Impacts.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever ← dev.off()
```

```r
library(ggplot2)
g ← ggplot(data = MainByAge[grepl("A.*3", Agegroup), ],
    aes(x = Group, y = beta, group = spec, fill = spec, shape = spec, colour = spec)) +
  PointRange + ThisTheme + facet_grid(. ~ HHtype) +
  xlab("age groups") +
  labs(color  = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 1),
    fill = guide_legend(title = "regression specifications", nrow = 1),
    shape = guide_legend(title = "regression specifications", nrow = 1)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "AgeGroup3Impacts.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever ← dev.off()
```

```r
Enr.Agegroup ← qread(paste0(pathsaveThisVer, "Enr.Agegroup.qs"))
```

```
Error in qread(paste0(pathsaveThisVer, "Enr.Agegroup.qs")): Failed to open file for readin
- Does the file exist?
 - Do you have file permissions?
- Is the file name long? (usually 255 chars)
```

```r
Enrchg.Agegroup ← qread(paste0(pathsaveThisVer, "Enrchg.Agegroup.qs"))
```

```
Error in qread(paste0(pathsaveThisVer, "Enrchg.Agegroup.qs")): Failed to open file for rea
- Does the file exist?
 - Do you have file permissions?
- Is the file name long? (usually 255 chars)
```

IV.2.2 Non Muslims estimation

```
# Estimation by main/placebo * aghh.defs * age lb * gender * demeaned/level interaction *
# with LiangZeger or Satterthwaite CRSEs.
# source(paste0(pathprogram, "PartialFile.R"))
library(clubSandwich)
clusterlevel ← "thana"
DivInto2Tables ← T
regressors.list ← list(
  main = regressorsN,
  placebo = regressorsN2002
)
Enr.Base ← qread(paste0(pathsaveThisVer, "Enr.Base.qs"))
Enrchg.Base ← qread(paste0(pathsaveThisVer, "Enrchg.Base.qs"))
source("TabGeneric.R")
zEm.1999 ← readRDS(paste0(pathsaveThisVer, "zEm1999.rds"))
zEp.1999 ← readRDS(paste0(pathsaveThisVer, "zEp1999.rds"))
zEp.2002 ← readRDS(paste0(pathsaveThisVer, "zEp2002.rds"))
cohort.years.list ← list(# year age is defined
  main = rep(1999, 2), # main: use 1999 age to set age range
  placebo = c(rep(2002, 1), rep(1999, 1))
  )
cutout.years← c(2006, 1999) # year to drop in data, main = 2006, placebo 1999
InterYearsList ← list(main = rep(2002, 2), placebo = rep(2006, 2))
yrXs ← c("yr2", "yr3")
variables.always.use ← "schoolp|Enrolled|^agHH.yr2|^agHH$|^thana$|uniqu|^UDnon|^UDfl|^UD
muslim.reorder.JHR = c("^.Inter|^age$|age2|yield|^(any)?prog|^rain|^high|^low|Std|",
    "^agHH.yr\\d$|^nonmuslim.yr\\d$|^nonm.*agH|",
    "^sex.yr\\d$|^...e.*y.yr\\d$|hd.?sex.yr\\d$|Sib..yr\\d$|^pcland.y|^pcnlasset.y|water.y
    "^sex.*H.*\\d$|hd.ed.*H.*\\d$|hd.?sex.*H.*\\d$|Sib.*H.yr\\d$|^pcland.*H.*\\d$|^pcnlas
muslim.reorder.JHR ← paste0(muslim.reorder.JHR, collapse = "")
reorder.list ← list(
  main = muslim.reorder.JHR,
  placebo = muslim.reorder.JHR
  )
var.always.use ← "schoolp|Enrolled|^agHH.yr2|^agHH$|^thana$|uniqu|^nonmuslim$|^UD.*Sib|^U
boxWidth ← 4
centerWidth ← 1.3
# Below gives: IDinNonMuslimDID14
source(paste0(pathprogram0, "IDinNonMuslimDID14.R"))
z23 ← c("z2", "z3")
samples ← c("main", "placebo")
zsobj ← c("zmobj", "zpobj")
zmobj ← c("zEm.1999", "zSm.1999")[1]
zpobj ← c("zEp.2002", "zEp.1999")
results ← resultsN ← vector("list", length = length(samples)) # ii
names(results) ← names(resultsN) ← samples
Enr.NonMuslim ← Enrchg.NonMuslim ← NULL
SkipLowerBound ← 50
for (ii in 1:length(samples)) {
  zSobj ← get(zsobj[ii])
  regressorsS ←  regressors.list[[ii]]
  cohort.years ← cohort.years.list[[ii]]
  cutout.year ← cutout.years[ii]
  InterYears ← InterYearsList[[ii]]
  yrX ← yrXs[ii]
  var.always.use ← gsub("yr2", yrX, variables.always.use)
  reorder ← reorder.list[[ii]]
```

```
regsnd ← rep("schoolp", length(regressorsS))
est ← res ← vector("list", length = length(regressorsS)) # k, specification
res ← list("LiangZeger" = res, "Satterthwaite" = res, "WildClusterBoot" = res) # cl, cl
res ← list(res, res, res, res) # m, agHH definition
names(res) ← aghh.defs
res ← list(boys = res, girls = res, "boys+girls" = res) # ge, gender
res ← list("extended" = res, "nuclear" = res, "exonly" = res) # j, nuclear, extended, e
res ← list("LB10" = res, "LB11" = res, "LB12" = res) # s, age lowerbound
# res[[s]][[j]][[ge]][[m]][[clnum]][[k]] is same for each jj in zSobj: An element of res
results0 ← resultsN0 ← vector("list", length = length(zSobj)) # jj, zE/zS sample selec
names(results0) ← names(resultsN0) ← zSobj
for (jj in 1:length(zSobj)) {
  resultsN0[[jj]] ← results0[[jj]] ← res
  cat("\n\n")
  print0(zSobj[jj])
  cat("\n")
  z01 ← changehyphen(get(zSobj[jj]))
    z1 = copy(z01)
    z1[, grepout("dummy[A-Z].*HH0?.yr.$", colnames(z1)) := NULL]
    tabextend ← c("yes", "", "yes", "")
    tabcohortdemeaned ← c("", "yes", "", "yes")
    # keep UDOldSib, UDhdsex, UDnonmuslim, UDflooded as undemeaned levels
    setnames(z1,
      grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1)),
      gsub("UD", "ud", grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1))))
    z1[, grepout("^UD", colnames(z1)) := NULL]
    setnames(z1,
      grepout("^ud", colnames(z1)),
      gsub("ud", "UD", grepout("^ud", colnames(z1))))
    if (ii == 2 & jj == 5) smax ← 1 else smax ← 3
    for (s in 1:smax)
    #  choice of age cutoff
    {
      s0 ← (10:12)[s]
      if (ii == 2 & jj == 5) {
        s0 ← 6
        MaxAge ← 9
      } else {
        MaxAge ← 18
      }
      i ← paste0("older", s0)
      # latter panel: s ≤ age < maxAge in 1999/2002
      iiid ← unique(z1[
        s0 ≤ eval(parse(text = paste0("AgeIn", cohort.years[jj]))) &
        eval(parse(text = paste0("AgeIn", cohort.years[jj]))) ≤ MaxAge
        #maxAge
        , uniquid])
      # Keep only former complete panel and respective years.
      z2 ← z1[uniquid %in% iiid & survey != cutout.year, ]
      z2[, grepout("exist|In", colnames(z2)) := NULL]
      z2 ← dropunbalanced(z2, returnDT = T)
      # z3: nuclear family
      z3 ← z2[sd == 1, ]
      z3 ← dropunbalanced(z3, returnDT = T)
      z4 ← z2[sd != 1, ]
      z4 ← dropunbalanced(z4, returnDT = T)
```

```
cat("\n\nage cutoff:", i, "\n\n")
print(table0(z1[, .(survey, agegroup = (uniquid %in% iiid))]))
cat("dimension of original z1:", dim(z1), "\n")
cat("dimension of z2 after keeping only", s0, "-", maxAge, "year olds:",
dim(z1)[1], "==>", dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], "\n")
cat("dimension of z2 after keeping only balanced portion:",
dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], "==>", dim(z2)[1], "\n")
cat("number of individuals in the panel:")
print(table(table(z2[, uniquid])))
cat("dimension of z3 after keeping only nuclear members:", dim(z3), "\n\n")
cat("first-diffference estimator\n")
for (j in 1:length(z23))
{
  zz00 ← get(z23[j])
  setkey(zz00, uniquid, survey)
  zz00[, survey := NULL]
  for (ge in 1:3)
  {
    if (ge == 1) {
      zz0 = copy(zz00[sex ≤ 0, ])
      zz0[, grepout("^sex", colnames(zz0)) := NULL]
    } else  if (ge == 2){
      zz0 = copy(zz00[sex > 0, ])
      zz0[, grepout("^sex", colnames(zz0)) := NULL]
    } else zz0 = copy(zz00)
    if (nrow(zz0) < SkipLowerBound) {
      cat("Skipped due to small number of obs:", nrow(zz0), "\n")
      next
    }
    for (m in 1:length(aghh.defs))
    {
      zz = copy(zz0)
      # Use a particular agHH definition.
      # change the name of current ag HH (agHH0, isagHH, ocagHH) to "agHH"
      setnames(zz,
        grepout(aghh.defs[m], colnames(zz))
        ,
        gsub(aghh.defs[m], "agHH", grepout(aghh.defs[m], colnames(zz)))
      )
      # drop other ag HH definition
      zz[, grepout(paste0(aghh.defs.regexpr[-m], collapse = "|"), colnames(zz)) :=
      zz[, grepout(paste0("^", aghh.defs[-m], "$", collapse = "|"), colnames(zz))
      ns ← NULL
      resul ← est ← vector("list", length = length(regressorsS))
      # First run: Estimation loop for getting N (number of obs) and first-differe
      for (k in 1:length(regressorsS))
      {
        if (s0 == 10 & j == 1 & m == 1) {
          cat(paste0("(", k, ")\n"))
          print0(paste0("+ ",
            grepout(paste(regressorsS[k], sep = "", collapse = "|"), colnames(zz))
        }
        regrsr ← paste(regressorsS[1:k], sep = "", collapse = "|")
        # pick covariates for k-th regression:
        #  paste " ..|.." & "..|.." with collapse = "|"
        #  then use it in grepout
```

```
          covariates ← grepout(
            paste(var.always.use, regrsr, sep = "|", collapse = "|")
            , colnames(zz))
          # if (ii == 2 & jj == 1)
          #if (grepl("zEp.2|zSp", zSobj[jj]))
          # zEp.2002: UDOldSibF is all 0, UDOldSibM is all 0 but 2 obs, so drop them
          #  covariates ← covariates[!grepl("OldSib", covariates)]
          covariates ← covariates[!grepl("^UD|^pc.*[dt]$", covariates)] # drop real
          zr ← zz[, covariates, with = F]
          # source("EstimatorFunctions.R")
          rs ← DID1(data.frame(zr), regressand = regsnd[k],
              clusterstring = clusterlevel, group = "^uniquid$",
              NotToBeDifferenced = "^agHH$|^UD|^pc.*[dt]$",
              intercept = T,
              TimeVariant = "program|age2|meanY",
              PeriodToDropForLC = 2,
              opposite.time.order = F, # Use t - (t-1) diff
              TurnFactorToNumeric = T, returnV = T, print.messages = F)
          resul[[k]] ← list(level.data = rs$level, diff.data = rs$diff, est = rs$es
          est[[k]] ← round(rs$est[, -3], 5)
          ns ← c(ns, rs$N)
        }
        if (!any(grepl("latrine.agHH.yr|water.agHH.yr", rownames(est[[k]])))) {
          cat(zSobj[jj], "agelb", s0, z234[j], c("boys", "girls", "boys+girls")[ge],
            c("demeaned", "undemeaned")[dd], aghh.defs[m], "\n")
          cat("Skipped, some covariates cannot be used due to too small number of ob
          next
        }
        # resultsN0: raw results (not under same obs)
        resultsN0[[jj]][[s]][[j]][[ge]][[m]] ← resul
          # Reconstruct covariates and take demeaned interactions are done in the fi
          source(paste0(pathprogram0, "ReconstructCovariatesForDemeanedInteractions
        zidd[, tee := 1]
        zidd[, nonmuslim := as.numeric(eval(parse(text=paste0("nonmuslim.", yrX, ">(
        enrr ← zid[, .(EnRate = mean(Enrolled), Num = .N), by = .(agHH, nonmuslim,
        Enr.NonMuslim ← rbind(Enr.NonMuslim,
          cbind(zSobj[jj], c("all", "direct", "exonly")[j], c("default", aghh.defs[-
            c("boys", "girls", "boys+girls")[ge], s0, enrr),
          use.names = F
        )
        # Save mean enrollment rate changes
        # x: agHH, y: nonagHH
        if (length(zidd[nonmuslim > 0 & agHH == 0, LHS]) > 1 &
          length(zidd[nonmuslim > 0 & agHH == 1, LHS]) > 1) {
          ttestE ← t.test(zidd[nonmuslim > 0 & agHH == 1, LHS], zidd[nonmuslim > 0
          enrch ← t(c(zSobj[jj], group = "nonmuslim",
            c("all", "direct", "exonly")[j], c("default", aghh.defs[-1])[m],
            c("boys", "girls", "boys+girls")[ge], s0,
              # DID, diff.x, diff.y, CIlower, CIupper, p value
            round(-diff(unlist(ttestE["estimate"])), 3), # -diff = -(y - x) = AgHH -
            unlist(lapply(ttestE[c("estimate", "conf.int", "p.value")], round, 4)))
        } else
          enrch ← t(c(zSobj[jj], group = "nonmuslim",
            c("all", "direct", "exonly")[j], c("default", aghh.defs[-1])[m],
            c("boys", "girls", "boys+girls")[ge], s0,
              # DID, diff.x, diff.y, CIlower, CIupper, p value
```

```
                rep(NA, 6)))
            enrch ← data.table(enrch)
            Enrchg.NonMuslim ← rbind(Enrchg.NonMuslim, enrch, use.names = F)
            if (length(zidd[nonmuslim ≤ 0 & agHH == 0, LHS]) > 1 &
              length(zidd[nonmuslim ≤ 0 & agHH == 1, LHS]) > 1) {
              ttestE ← t.test(zidd[nonmuslim ≤ 0 & agHH == 1, LHS], zidd[nonmuslim ≤
0 & agHH == 0, LHS])
              enrch ← t(c(zSobj[jj], group = "muslim",
                c("all", "direct", "exonly")[j], c("default", aghh.defs[-1])[m],
                c("boys", "girls", "boys+girls")[ge], s0,
                  # DID, diff.x, diff.y, CIlower, CIupper, p value
                rep(NA, 6)))
            } else
              enrch ← t(c(zSobj[jj], group = "muslim",
                c("all", "direct", "exonly")[j], c("default", aghh.defs[-1])[m],
                c("boys", "girls", "boys+girls")[ge], s0,
                round(-diff(unlist(ttestE["estimate"])), 3), # -diff = -(y - x) = AgHH -
                unlist(lapply(ttestE[c("estimate", "conf.int", "p.value")], round, 4)))
            enrch ← data.table(enrch)
            Enrchg.NonMuslim ← rbind(Enrchg.NonMuslim, enrch, use.names = F)
            if (any(grepl("LHS", colnames(zidd)))) setnames(zidd, "LHS", "Enrolled")
            #for (cl in c("LiangZeger", "satterthwaite", "wildclusterboot"))
            for (cl in c("LiangZeger", "satterthwaite"))
            {
              Rs ← ns ← NULL
              est ← vector("list", length(regressorsS))
              UseSmallClusterCorrection ← cl
              cat("\n\n###", cl, "###\n\n")
              #if (grepl("Yp|S", zSobj[jj]) & grepl("wild", cl) & any(grepl("Sib", colna
              if (grepl("Yp|S", zSobj[jj]) & grepl("wild", cl)) {
                cat("fwildclusterboot fails in Julia for zSm.1999, zYp.1999 because Sib'
                  "covariates are near zero. Skip to next.\n\n" )
                next
              }
              for (k in 1:length(regressorsS))
              {
                # Julia fails for specification 6 in zEm.1999, zEp.1999, zEp.2002
                if (grepl("wild", cl) & k == 6) next
                #if (ii == 1 & grepl("S", zSobj[jj]) & s ≥ 1 & m == 4 & k ≥
5 & grepl("wild", cl))
                #zSm1999FDOlder10Occ
                #  next
                regrsr ← paste(regressorsS[1:k], sep = "", collapse = "|")
                covariates ← grepout(paste(var.always.use, regrsr, sep = "|"),
                  colnames(zidd))
                # var.always.use has level variables used only for destat purpose, so dr
                covariates ← covariates[!grepl("^UD|^pc.*[dt]$", covariates)]
                # Commented out: Aug 2, 2023 Start
                #if (grepl("zEp|zSp", zSobj[jj]))
                #  covariates ← covariates[!grepl("OldSib", covariates)]
                # Commented out: Aug 2, 2023 End
                zr ← zidd[, c(covariates, "tee"), with = F]
                source("EstimatorFunctions.R")
                rsl ← DID2(dX0 = zr, Regressand = "Enrolled",
                      Group = "^uniquid$", TimeVar = "tee", Cluster = "thana",
                      TimeVariant = "program|age2|meanY|yield",
```

```
                    opposite.time.order = F, Exclude = "^agHH$", intercept = T,
                    SmallClusterCorrection = UseSmallClusterCorrection,
                    WCBType = "webb",
                    return.V = T, print.messages = T)
              if (grepl("satter", UseSmallClusterCorrection)) {
                # Correct format of estimation results for clubSandwich outputs
                rsl$est ← as.data.frame(rsl$est)
                rsl$est ← rsl$est[, -1]
                colnames(rsl$est)[c(1:2, 4:5)] ← c("Estimate", "Std. Error", "Satt. I
              } else if (grepl("wild", UseSmallClusterCorrection)) {
                # Correct format of estimation results for wildclusterboot outputs
                rsl$est ← as.data.frame(rsl$est)
                colnames(rsl$est)[c(1:2, 4)] ← c("Estimate", "Std. Error", "Pr(>|t|)"
              } else {
                # Correct format of estimation results for Liang-Zeger outputs
                rsl$est ← as.matrix(rsl$est)
                colnames(rsl$est)[c(1:2, 4)] ← c("Estimate", "Std. Error", "Pr(>|t|)"
              }
              # results0: results under same obs
              clnum ← 1
              if (cl == "satterthwaite") clnum ← 2 else if (cl == "wildclusterboot")
3
              results0[[jj]][[s]][[j]][[ge]][[m]][[clnum]][[k]] ←
                list(est = rsl$est, ci = rsl$CI,
                  df = rsl$reg$df, reg = rsl$reg,
                  #level.data = leveldata[, gsub("Enrolled", "LHS", covariates), with
                  level.data = zid,
                  diff.data = rsl$data)
              est[[k]] ← round(rsl$est[, -3], 5)
              # Sign reversion is done before FDestimation. Below is redundant.
              # Take19992002Diff is set to F in "read data chunk" at the beginning
              # If (t-1) - t difference (opposite time order), signs of yrX cross term
              #if (Take19992002Diff) est[[k]][grepout("Inter|yr.$", rownames(est[[k]])
              #  -1 * est[[k]][grepout("Inter|yr.$", rownames(est[[k]])), c(1, 3)]
              Rs ← c(Rs, summary(rsl$nonrobust)$adj.r)
              ns ← c(ns, rsl$N)
            } # k: reg specification
            assign(paste0("addthis", j),
              rbind("\\hspace{.5em}thana dummies" =
                paste0("\\mbox{", c(rep("", length(regressorsN)-1), rep("yes", 1)),
               "$\\bar{R}^{2}$" = gsub("^0", "", formatC(Rs, digits = 4, format = "f
               "n" = ns,
               "control mean in 1999, muslim" =
                 rep(formatC(enrr[tee == 1 & agHH == 0 & nonmuslim == 0, EnRate],
                   digits = 3, format = "f"), length(regressorsN)),
               "control mean in 1999, nonmuslim" =
                 rep(formatC(enrr[tee == 1 & agHH == 0 & nonmuslim == 1, EnRate],
                   digits = 3, format = "f"), length(regressorsN)),
               "treated mean in 1999, muslim" =
                 rep(formatC(enrr[tee == 1 & agHH == 1 & nonmuslim == 0, EnRate],
                   digits = 3, format = "f"), length(regressorsN)),
               "treated mean in 1999, nonmuslim" =
                 rep(formatC(enrr[tee == 1 & agHH == 1 & nonmuslim == 1, EnRate],
                   digits = 3, format = "f"), length(regressorsN)),
               "change in control mean, nmuslim" =
                 rep(formatC(
```

```
          enrr[tee == 2 & agHH == 0 & nonmuslim == 0, EnRate]-
          enrr[tee == 1 & agHH == 0 & nonmuslim == 0, EnRate],
          digits = 3, format = "f"), length(regressorsN)),
      "change in control mean, nonmuslim" =
        rep(formatC(
          enrr[tee == 2 & agHH == 0 & nonmuslim == 1, EnRate]-
          enrr[tee == 1 & agHH == 0 & nonmuslim == 1, EnRate],
          digits = 3, format = "f"), length(regressorsN)),
      "change in treated mean, muslim" =
        rep(formatC(
          enrr[tee == 2 & agHH == 1 & nonmuslim == 0, EnRate]-
          enrr[tee == 1 & agHH == 1 & nonmuslim == 0, EnRate],
          digits = 3, format = "f"), length(regressorsN)),
      "change in treated mean, nonmuslim" =
        rep(formatC(
          enrr[tee == 2 & agHH == 1 & nonmuslim == 1, EnRate]-
          enrr[tee == 1 & agHH == 1 & nonmuslim == 1, EnRate],
          digits = 3, format = "f"), length(regressorsN)),
      "raw DID, muslim" =
        rep(formatC(
        enrr[tee == 2 & agHH == 1 & nonmuslim == 0, EnRate] -
        enrr[tee == 1 & agHH == 1 & nonmuslim == 0, EnRate]
        -(enrr[tee == 2 & agHH == 0 & nonmuslim == 0, EnRate] -
          enrr[tee == 1 & agHH == 0 & nonmuslim == 0, EnRate]),
          digits = 3, format = "f"), length(regressorsN)),
      "raw DID, nonmuslim" =
        rep(formatC(
        enrr[tee == 2 & agHH == 1 & nonmuslim == 1, EnRate] -
        enrr[tee == 1 & agHH == 1 & nonmuslim == 1, EnRate]
        -(enrr[tee == 2 & agHH == 0 & nonmuslim == 1, EnRate] -
          enrr[tee == 1 & agHH == 0 & nonmuslim == 1, EnRate]),
          digits = 3, format = "f"), length(regressorsN))
    )
  )
  INformat <- "LZ"
  OUTformat <- "ep"
  if (cl == "wildclusterboot") {
    INformat <- "wcb"
    OUTformat <- "epc"
  } else if (cl == "satterthwaite") {
    INformat <- "satt"
    OUTformat <- "epc"
    OUTformat <- "esDoF"
  }
  # Incorporate CI/DoF in table
  # reorder needs to be corrected
  # Tab.Est is in tabulate_est.R
  # source(paste0(pathprogram, "tabulate_est.R"))
  tbest <- Tab.Est(est, reorder, output.in.list = T,
    Informat = INformat, Outformat = OUTformat,
    AddStars = T,
    CIInTinySize = T,
    LastLineVariables = c("lowMeanY$", "kut.*e.yr.$"),
    InterWithTexts = paste0(InterYears[jj], c("", "*agricultural household")
    DeleteRowStrings = "^p\\$|^se\\$|^CI\\$|^DoF\\$",
    addbottom = get(paste0("addthis", j)), subst.table = sbt)
```

```
          # Split a table in to 2 tables
        if (DivInto2Tables) {
          # Split a table in to 2 tables
          if (grepl("e[ps]$", OUTformat))
            NumRowsAfterEst <- 2 else
            NumRowsAfterEst <- 3
          tbest11 <- tbest[[1]][1:(grep("inter.*200..*ag", tbest[[1]])-NumRowsAf
          tbest12 <- tbest[[2]][1:(grep("inter.*200..*ag", tbest[[1]])-NumRowsAf
          tbest21 <- tbest[[1]][grep("inter.*200..*ag", tbest[[1]]):length(tbest[[
          tbest22 <- tbest[[2]][grep("inter.*200..*ag", tbest[[1]]):length(tbest[[
          iispace11 <- which(
            grepl(".", tbest11) &
            !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest11
            )
          iispace12 <- iispace11[seq(2, length(iispace11), 2)]
          iispace21 <- which(
            grepl(".", tbest21) &
            !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest21
            )
          # drop last rows of tbest2 to shrink row space
          iispace21 <- iispace21[iispace21 < max(grep("toilet|water|nonla", tbest2
          iispace22 <- iispace21[seq(2, length(iispace21), 2)]
          if (grepl("e[ps]$", OUTformat)) {
          # ep, es: 2 rows per estimate
            AdjustLineSkipRows1 <- iispace11
            AltColorRows1 <- c(iispace12, iispace12+1)
            AdjustLineSkipRows2 <- iispace21
            AltColorRows2 <- c(iispace22, iispace22+1)
          } else {
          # epc, esc, satt: 3 rows per estimate
            AdjustLineSkipRows1 <- c(iispace11, iispace11+1)
            AltColorRows1 <- c(iispace12, iispace12+1, iispace12+2)
            AdjustLineSkipRows2 <- c(iispace21, iispace21+1)
            AltColorRows2 <- c(iispace22, iispace22+1, iispace22+2)
          }
          tbl1 <- saveEstTable(tbest12, tbest11, boxWidth,
            hleft = "\\hfil\\scriptsize$", hright = "$",
            hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
            delimiterline = NULL, adjustlineskip = "-0.7ex",
            adjlskiprows = AdjustLineSkipRows1,
            alternatecolorManual = AltColorRows1,
            alternatecolorManualColor = "gray80")
          tbl2 <- saveEstTable(tbest22, tbest21, boxWidth,
            estimationspacelast = grep("thana dummi", tbest21),
            hleft = "\\hfil\\scriptsize$", hright = "$",
            hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
            delimiterline = NULL, adjustlineskip = "-0.7ex",
            adjlskiprows = AdjustLineSkipRows2,
            alternatecolorManual = AltColorRows2,
            alternatecolorManualColor = "gray80")
          # Modify "interaction with ..." lines to use multicolumn
          InterRows1 <- grep("nteract.*\\d", tbl1)
          InterRows2 <- grep("nteract.*\\d", tbl2)
          for (ir in InterRows1) {
            if (any(grepl("rowcolor", tbl1[ir])))
              tbl1[ir] <-
```

```
      # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
      # For rows with rowcolor command at the end
      paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
        gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
        #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
        gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
        )
        ) else
      # For rows without rowcolor command at the end
    tbl1[ir] ←
      paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
        gsub("(\\\\\\\\.*ex.$)", "}\\1",
        #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
        gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
        )
        )
  # \multicolumn{5}{l}{\makebox[Xcm]{inter with A}} \\\rowcolor{}
  # => \multicolumn{5}{l}{\makebox[10cm]{\textit{inter with A}\hfill}}\\
  tbl1[ir] ← gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl1[ir])
  tbl1[ir] ← gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl1[ir])
  tbl1[ir] ← gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl1[ir])
}
for (ir in InterRows2) {
  if (any(grepl("rowcolor", tbl2[ir])))
    tbl2[ir] ←
      # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
      # For rows with rowcolor command at the end
      paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
        gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
        #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
        gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
        )
        ) else
      # For rows without rowcolor command at the end
    tbl2[ir] ←
      paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
        gsub("(\\\\\\\\.*ex.$)", "}\\1",
        #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
        gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
        )
        )
  tbl2[ir] ← gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl2[ir])
  tbl2[ir] ← gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl2[ir])
  tbl2[ir] ← gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl2[ir])
}
clCap ← paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100))
# file path to saved table
pathtosavedtable1 ← TabFilePathF(
  FolderPath = pathsaveThisVer,
  Sample = gsub("\\.", "", zSobj[jj]),
  AgeCutoff = paste0("Older", (10:12)[s], "NonMuslim"),
  HHType = paste0(c("Boys", "Girls", "")[ge],
    c("", "Nuclear", "ExOnly")[j]),
  AgHHDef = c("", "Is", "Hd", "Occ")[m],
  CRSEMethod = paste0(clCap, 1)
  )
```

```
      pathtosavedtable2 ← TabFilePathF(
        FolderPath = pathsaveThisVer,
        Sample = gsub("\\.", "", zSobj[jj]),
        AgeCutoff = paste0("Older", (10:12)[s], "NonMuslim"),
        HHType = paste0(c("Boys", "Girls", "")[ge],
          c("", "Nuclear", "ExOnly")[j]),
        AgHHDef = c("", "Is", "Hd", "Occ")[m],
        CRSEMethod = paste0(clCap, 2)
        )
      write.tablev(tbl1, pathtosavedtable1, colnamestrue = F, rownamestrue = F
      write.tablev(tbl2, pathtosavedtable2, colnamestrue = F, rownamestrue = F
      cat("Table saved as", pathtosavedtable1, "\n")
      cat("Table saved as", pathtosavedtable2, "\n")
    } else {
      # iispace2, iispace2+1, iispace2+2: (group of) rows to be coloured
      iispace ← which(
        # rows with \hspace{.5em} and "non-estimate" rows (R2, n, ...)
        grepl(".", tbest[[1]]) &
        !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest[[
        )
      iispace2 ← iispace[seq(2, length(iispace), 2)]
      # iispace, iispace+1: rows i to shrink rowspace between row i+1 to group
      # adjlskiprows = c(iispace, iispace+1)
      # saveEstTable is in functions.R
      # source("C:/seiro/settings/Rsetting/functions.R", echo=F)
      tbl ← saveEstTable(tbest[[2]], tbest[[1]], boxWidth,
        estimationspacelast = grep("thana dummi", tbest[[1]]),
        hleft = "\\hfil\\tiny$", hright = "$",
        hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
        delimiterline = NULL, adjustlineskip = "-0.5ex",
        adjlskiprows = c(iispace, iispace+1),
        alternatecolorManual = c(iispace2, iispace2+1, iispace2+2),
        alternatecolorManualColor = "gray80")
      if (grepl("Liang", cl))
        tbl ← saveEstTable(tbest[[2]], tbest[[1]], boxWidth,
          estimationspacelast = grep("thana dummi", tbest[[1]]),
          hleft = "\\hfil\\tiny$", hright = "$",
          hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
          delimiterline = NULL, adjustlineskip = "-0.5ex",
          adjlskiprows = c(iispace),
          alternatecolorManual = c(iispace2, iispace2+1),
          alternatecolorManualColor = "gray80")
      # Modify "interaction with ..." lines to use multicolumn
      InterRows ← grep("nteract.*\\d", tbl)
      for (ir in InterRows)
        if (any(grepl("rowcolor", tbl[ir])))
          tbl[ir] ←
            # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
            # rows with rowcolor command at the end
            paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
              gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
              gsub("\\\\hfill", "}", gsub("\\&", "", tbl[ir]))
              )
              ) else
            # rows without rowcolor command at the end
            paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
```

```
                                gsub("(\\\\\\\\.*ex.$)", "}\\1",
                                gsub("\\\\hfill", "}", gsub("\\&", "", tbl[ir]))
                                )
                                )
                      pathtosavedtable ← TabFilePathF(FolderPath = pathsaveThisVer,
                        Sample = gsub("\\.", "", zSobj[jj]),
                        AgeCutoff = paste0("Older", (10:12)[s], "NonMuslim"),
                        HHType = paste0(c("Boys", "Girls", "")[ge],
                          c("", "Nuclear", "ExOnly")[j]),
                        AgHHDef = c("", "Is", "Hd", "Occ")[m],
                        CRSEMethod = paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100)))
                      write.tablev(tbl, pathtosavedtable, colnamestrue = F, rownamestrue = F,
                      cat("Table saved as", pathtosavedtable, "\n")
                    } # if end: DivInto2Tables
                  } # cl: SE clustering option
                } # m: ag HH definitions
              } # ge: gendered or both gender
            } # j: z2 (incl. extended) or z3 (nuclear)
          } # s: lowerbound age cutoffs (10, 11, 12)
    } # jj: zE / zS sample selection
  results[[ii]] ← results0
  resultsN[[ii]] ← resultsN0
} # ii: main / placebo samples
# results: Results under same obs with BRL (satterthwaith dof) information
# resultsN: Results under varying number of obs between specifications
# https://cran.r-project.org/web/packages/qs/vignettes/vignette.html
library(qs)
qsave(results, paste0(pathsaveThisVer, "DID_NonMuslimGenderResults.qs"))
qsave(resultsN, paste0(pathsaveThisVer, "DID_N_NonMuslimGenderResults.qs"))
Enr.NonMuslim ← data.table(Enr.NonMuslim)
Enrchg.NonMuslim ← data.table(Enrchg.NonMuslim)
setnames(Enrchg.NonMuslim, c("sample", "group", "HHtype", "agdef", "demean", "gender", "ag
  "AgNonag", "agHH", "nonagHH", "lb95", "ub95", "pvalue")[-5])
setnames(Enr.NonMuslim, c("sample", "HHtype", "agdef", "demean", "gender", "agelb",
  "agHH", "nonmuslim", "tee", "rate", "Obs")[-4])
qsave(Enr.NonMuslim, paste0(pathsaveThisVer, "Enr.NonMuslimGender.qs"))
qsave(Enrchg.NonMuslim, paste0(pathsaveThisVer, "Enrchg.NonMuslimGender.qs"))
muslimftnote ← "A first-difference estimator with standard errors clustered at \\textit{t
```

IV.2.3 Flooded areas estimation

```
thanas ← as.character(lapply(unique(yzw[, thana]), function(x)
  paste0(toupper(substring(x, 1, 1)), substring(x, 2, 30))))
thanas ← thanas[!grepl("NA", thanas)]
```

Flooded area is defined at thana level. These are Haziganj, Modhupur, Sherpur sadar.

```
library(clubSandwich)
library(fwildclusterboot)
clusterlevel ← "thana"
DivInto2Tables ← T
regressors.list ← list(
  main = regressorsF,
  placebo = regressorsF2002
)
zEm.1999 ← readRDS(paste0(pathsaveThisVer, "zEm1999.rds"))
zEm.1999[, agHH0 := as.numeric(agHH0 > 0)]
zSm.1999 ← readRDS(paste0(pathsaveThisVer, "zSm1999.rds"))
```

```
zEp.1999 ← readRDS(paste0(pathsaveThisVer, "zEp1999.rds"))
zEp.2002 ← readRDS(paste0(pathsaveThisVer, "zEp2002.rds"))
zSp.1999 ← readRDS(paste0(pathsaveThisVer, "zSp1999.rds"))
zSp.2002 ← readRDS(paste0(pathsaveThisVer, "zSp2002.rds"))
zYp.1999 ← readRDS(paste0(pathsaveThisVer, "zYp1999.rds"))
zEp.1999[, AgeIn1999 := Age[survey == 2002] - 3, by = uniquid]
zEp.1999[, AgeIn2002 := Age[survey == 2002], by = uniquid]
regsnd ← rep("schoolp", length(regressorsF))
samples ← c("main", "placebo")
z23 ← c("z2", "z3")
zsobj ← c("zmobj", "zpobj")
zmobj ← c("zEm.1999", "zSm.1999")[1]
zpobj ← c("zEp.2002", "zSp.2002", "zEp.1999", "zSp.1999")[c(1, 3)]
cohort.years.list ← list(# year age is defined
  main = rep(1999, 4), # main: use 1999 age to set age range
  placebo = c(rep(2002, 2), rep(1999, 2))
  # placebo: use 1999 and 2002 age to set age range
  # placebo: cohorts 10-18 in 1999, 10-18 in 2002 are
  #   tested for impacts between 2002-2006
  )
cutout.years← c(2006, 1999) # year to drop in data, main = 2006, placebo 1999
InterYearsList ← list(# year age is defined
  main = rep(2002, 4), # main: use 1999 age to set age range
  placebo = c(rep(2006, 2), rep(2002, 2))
  # placebo: use 1999 and 2002 age to set age range
  # placebo: cohorts 10-18 in 1999, 10-18 in 2002 are
  #   tested for impacts between 2002-2006
  )
variables.always.use ← "schoolp|Enrolled|^agHH.yr2|^agHH$|^thana$|uniqu|tee|^flooded$"
yrXs ← c("yr2", "yr3")
flood.reorder.JHR = c("^.Inter|^age$|age2|yield|^(any)?prog|rain|^high|^low|Std|",
    "^agHH$|^agHH.yr\\d$|^hdagHH.yr\\d$|",
    "fl.*d.y|fl.*H.*\\d$|^sex.yr\\d$|^...e.*y.yr\\d$|hd.?sex.yr\\d$|Sib..yr.$|^pcland.y|^
    "^sex.*H.*\\d$|hd.ed.*H.*\\d$|hd.?sex.*H.*\\d$|Sib.*H.*yr.$|^pcland.*H.*\\d$|^pcnlass
flood.reorder.JHR ← paste(flood.reorder.JHR, collapse = "")
mix.reorder ← function(x, y=main.reorder.JHR)
  paste0(c(y[1], x, y[3], y[4]), collapse = "")
sub.reorder ← function(x, z, y=main.reorder.JHR)
  paste0(c(y[1], gsub(x, z, y[2]), y[3], y[4]), collapse = "")
reorder.list ← list(
    main = flood.reorder.JHR
  , placebo = flood.reorder.JHR
)
boxWidth ← 4
centerWidth ← 1.3
Enr.Flood ← Enrchg.Flood ← NULL
table(zEm.1999[, .(aghh = agHH0>0, flooded)])
zFLobj ← c("zEm.1999", "zSm.1999")[1]
var.always.use ← variables.always.use
cohort.years ← c(1999, 1999)
cutout.year ← cutout.years[1]
InterYears ← InterYearsList[[1]]
reorder ← reorder.list[[1]]
results ← resultsN ← vector("list", length = length(samples))
SkipLowerBound ← 50
for (ii in 1:length(samples)) {
```

```
zSobj ← get(zsobj[ii])
regressorsS ← regressors.list[[ii]]
cohort.years ← cohort.years.list[[ii]]
cutout.year ← cutout.years[ii]
InterYears ← InterYearsList[[ii]]
yrX ← yrXs[ii]
var.always.use ← gsub("yr2", yrX, variables.always.use)
reorder ← reorder.list[[ii]]
regsnd ← rep("schoolp", length(regressorsS))
est ← res ← vector("list", length = length(regressorsS)) # k, specification
res ← list("LiangZeger" = res, "Satterthwaite" = res, "WildClusterBoot" = res) # cl, cl
res ← list(res, res, res, res) # m, agHH definition
names(res) ← aghh.defs
res ← list(boys = res, girls = res, "boys+girls" = res) # ge, gender
res ← list("extended" = res, "nuclear" = res, "exonly" = res) # j, nuclear, extended, e
res ← list("LB10" = res, "LB11" = res, "LB12" = res) # s, age lowerbound
# res[[s]][[j]][[ge]][[m]][[clnum]][[k]] is same for each jj in zSobj: An element of res
results0 ← resultsN0 ← vector("list", length = length(zSobj)) # jj, zE/zS sample selec
names(results0) ← names(resultsN0) ← zSobj
for (jj in 1:length(zSobj)) {
  resultsN0[[jj]] ← results0[[jj]] ← res
  cat("\n\n")
  print0(zSobj[jj])
  cat("\n")
  z01 ← changehyphen(get(zSobj[jj]))
    z1 = copy(z01)
    z1[, grepout("dummy[A-Z].*HH0?.yr.$", colnames(z1)) := NULL]
    tabextend ← c("yes", "", "yes", "")
    tabcohortdemeaned ← c("", "yes", "", "yes")
    # keep UDOldSib, UDhdsex, UDnonmuslim, UDflooded as undemeaned levels
    setnames(z1,
      grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1)),
      gsub("UD", "ud", grepout("UDOldSib|UDhds|UDnon|UDfl", colnames(z1))))
    z1[, grepout("^UD", colnames(z1)) := NULL]
    setnames(z1,
      grepout("^ud", colnames(z1)),
      gsub("ud", "UD", grepout("^ud", colnames(z1))))
    if (ii == 2 & jj == 5) smax ← 1 else smax ← 3
    for (s in 1:smax)
    {
    #  choice of age cutoff
      s0 ← (10:12)[s]
      if (ii == 2 & jj == 5) {
        s0 ← 6
        MaxAge ← 9
      } else {
        MaxAge ← 18
      }
      i ← paste0("older", s0)
      # latter panel: s ≤ age < maxAge in 1999/2002
      iiid ← unique(z1[
        s0 ≤ eval(parse(text = paste0("AgeIn", cohort.years[jj]))) &
        eval(parse(text = paste0("AgeIn", cohort.years[jj]))) ≤ MaxAge
        #maxAge
        , uniquid])
      # Keep only former complete panel and respective years.
```

```
z2 <- z1[uniquid %in% iiid & survey != cutout.year, ]
z2[, grepout("exist|In", colnames(z2)) := NULL]
z2 <- dropunbalanced(z2, returnDT = T)
# z3: nuclear family
z3 <- z2[sd == 1, ]
z3 <- dropunbalanced(z3, returnDT = T)
z4 <- z2[sd != 1, ]
z4 <- dropunbalanced(z4, returnDT = T)
cat("\n\nage cutoff:", i, "\n\n")
print(table0(z1[, .(survey, agegroup = (uniquid %in% iiid))]))
cat("dimension of original z1:", dim(z1), "\n")
cat("dimension of z2 after keeping only", s0, "-", maxAge, "year olds:",
dim(z1)[1], "==>", dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], "\n")
cat("dimension of z2 after keeping only balanced portion:",
dim(z1[uniquid %in% iiid & survey != cutout.year, ])[1], "==>", dim(z2)[1], "\n")
cat("number of individuals in the panel:")
print(table(table(z2[, uniquid])))
cat("dimension of z3 after keeping only nuclear members:", dim(z3), "\n\n")
cat("first-diffference estimator\n")
for (j in 1:length(z23))
{
  zz00 = copy(get(z23[j]))
  setkey(zz00, uniquid, survey)
  zz00[, survey := NULL]
  for (ge in 1:3)
  {
    if (ge == 1) {
      zz0 = copy(zz00[sex <= 0, ])
      zz0[, grepout("^sex", colnames(zz0)) := NULL]
    } else  if (ge == 2){
      zz0 = copy(zz00[sex > 0, ])
      zz0[, grepout("^sex", colnames(zz0)) := NULL]
    } else zz0 = copy(zz00)
    if (nrow(zz0) < SkipLowerBound) {
      cat("Skipped due to small number of obs:", nrow(zz0), "\n")
      next
    }
    for (m in 1:length(aghh.defs))
    {
      zz = copy(zz0)
      # Use a particular agHH definition.
      # change the name of current ag HH (agHH0, isagHH, ocagHH) to "agHH"
      setnames(zz,
        grepout(aghh.defs[m], colnames(zz))
        ,
        gsub(aghh.defs[m], "agHH", grepout(aghh.defs[m], colnames(zz)))
      )
      # drop other ag HH definition
      zz[, grepout(paste0(aghh.defs.regexpr[-m], collapse = "|"), colnames(zz)) :=
      zz[, grepout(paste0("^", aghh.defs[-m], "$", collapse = "|"), colnames(zz))
      ns <- NULL
      resul <- est <- vector("list", length = length(regressorsS))
      # First run: Estimation loop for getting N (number of obs) and first-differe
      for (k in 1:length(regressorsS))
      {
        if (s0 == 10 & j == 1 & m == 1) {
```

```
          cat(paste0("(", k, ")\n"))
          print0(paste0("+ ",
            grepout(paste(regressorsS[k], sep = "", collapse = "|"), colnames(zz))
        }
        regrsr ← paste(regressorsS[1:k], sep = "", collapse = "|")
        # pick covariates for k-th regression:
        #  paste " ..|.." & "..|.." with collapse = "|"
        #  then use it in grepout
        covariates ← grepout(
          paste(var.always.use, regrsr, sep = "|", collapse = "|")
          , colnames(zz))
        # if (ii == 2 & jj == 1)
        #if (grepl("zEp.2|zSp", zSobj[jj]))
        # zEp.2002: UDOldSibF is all 0, UDOldSibM is all 0 but 2 obs, so drop them
        #  covariates ← covariates[!grepl("OldSib", covariates)]
        covariates ← covariates[!grepl("^UD|^pc.*[dt]$", covariates)] # drop real
        zr ← zz[, covariates, with = F]
        rs ← DID1(data.frame(zr), regressand = regsnd[k],
           clusterstring = clusterlevel, group = "^uniquid$",
           NotToBeDifferenced = "^agHH$|^UD|^pc.*[dt]$",
           intercept = T,
           TimeVariant = "program|age2|meanY",
           PeriodToDropForLC = 2,
           opposite.time.order = F, # Use t - (t-1) diff
           TurnFactorToNumeric = T, returnV = T, print.messages = F)
        resul[[k]] ← list(level.data = rs$level, diff.data = rs$diff, est = rs$es
        est[[k]] ← round(rs$est[, -3], 5)
        ns ← c(ns, rs$N)
      }
      if (!any(grepl("latrine.agHH.yr|water.agHH.yr", rownames(est[[k]])))) {
        cat(zSobj[jj], "agelb", s0, z234[j], c("boys", "girls", "boys+girls")[ge],
          c("demeaned", "undemeaned")[dd], aghh.defs[m], "\n")
        cat("Skipped, some covariates cannot be used due to too small number of ob
        next
      }
      # resultsN0: raw results (not under same obs)
      resultsN0[[jj]][[s]][[j]][[ge]][[m]] ← resul
      # First run estimation data is stored in resul.
      # Pick the last item of data list which has the least num of obs.
      # (This is data to use for all specifications.)
      # zidd: Differenced data of the last item in resul.
      # zid2: Level data to reconstruct and demean interaction terms of covariates
        # Reconstruct covariates and take demeaned interactions are done in the fi
        source(paste0(pathprogram0, "ReconstructCovariatesForDemeanedInteractions
      zidd[, tee := 1]
      zidd[, flooded := as.numeric(eval(parse(text=paste0("flooded.", yrX, ">0"))))
      enrr ← zid[, .(EnRate = mean(Enrolled), Num = .N), by = .(agHH, flooded, te
      Enr.Flood ← rbind(Enr.Flood,
        cbind(zFLobj[jj], c("all", "direct", "exonly")[j], c("default", aghh.defs[
        c("boys", "girls", "boys+girls")[ge], s0, enrr),
        use.names = F
      )
      # Save mean enrollment rate changes
      # x: agHH, y: nonagHH
      if (length(zidd[flooded > 0 & agHH == 0, LHS]) > 1 &
        length(zidd[flooded > 0 & agHH == 1, LHS]) > 1) {
```

```
          ttestE ← t.test(zidd[flooded > 0 & agHH == 1, LHS], zidd[flooded > 0 & ag
          enrch ← t(c(zFLobj[jj], group= "flooded",
            c("all", "direct", "exonly")[j], c("default", aghh.defs[-1])[m],
            c("boys", "girls", "boys+girls")[ge], s0,
              # DID, diff.x, diff.y, CIlower, CIupper, p value
            round(-diff(unlist(ttestE["estimate"])), 3), # -diff = -(y - x) = AgHH -
            unlist(lapply(ttestE[c("estimate", "conf.int", "p.value")], round, 4))))
        } else
          enrch ← t(c(zFLobj[jj], group= "flooded",
            c("all", "direct", "exonly")[j], c("default", aghh.defs[-1])[m],
            c("boys", "girls", "boys+girls")[ge], s0,
              # DID, diff.x, diff.y, CIlower, CIupper, p value
            rep(NA, 6)))
        enrch ← data.table(enrch)
        Enrchg.Flood ← rbind(Enrchg.Flood, enrch, use.names = F)
        if (length(zidd[flooded ≤ 0 & agHH == 0, LHS]) > 1 &
          length(zidd[flooded ≤ 0 & agHH == 1, LHS]) > 1) {
          ttestE ← t.test(zidd[flooded ≤ 0 & agHH == 1, LHS], zidd[flooded ≤
0 & agHH == 0, LHS])
          enrch ← t(c(zFLobj[jj], group= "unflooded",
            c("all", "direct", "exonly")[j], c("default", aghh.defs[-1])[m],
            c("boys", "girls", "boys+girls")[ge], s0,
              # DID, diff.x, diff.y, CIlower, CIupper, p value
            rep(NA, 6)))
        } else
          enrch ← t(c(zFLobj[jj], group= "unflooded",
            c("all", "direct", "exonly")[j], c("default", aghh.defs[-1])[m],
            c("boys", "girls", "boys+girls")[ge], s0,
            round(-diff(unlist(ttestE["estimate"])), 3), # -diff = -(y - x) = AgHH -
            unlist(lapply(ttestE[c("estimate", "conf.int", "p.value")], round, 4))))
        enrch ← data.table(enrch)
        Enrchg.Flood ← rbind(Enrchg.Flood, enrch, use.names = F)
        if (any(grepl("LHS", colnames(zidd)))) setnames(zidd, "LHS", "Enrolled")
        #for (cl in c("LiangZeger", "satterthwaite", "wildclusterboot"))
        for (cl in c("LiangZeger", "satterthwaite"))
        {
          Rs ← ns ← NULL
          est ← vector("list", length(regressorsS))
          UseSmallClusterCorrection ← cl
          cat("\n\n###", cl, "###\n\n")
          #if (grepl("Yp|S", zSobj[jj]) & grepl("wild", cl) & any(grepl("Sib", colna
          if (grepl("Yp|S", zSobj[jj]) & grepl("wild", cl)) {
            cat("fwildclusterboot fails in Julia for zSm.1999, zYp.1999 because Sib'
              "covariates are near zero. Skip to next.\n\n" )
            next
          }
          for (k in 1:length(regressorsS))
          {
            # Julia fails for specification 6 in zEm.1999, zEp.1999, zEp.2002
            if (grepl("wild", cl) & k == 6) next
            #if (ii == 1 & grepl("S", zSobj[jj]) & s ≥ 1 & m == 4 & k ≥
5 & grepl("wild", cl))
            #zSm1999FDOlder10Occ
            #  next
            regrsr ← paste(regressorsS[1:k], sep = "", collapse = "|")
            covariates ← grepout(paste(var.always.use, regrsr, sep = "|"),
```

```
          colnames(zidd))
        # var.always.use has level variables used only for destat purpose, so dr
        covariates <- covariates[!grepl("^UD|^pc.*[dt]$", covariates)]
        zr <- zidd[, c(covariates, "tee"), with = F]
        rsl <- DID2(dX0 = zr, Regressand = "Enrolled",
                 Group = "^uniquid$", TimeVar = "tee", Cluster = "thana",
                 TimeVariant = "program|age2|meanY|yield",
                 opposite.time.order = F, Exclude = "^agHH$", intercept = T,
                 SmallClusterCorrection = UseSmallClusterCorrection,
                 WCBType = "webb",
                 return.V = T, print.messages = T)
        if (grepl("satter", UseSmallClusterCorrection)) {
          # Correct format of estimation results for clubSandwich outputs
          rsl$est <- as.data.frame(rsl$est)
          rsl$est <- rsl$est[, -1]
          colnames(rsl$est)[c(1:2, 4:5)] <- c("Estimate", "Std. Error", "Satt. I
        } else if (grepl("wild", UseSmallClusterCorrection)) {
          # Correct format of estimation results for wildclusterboot outputs
          rsl$est <- as.data.frame(rsl$est)
          colnames(rsl$est)[c(1:2, 4)] <- c("Estimate", "Std. Error", "Pr(>|t|)"
        } else {
          # Correct format of estimation results for Liang-Zeger outputs
          rsl$est <- as.matrix(rsl$est)
          colnames(rsl$est)[c(1:2, 4)] <- c("Estimate", "Std. Error", "Pr(>|t|)"
        }
        # results0: results under same obs
        clnum <- 1
        if (cl == "satterthwaite") clnum <- 2 else if (cl == "wildclusterboot")
3
        results0[[jj]][[s]][[j]][[ge]][[m]][[clnum]][[k]] <-
          list(est = rsl$est, ci = rsl$CI,
            df = rsl$reg$df, reg = rsl$reg,
            #level.data = leveldata[, gsub("Enrolled", "LHS", covariates), with
            level.data = zid,
            diff.data = rsl$data)
        est[[k]] <- round(rsl$est[, -3], 5)
        Rs <- c(Rs, summary(rsl$nonrobust)$adj.r)
        ns <- c(ns, rsl$N)
      } # k: reg specification
      assign(paste0("addthis", j),
        rbind("\\hspace{.5em}thana dummies" =
          paste0("\\mbox{", c(rep("", length(regressorsS)-1), rep("yes", 1)),
          "$\\bar{R}^{2}$" = gsub("^0", "", formatC(Rs, digits = 4, format = "f
          "n" = ns,
          "control mean in 1999, unflooded" =
            rep(formatC(enrr[tee == 1 & agHH == 0 & flooded == 0, EnRate],
              digits = 3, format = "f"), length(regressorsS)),
          "control mean in 1999, flooded" =
            rep(formatC(enrr[tee == 1 & agHH == 0 & flooded == 1, EnRate],
              digits = 3, format = "f"), length(regressorsS)),
          "treated mean in 1999, unflooded" =
            rep(formatC(enrr[tee == 1 & agHH == 1 & flooded == 0, EnRate],
              digits = 3, format = "f"), length(regressorsS)),
          "treated mean in 1999, flooded" =
            rep(formatC(enrr[tee == 1 & agHH == 1 & flooded == 1, EnRate],
              digits = 3, format = "f"), length(regressorsS)),
```

```
          "change in control mean, unflooded" =
            rep(formatC(
              enrr[tee == 2 & agHH == 0 & flooded == 0, EnRate]-
              enrr[tee == 1 & agHH == 0 & flooded == 0, EnRate],
              digits = 3, format = "f"), length(regressorsS)),
          "change in control mean, flooded" =
            rep(formatC(
              enrr[tee == 2 & agHH == 0 & flooded == 1, EnRate]-
              enrr[tee == 1 & agHH == 0 & flooded == 1, EnRate],
              digits = 3, format = "f"), length(regressorsS)),
          "change in treated mean, unflooded" =
            rep(formatC(
              enrr[tee == 2 & agHH == 1 & flooded == 0, EnRate]-
              enrr[tee == 1 & agHH == 1 & flooded == 0, EnRate],
              digits = 3, format = "f"), length(regressorsS)),
          "change in treated mean, flooded" =
            rep(formatC(
              enrr[tee == 2 & agHH == 1 & flooded == 1, EnRate]-
              enrr[tee == 1 & agHH == 1 & flooded == 1, EnRate],
              digits = 3, format = "f"), length(regressorsS)),
          "raw DID, unflooded" =
            rep(formatC(
            enrr[tee == 2 & agHH == 1 & flooded == 0, EnRate] -
            enrr[tee == 1 & agHH == 1 & flooded == 0, EnRate]
            -(enrr[tee == 2 & agHH == 0 & flooded == 0, EnRate] -
              enrr[tee == 1 & agHH == 0 & flooded == 0, EnRate]),
              digits = 3, format = "f"), length(regressorsS)),
          "raw DID, flooded" =
            rep(formatC(
            enrr[tee == 2 & agHH == 1 & flooded == 1, EnRate] -
            enrr[tee == 1 & agHH == 1 & flooded == 1, EnRate]
            -(enrr[tee == 2 & agHH == 0 & flooded == 1, EnRate] -
              enrr[tee == 1 & agHH == 0 & flooded == 1, EnRate]),
              digits = 3, format = "f"), length(regressorsS))
        )
      )
      INformat <- "LZ"
      OUTformat <- "ep"
      if (cl == "wildclusterboot") {
        INformat <- "wcb"
        OUTformat <- "epc"
      } else if (cl == "satterthwaite") {
        INformat <- "satt"
        OUTformat <- "epc"
        OUTformat <- "esDoF"
      }
      # Incorporate CI/DoF in table
      # reorder needs to be corrected
      # Tab.Est is in tabulate_est.R
      # source(paste0(pathprogram, "tabulate_est.R"))
      tbest <- Tab.Est(est, reorder, output.in.list = T,
        Informat = INformat, Outformat = OUTformat,
        AddStars = T,
        CIInTinySize = T,
        LastLineVariables = c("lowMeanY$", "kut.*e.yr.$"),
        InterWithTexts = paste0(InterYears[jj], c("", "*agricultural household")
```

```
        DeleteRowStrings = "^p\\$|^se\\$|^CI\\$|^DoF\\$",
        addbottom = get(paste0("addthis", j)), subst.table = sbt)
        # Split a table in to 2 tables
      if (DivInto2Tables) {
        # Split a table in to 2 tables
        if (grepl("e[ps]$", OUTformat))
          NumRowsAfterEst ← 2 else
          NumRowsAfterEst ← 3
        tbest11 ← tbest[[1]][1:(grep("inter.∗200..∗ag", tbest[[1]])-NumRowsAf
        tbest12 ← tbest[[2]][1:(grep("inter.∗200..∗ag", tbest[[1]])-NumRowsAf
        tbest21 ← tbest[[1]][grep("inter.∗200..∗ag", tbest[[1]]):length(tbest[[
        tbest22 ← tbest[[2]][grep("inter.∗200..∗ag", tbest[[1]]):length(tbest[[
        iispace11 ← which(
          grepl(".", tbest11) &
          !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest11
          )
        iispace12 ← iispace11[seq(2, length(iispace11), 2)]
        iispace21 ← which(
          grepl(".", tbest21) &
          !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest21
          )
        # drop last rows of tbest2 to shrink row space
        iispace21 ← iispace21[iispace21 < max(grep("toilet|water|nonla", tbest2
        iispace22 ← iispace21[seq(2, length(iispace21), 2)]
        if (grepl("e[ps]$", OUTformat)) {
        # ep, es: 2 rows per estimate
          AdjustLineSkipRows1 ← iispace11
          AltColorRows1 ← c(iispace12, iispace12+1)
          AdjustLineSkipRows2 ← iispace21
          AltColorRows2 ← c(iispace22, iispace22+1)
        } else {
        # epc, esc, satt: 3 rows per estimate
          AdjustLineSkipRows1 ← c(iispace11, iispace11+1)
          AltColorRows1 ← c(iispace12, iispace12+1, iispace12+2)
          AdjustLineSkipRows2 ← c(iispace21, iispace21+1)
          AltColorRows2 ← c(iispace22, iispace22+1, iispace22+2)
        }
        tbl1 ← saveEstTable(tbest12, tbest11, boxWidth,
          hleft = "\\hfil\\scriptsize$", hright = "$",
          hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
          delimiterline = NULL, adjustlineskip = "-0.7ex",
          adjlskiprows = AdjustLineSkipRows1,
          alternatecolorManual = AltColorRows1,
          alternatecolorManualColor = "gray80")
        tbl2 ← saveEstTable(tbest22, tbest21, boxWidth,
          estimationspacelast = grep("thana dummi", tbest21),
          hleft = "\\hfil\\scriptsize$", hright = "$",
          hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
          delimiterline = NULL, adjustlineskip = "-0.7ex",
          adjlskiprows = AdjustLineSkipRows2,
          alternatecolorManual = AltColorRows2,
          alternatecolorManualColor = "gray80")
        # Modify "interaction with ..." lines to use multicolumn
        InterRows1 ← grep("nteract.∗\\d", tbl1)
        InterRows2 ← grep("nteract.∗\\d", tbl2)
        for (ir in InterRows1) {
```

```
    if (any(grepl("rowcolor", tbl1[ir])))
      tbl1[ir] ←
        # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
        # For rows with rowcolor command at the end
        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
          gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
          #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
          gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
          )
          ) else
        # For rows without rowcolor command at the end
      tbl1[ir] ←
        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
          gsub("(\\\\\\\\.*ex.$)", "}\\1",
          #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
          gsub("\\\\hfill", "}", gsub("\\&", "", tbl1[ir]))
          )
          )
    # \multicolumn{5}{l}{\makebox[Xcm]{inter with A}} \\\rowcolor{}
    # => \multicolumn{5}{l}{\makebox[10cm]{\textit{inter with A}\hfill}}\\
    tbl1[ir] ← gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl1[ir])
    tbl1[ir] ← gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl1[ir])
    tbl1[ir] ← gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl1[ir])
  }
  for (ir in InterRows2) {
    if (any(grepl("rowcolor", tbl2[ir])))
      tbl2[ir] ←
        # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
        # For rows with rowcolor command at the end
        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
          gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
          #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
          gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
          )
          ) else
        # For rows without rowcolor command at the end
      tbl2[ir] ←
        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
          gsub("(\\\\\\\\.*ex.$)", "}\\1",
          #gsub("\\\\hfill", "", gsub("\\&", "", tbl[ir]))
          gsub("\\\\hfill", "}", gsub("\\&", "", tbl2[ir]))
          )
          )
    tbl2[ir] ← gsub("makebox\\[.cm\\]", "makebox[10cm]", tbl2[ir])
    tbl2[ir] ← gsub("(\\\\textit\\{.*?\\})", "\\1\\\\hfill", tbl2[ir])
    tbl2[ir] ← gsub("\\\\rowcolor", "[.5ex]\\\\rowcolor", tbl2[ir])
  }
  clCap ← paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100))
  # file path to saved table
  pathtosavedtable1 ← TabFilePathF(
    FolderPath = pathsaveThisVer,
    Sample = gsub("\\.", "", zSobj[jj]),
    AgeCutoff = paste0("Older", (10:12)[s], "Flood"),
    HHType = paste0(c("Boys", "Girls", "")[ge],
      c("", "Nuclear", "ExOnly")[j]),
    AgHHDef = c("", "Is", "Hd", "Occ")[m],
```

```
      CRSEMethod = paste0(clCap, 1)
      )
    pathtosavedtable2 ← TabFilePathF(
      FolderPath = pathsaveThisVer,
      Sample = gsub("\\.", "", zSobj[jj]),
      AgeCutoff = paste0("Older", (10:12)[s], "Flood"),
      HHType = paste0(c("Boys", "Girls", "")[ge],
        c("", "Nuclear", "ExOnly")[j]),
      AgHHDef = c("", "Is", "Hd", "Occ")[m],
      CRSEMethod = paste0(clCap, 2)
      )
    write.tablev(tbl1, pathtosavedtable1, colnamestrue = F, rownamestrue = F
    write.tablev(tbl2, pathtosavedtable2, colnamestrue = F, rownamestrue = F
    cat("Table saved as", pathtosavedtable1, "\n")
    cat("Table saved as", pathtosavedtable2, "\n")
  } else {
    # iispace2, iispace2+1, iispace2+2: (group of) rows to be coloured
    iispace ← which(
      # rows with \hspace{.5em} and "non-estimate" rows (R2, n, ...)
      grepl(".", tbest[[1]]) &
      !grepl("interaction with|^n$|bar.R|thana dum|mean at|raw DID", tbest[[
      )
    iispace2 ← iispace[seq(2, length(iispace), 2)]
    # iispace, iispace+1: rows i to shrink rowspace between row i+1 to group
    # adjlskiprows = c(iispace, iispace+1)
    # saveEstTable is in functions.R
    # source("C:/seiro/settings/Rsetting/functions.R", echo=F)
    tbl ← saveEstTable(tbest[[2]], tbest[[1]], boxWidth,
      estimationspacelast = grep("thana dummi", tbest[[1]]),
      hleft = "\\hfil\\tiny$", hright = "$",
      hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
      delimiterline = NULL, adjustlineskip = "-0.5ex",
      adjlskiprows = c(iispace, iispace+1),
      alternatecolorManual = c(iispace2, iispace2+1, iispace2+2),
      alternatecolorManualColor = "gray80")
    if (grepl("Liang", cl))
      tbl ← saveEstTable(tbest[[2]], tbest[[1]], boxWidth,
        estimationspacelast = grep("thana dummi", tbest[[1]]),
        hleft = "\\hfil\\tiny$", hright = "$",
        hcenter = c(boxWidth, rep(centerWidth+.15, ncol(tbest[[2]]))),
        delimiterline = NULL, adjustlineskip = "-0.5ex",
        adjlskiprows = c(iispace),
        alternatecolorManual = c(iispace2, iispace2+1),
        alternatecolorManualColor = "gray80")
    # Modify "interaction with ..." lines to use multicolumn
    InterRows ← grep("nteract.*\\d", tbl)
    for (ir in InterRows)
      if (any(grepl("rowcolor", tbl[ir])))
        tbl[ir] ←
          # \makbox[]{inter with A} &&&& \\[-1ex] => \multicolumn{5}{l}{\mak
          # rows with rowcolor command at the end
          paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
            gsub("(\\\\\\\\.*ex.*?rowcolor.*?)$", "}\\1",
            gsub("\\\\hfill", "}", gsub("\\&", "", tbl[ir]))
            )
            ) else
```

```
                        # rows without rowcolor command at the end
                        paste0("\\multicolumn{", ncol(tbest[[2]]), "}{l}{",
                          gsub("(\\\\\\\\.*ex.$)", "}\\1",
                          gsub("\\\\hfill", "}", gsub("\\&", "", tbl[ir]))
                          )
                          )
                  pathtosavedtable <- TabFilePathF(FolderPath = pathsaveThisVer,
                    Sample = gsub("\\.", "", zSobj[jj]),
                    AgeCutoff = paste0("Older", (10:12)[s], "Flood"),
                    HHType = paste0(c("Boys", "Girls", "")[ge],
                      c("", "Nuclear", "ExOnly")[j]),
                    AgHHDef = c("", "Is", "Hd", "Occ")[m],
                    CRSEMethod = paste0(toupper(substr(cl, 1, 1)), substr(cl, 2, 100)))
                  write.tablev(tbl, pathtosavedtable, colnamestrue = F, rownamestrue = F,
                  cat("Table saved as", pathtosavedtable, "\n")
                } # if end: DivInto2Tables
              } # cl: SE clustering option
            }  # m: ag HH definitions
          } # ge: gendered or both gender
        }  # j: z2 (incl. extended) or z3 (nuclear)
      }  # s: lowerbound age cutoffs (10, 11, 12)
  }  # jj: zE / zS sample selection
  results[[ii]] <- results0
  resultsN[[ii]] <- resultsN0
}  # ii: main / placebo samples
# results: Results under same obs with BRL (satterthwaith dof) information
# resultsN: Results under varying number of obs between specifications
Enr.Flood <- data.table(Enr.Flood)
Enrchg.Flood <- data.table(Enrchg.Flood)
setnames(Enrchg.Flood, c("sample", "group", "HHtype", "agdef", "demean", "gender", "agelb"
  "AgNonag", "agHH", "nonagHH", "lb95", "ub95", "pvalue")[-5])
setnames(Enr.Flood, c("sample", "HHtype", "agdef", "demean", "gender", "agelb", "agHH",
  "flood", "tee", "rate", "Obs")[-4])
library(qs)
qsave(results, paste0(pathsaveThisVer, "DID_FloodGenderResults.qs"))
qsave(resultsN, paste0(pathsaveThisVer, "DID_N_FloodGenderResults.qs"))
qsave(Enr.Flood, paste0(pathsaveThisVer, "Enr.FloodGender.qs"))
qsave(Enrchg.Flood, paste0(pathsaveThisVer, "Enrchg.FloodGender.qs"))
floodftnote <- "A first-difference estimator with standard errors clustered at \\textit{th
```

```
# Flooded: results[[ii]][[jj]][[s]][[j]][[ge]][[m]][[clnum]][[k]]
resultsF <- qread(paste0(pathsaveThisVer, "DID_FloodGenderResults.qs"))
# Nonmuslims: results[[ii]][[jj]][[s]][[j]][[ge]][[m]][[clnum]][[k]]
resultsM <- qread(paste0(pathsaveThisVer, "DID_NonMuslimGenderResults.qs"))
zsobj <- c("zmobj", "zpobj")
zmobj <- "zEm.1999"
zpobj <- c("zEp.2002", "zEp.1999")
EstFM <- NR <- Enr <- NULL
for (fm in 1:2) {   # flood or muslim
  for (ii in 1) { # main results only
    zSobj <- get(zsobj[[ii]])
    for (jj in 1:length(zSobj)) {
      thisdata <- zSobj[[jj]]
      for (s in 1:3) {
        for (j in 1:2) {
          for (ge in 1:3) {
```

```
      for (m in 1:4) {
        for (clnum in 1:2) {
          if (fm == 1)  {
            estFM1 ← resultsF[[ii]][[jj]][[s]][[j]][[ge]][[m]][[clnum]]
          } else {
            estFM1 ← resultsM[[ii]][[jj]][[s]][[j]][[ge]][[m]][[clnum]]
          }
          if (all(unlist(lapply(estFM1, is.null)))) next
          estFM ← lapply(estFM1, "[[", "ci")
          estFM ← lapply(estFM, data.table)
          estFM ← lapply(1:length(estFM), function(i) estFM[[i]][, reg := i])
          estFM ← rbindlist(estFM, use.names = T, fill = T)
          # if clnum == 1, estFM only contain CIs
          if (clnum == 1) {
            esp ← lapply(estFM1, "[[", "est")
            esp ← lapply(esp, as.matrix)
            esprn ← unlist(lapply(esp, rownames))
            esp ← lapply(esp, function(x) as.data.table(x[, ]))
            dfs ← lapply(lapply(estFM1, "[[", "est"), function(x) attributes(x)$df
            esp ← lapply(1:length(esp), function(i) esp[[i]][, df := dfs[[i]]])
            esp ← rbindlist(esp, use.names = T, fill = T)
            if (any(grepl("z value", colnames(esp)))) esp[, "z value" := NULL]
            estFM ← cbind(Coef = esprn, esp, estFM)
            setnames(estFM, c("Coef", "beta", "SE", "t", "p_val", "df", "CI_L", "C
            estFM[, t := NULL]
          }
          estFM[, p_val := round(p_val, 6)]
          estFM[, SE := round(SE, 8)]
          estFM[, inference := c("LZ", "BRL")[clnum]]
          estFM[, gender := genderitems[ge]]
          estFM[, agdef := aghh.defs[m]]
          estFM[, agelb := c(10:12)[s]]
          estFM[, HHtype := c("all", "direct", "exonly")[j]]
          estFM[, data := thisdata]
          estFM[, objective := c("main", "placebo")[ii]]
          estFM[, file := c("flood", "muslim")[fm]]
          setcolorder(estFM, c("file", "objective", "data", "gender", "agdef", "ag
            "demean", "Coef", "beta", "SE", "df", "p_val", "CI_L", "CI_U", "reg", "i
          EstFM ← rbindlist(list(EstFM, estFM), use.names = T, fill = T)
          # n and R2
          nR ← lapply(lapply(estFM1, "[[", "reg"),
            function(x) t(c(length(summary(x)$res), summary(x)$r.sq)))
          nR ← lapply(nR, data.table)
          nR ← lapply(1:length(nR), function(i) nR[[i]][, spec := i])
          nR ← rbindlist(nR, use.names = T, fill = T)
          nR[, gender := genderitems[ge]]
          setnames(nR, c("n", "R", "spec", "gender"))
          nR[, n := formatC(n, digits = 0, format = "f")]
          nR[, R := formatC(R, digits = 4, format = "f")]
          # number of agHHs
          nR2 ← unique(unlist(lapply(lapply(estFM1, "[[", "diff.data"),
            function(x) sum(x[, agHH]>0))))
          if (fm == 1)
            nR3 ← unique(unlist(lapply(lapply(estFM1[-1], "[[", "diff.data"),
              function(x) sum(x[, paste0("flooded.yr", ii+1), with = F]>0)))) else
            nR3 ← unique(unlist(lapply(lapply(estFM1[-1], "[[", "diff.data"),
```

```
                    function(x) sum(x[, paste0("nonmuslim.yr", ii+1), with = F]>0))))
                nR[, Yes := formatC(nR2, digits = 0, format = "f")]
                nR[, Ngroup := formatC(nR3, digits = 0, format = "f")]
                nR[, agdef := aghh.defs[m]]
                nR[, agelb := c(10:12)[s]]
                nR[, HHtype := c("all", "direct", "exonly")[j]]
                nR[, data := thisdata]
                nR[, objective := c("main", "placebo")[ii]]
                nR[, file := c("flood", "muslim")[fm]]
                NR <- rbind(NR, nR, use.names = T, fill = T)
                # treated and control means
                zid <- lapply(estFM1, "[[", "level.data")
                zidd <- lapply(estFM1, "[[", "diff.data")
                zid <- lapply(1:length(zid), function(i) zid[[i]][uniquid %in% zidd[[i]][,
                zid <- lapply(zid, function(x) x[eval(parse(text=grepout("agHH$", colnames
                          agHH := 1L])
                zid <- lapply(zid, function(x) x[eval(parse(text=grepout("agHH$", colnames
                          agHH := 0L])
                zid <- lapply(zid, function(x) x[, tee := 1:.N, by = uniquid])
                if (any(grepl("Enrolled", colnames(zid[[1]]))))
                  lapply(zid, function(x) setnames(x, "Enrolled", "schoolp"))
                enr <- lapply(zid, function(x) x[, .(EnRate = mean(schoolp), Num = .N), by
                enr <- lapply(1:length(enr), function(i) enr[[i]][, spec := i])
                enr <- rbindlist(enr, use.names = T, fill = T)
                enr[, gender := genderitems[ge]]
                enr[, agdef := aghh.defs[m]]
                enr <- unique(enr[, spec := NULL])
                enr[, agelb := c(10:12)[s]]
                enr[, HHtype := c("all", "direct", "exonly")[j]]
                enr[, data := thisdata]
                enr[, objective := c("main", "placebo")[ii]]
                enr[, inference := c("LZ", "BRL")[clnum]]
                enr[, file := c("flood", "muslim")[fm]]
                Enr <- rbind(Enr, enr, use.names = T, fill = T)
              } # clnum
            } # m
          } # ge
        } # j
      } # s
    } # jj
  } # ii
} # fm
setnames(EstFM, "p_val", "p")
EstFM[, coeff := as.character(NA)]
EstFM[grepl("^agHH.yr.$", Coef), coeff := "main"]
EstFM[grepl("SibF.*H", Coef), coeff := "older female siblings"]
EstFM[grepl("SibM.*H", Coef), coeff := "older male siblings"]
EstFM[, coeff := factor(coeff)]
EstFM[, Coef := factor(Coef)]
EstFM[, inference := factor(inference)]
EstFM[, objective := factor(objective)]
EstFM[, data := factor(data)]
EstFM[, agdef := factor(agdef)]
EstFM[, gender := factor(gender, levels = genderitems)]
EstFM[, HHtype := factor(HHtype)]
EstFM[, file := factor(file)]
```

```
NR[, objective := factor(objective)]
NR[, data := factor(data)]
NR[, agdef := factor(agdef)]
NR[, gender := factor(gender, levels = genderitems)]
NR[, HHtype := factor(HHtype)]
NR[, file := factor(file)]
Enr[, inference := factor(inference)]
Enr[, objective := factor(objective)]
Enr[, data := factor(data)]
Enr[, agdef := factor(agdef)]
Enr[, gender := factor(gender, levels = genderitems)]
Enr[, HHtype := factor(HHtype)]
Enr[, file := factor(file)]
qsave(EstFM, paste0(pathsaveThisVer, "TabulatedFloodMuslimResults.qs"))
qsave(Enr, paste0(pathsaveThisVer, "TabulatedFloodMuslimResultsEnr.qs"))
qsave(NR, paste0(pathsaveThisVer, "TabulatedFloodMuslimResultsNR.qs"))
floodftnote ← "A first-difference estimator with standard errors clustered at \\textit{th
```

V Results

```
zAobj ← rep(c("zEm.1999", "zSm.1999"), each = 3)
zsobj ← c("zAobj", "zAP2obj", "zAP9obj", "zCobj", "zYobj")
samples.age ← c("main", "placebo2", "placebo9", "mainC")#, "placeboY")
agegroupings1 ← list(
    main = rep(c("agewise", "AgeGroup1", "AgeGroup2"), 2)
  # agewise = (currently) Not age wise. Same as main.
  # AgeGroup1 = AgeGroup: 6-10, 11-13, 14-15, 16-17, above17
  # AgeGroup2 = Agegroup: 6-10, 11-17, above17
  # mainC: Class wise = Group children by enrolled class in 1999
  # Note: placeboY only have one age group, below 10 in 1999
  , placebo2 = rep(c("agewise", "AgeGroup1", "AgeGroup2"), 2)
  , placebo9 = rep(c("agewise", "AgeGroup1", "AgeGroup2"), 2)
  , mainC = rep("Classwise", 2)
  , placeboY = "YoungCohorts"
)
zmobj ← c("zEm.1999", "zSm.1999")
zpobj ← c("zEp.2002", "zSp.2002", "zEp.1999", "zSp.1999")
zCobj ← c("zEm.1999", "zSm.1999")
library(qs)
Enr.Base ← qread(paste0(pathsaveThisVer, "EnrBaseForTabGeneric.qs"))
Enrchg.Base ← qread(paste0(pathsaveThisVer, "EnrchgBaseForTabGeneric.qs"))
source("TabGeneric.R")
```

V.1 Main

V.1.1 Main

```
source("TabGeneric.R")
#DisplayEstTable()
TabFNLine1 ← "\\\\[-1ex] Notes:& 1. A first-difference estimator with standard errors clu
```

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source(paste0(pathprogram, "TabGeneric.R"))
```

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```
AddToTabFNT ← "Cohort of 10 - 18 year olds in 1999 using all children in a household. "
```

Table 12: 1999-2002, 10 years and older, direct offsprings

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.307*** (0.0)	0.121 (29.6)	0.123 (30.1)	0.543*** (0.0)	0.510*** (0.0)	0.477*** (0.1)	0.625*** (0.0)
age2		−0.005*** (0.0)	−0.005*** (0.1)	−0.007*** (0.0)	−0.007*** (0.0)	−0.007*** (0.0)	−0.007*** (0.0)
yield (thana)				0.623*** (0.0)	0.728*** (0.0)	0.659*** (0.2)	−0.287 (55.1)
program				0.650*** (0.0)	0.654*** (0.0)	0.652*** (0.0)	0.654*** (0.0)
mean rainfall				0.001 (11.1)	0.001*** (0.7)	0.001** (1.3)	0.001*** (0.3)
mean high temperature				−0.094*** (0.0)	−0.116*** (0.0)	−0.115*** (0.2)	0.032 (62.1)
mean low temperature				−0.039 (42.1)	−0.063 (15.8)	−0.086 (10.9)	−0.181*** (0.4)
interaction with 2002							
agricultural household	−0.042 (35.6)	−0.038 (41.3)	−0.033 (51.8)	−0.067*** (0.5)	−0.067** (1.6)	−0.076*** (0.3)	−0.075*** (0.3)
sex (female = 1)		−0.003 (94.3)	−0.006 (89.7)	−0.142*** (0.2)	−0.139*** (0.4)	−0.138*** (0.3)	−0.139*** (0.3)
head primary			−0.034 (58.6)	−0.043 (36.5)	−0.034 (46.3)	−0.036 (44.7)	−0.036 (44.2)
head secondary			0.030 (41.1)	0.037 (48.8)	0.042 (43.6)	0.039 (48.3)	0.040 (48.8)
head spouse primary			−0.000 (99.3)	0.049* (7.6)	0.056** (4.3)	0.071** (2.5)	0.072** (2.4)
head spouse secondary			−0.013 (75.3)	0.043 (27.1)	0.039 (33.6)	0.045 (34.9)	0.047 (32.5)
OldSibF.yr2						0.026 (11.1)	0.026 (11.9)
OldSibM.yr2						0.020 (39.1)	0.021 (38.1)
per member land holding					−0.009 (87.2)	−0.011 (86.3)	−0.009 (88.0)
per member nonland asset					0.763 (61.2)	0.608 (65.9)	0.589 (67.0)
own piped water					−0.005 (87.0)	−0.007 (81.5)	−0.008 (80.2)
structured toilet					−0.039 (31.4)	−0.041 (33.1)	−0.038 (38.4)

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```
source(paste0(pathprogram, ”TabGeneric.R”))
TabFNLine1 ← ”\\\\[−1ex] Notes:& 1. A first−difference estimator with standard errors clu

source(paste0(pathprogram, ”TabGeneric.R”))
AddToTabFNT ← ”Cohort of 11 − 18 year olds in 1999. Only direct offspring of household he
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source(paste0(pathprogram, ”TabGeneric.R”))
```

Table 12: 1999-2002, 10 years and older, direct offsprings (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
sex (female = 1)		0.094	0.097	0.107	0.101	0.099	0.098
		(35.7)	(33.9)	(38.2)	(44.0)	(44.2)	(44.9)
OldSibF.agHH.yr2						−0.028	−0.028
						(35.3)	(35.5)
OldSibM.agHH.yr2						−0.095*	−0.096*
						(5.0)	(5.0)
per member land holding × agHH					−0.271***	−0.269***	−0.268***
					(0.9)	(0.7)	(0.7)
per member nonland asset × agHH					2.959**	2.948**	3.003**
					(3.7)	(3.1)	(3.2)
own piped water					0.039	0.034	0.034
					(48.6)	(51.5)	(50.3)
structured toilet × ag HH					−0.065	−0.064	−0.062
					(29.0)	(30.3)	(33.9)
thana dummies							yes
$\bar{R}^2$	.0002	.0216	.0169	.4563	.4574	.4615	.4592
n	626	626	626	626	626	626	626
control mean at baseline	0.78	0.78	0.78	0.78	0.78	0.78	0.78
control mean at follow up	0.50	0.50	0.50	0.50	0.50	0.50	0.50
treated mean at baseline	0.71	0.71	0.71	0.71	0.71	0.71	0.71
treated mean at follow up	0.39	0.39	0.39	0.39	0.39	0.39	0.39
raw DID	−0.04	−0.04	−0.04	−0.04	−0.04	−0.04	−0.04

Source: Compiled from IFPRI data. Cohort of 10 - 18 year olds in 1999. Only direct offspring of household head are used.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors with are clusterd at thana level. *P* values are shown in the parentheses. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 13: 1999-2002, 10 years and older, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.307*** (0.012) [6.72]	0.121 (0.118) [6.78]	0.123 (0.121) [6.75]	0.543** (0.130) [4.15]	0.510** (0.146) [4.46]	0.477** (0.147) [4.53]	0.625*** (0.173) [6.56]
age2		−0.005** (0.001) [6.75]	−0.005** (0.001) [6.72]	−0.007*** (0.001) [6.73]	−0.007*** (0.001) [6.72]	−0.007*** (0.001) [6.65]	−0.007*** (0.001) [6.65]
yield (thana)				0.623* (0.215) [2.48]	0.728** (0.231) [3.14]	0.659* (0.250) [3.18]	−0.287 (0.499) [6.24]
program				0.650*** (0.035) [6.80]	0.654*** (0.035) [6.81]	0.652*** (0.035) [6.82]	0.654*** (0.036) [6.81]
mean rainfall				0.001 (0.000) [2.73]	0.001* (0.000) [3.12]	0.001 (0.000) [3.13]	0.001** (0.000) [6.17]
mean high temperature				−0.094** (0.026) [2.47]	−0.116** (0.032) [2.76]	−0.115* (0.044) [2.79]	0.032 (0.065) [6.07]
mean low temperature				−0.039 (0.066) [2.38]	−0.063 (0.053) [2.54]	−0.086 (0.063) [2.56]	−0.181** (0.064) [6.54]
interaction with 2002							
agricultural household	−0.042 (0.045) [6.45]	−0.038 (0.047) [6.45]	−0.033 (0.052) [6.41]	−0.067** (0.025) [6.33]	−0.067* (0.030) [6.15]	−0.076** (0.029) [6.09]	−0.075** (0.028) [6.01]
sex (female = 1)		−0.003 (0.047) [6.72]	−0.006 (0.048) [6.72]	−0.142** (0.048) [6.69]	−0.139** (0.049) [6.68]	−0.138** (0.048) [6.68]	−0.139** (0.048) [6.67]
head primary			−0.034 (0.063) [6.87]	−0.043 (0.047) [6.88]	−0.034 (0.047) [6.89]	−0.036 (0.048) [6.88]	−0.036 (0.048) [6.87]
head secondary			0.030 (0.037) [6.43]	0.037 (0.054) [6.46]	0.042 (0.052) [6.51]	0.039 (0.054) [6.50]	0.040 (0.055) [6.46]
head spouse primary			−0.000 (0.043) [6.16]	0.049 (0.029) [6.31]	0.056* (0.028) [6.27]	0.071* (0.033) [6.28]	0.072* (0.033) [6.27]
head spouse secondary			−0.013 (0.040) [5.44]	0.043 (0.040) [5.58]	0.039 (0.043) [5.50]	0.045 (0.051) [5.57]	0.047 (0.050) [5.55]
OldSibF.yr2						0.026 (0.017) [5.33]	0.026 (0.017) [5.30]
OldSibM.yr2						0.020 (0.024) [5.58]	0.021 (0.025) [5.49]
per member land holding					−0.009 (0.071) [4.18]	−0.011 (0.077) [4.10]	−0.009 (0.077) [4.08]
per member nonland asset					0.763 (1.925) [2.81]	0.608 (1.780) [2.81]	0.589 (1.776) [2.80]
own piped water					−0.005 (0.029) [5.67]	−0.007 (0.030) [5.72]	−0.008 (0.032) [5.69]
structured toilet					−0.039 (0.041) [6.07]	−0.041 (0.043) [6.07]	−0.038 (0.045) [6.02]

Table 13: 1999-2002, 10 years and older, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
sex (female = 1)		0.094	0.097	0.107	0.101	0.099	0.098
		(0.107)	(0.106)	(0.128)	(0.137)	(0.135)	(0.135)
		[6.44]	[6.48]	[6.49]	[6.49]	[6.52]	[6.52]
OldSibF.agHH.yr2						−0.028	−0.028
						(0.032)	(0.032)
						[4.55]	[4.55]
OldSibM.agHH.yr2						−0.095	−0.096
						(0.052)	(0.052)
						[5.01]	[4.96]
per member land holding × agHH					−0.271*	−0.269*	−0.268*
					(0.115)	(0.114)	(0.113)
					[3.61]	[3.61]	[3.60]
per member nonland asset × agHH					2.959	2.948	3.003
					(1.476)	(1.513)	(1.561)
					[2.42]	[2.45]	[2.41]
own piped water					0.039	0.034	0.034
					(0.060)	(0.056)	(0.054)
					[6.27]	[6.32]	[6.35]
structured toilet × ag HH					−0.065	−0.064	−0.062
					(0.063)	(0.065)	(0.067)
					[5.98]	[6.01]	[5.99]
thana dummies							yes
$\bar{R}^2$	.0002	.0216	.0169	.4563	.4574	.4615	.4592
n	626	626	626	626	626	626	626
control mean at baseline	0.78	0.78	0.78	0.78	0.78	0.78	0.78
control mean at follow up	0.50	0.50	0.50	0.50	0.50	0.50	0.50
treated mean at baseline	0.71	0.71	0.71	0.71	0.71	0.71	0.71
treated mean at follow up	0.39	0.39	0.39	0.39	0.39	0.39	0.39
raw DID	−0.04	−0.04	−0.04	−0.04	−0.04	−0.04	−0.04

Source: Compiled from IFPRI data. Cohort of 10 - 18 year olds in 1999. Only direct offspring of household head are used.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. *P* values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 14: 1999-2002, 10 years and older, all children, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	-0.309^{***} (0.011) [6.76]	0.060 (0.112) [6.78]	0.061 (0.114) [6.76]	0.595^{***} (0.118) [4.19]	0.594^{***} (0.129) [4.43]	0.567^{**} (0.140) [4.46]	0.802^{***} (0.154) [6.69]
age2		-0.004^{**} (0.001) [6.75]	-0.004^{**} (0.001) [6.73]	-0.007^{***} (0.001) [6.75]	-0.007^{***} (0.001) [6.73]	-0.007^{***} (0.001) [6.64]	-0.007^{***} (0.001) [6.64]
yield (thana)				0.391 (0.356) [2.45]	0.465 (0.355) [3.10]	0.387 (0.334) [3.14]	-1.266^{**} (0.434) [6.40]
program				0.648^{***} (0.027) [6.83]	0.653^{***} (0.026) [6.84]	0.651^{***} (0.027) [6.84]	0.654^{***} (0.027) [6.84]
mean rainfall				0.000 (0.001) [2.75]	0.000 (0.001) [3.09]	0.000 (0.001) [3.09]	0.000 (0.000) [6.26]
mean high temperature				−0.055 (0.036) [2.51]	−0.063 (0.043) [2.76]	−0.064 (0.049) [2.80]	0.135^{*} (0.056) [5.80]
mean low temperature				−0.010 (0.086) [2.40]	−0.007 (0.091) [2.52]	−0.028 (0.089) [2.53]	-0.116^{*} (0.054) [6.56]
interaction with 2002							
agricultural household	−0.030 (0.037) [6.49]	−0.028 (0.037) [6.50]	−0.023 (0.043) [6.50]	−0.043 (0.027) [6.42]	−0.046 (0.030) [6.21]	-0.054^{*} (0.027) [6.14]	-0.051^{*} (0.026) [6.07]
sex (female = 1)		0.016 (0.037) [6.77]	0.013 (0.038) [6.78]	-0.126^{**} (0.040) [6.74]	-0.125^{**} (0.040) [6.73]	-0.126^{**} (0.040) [6.74]	-0.126^{**} (0.040) [6.73]
head primary			−0.030 (0.055) [6.80]	−0.005 (0.038) [6.81]	−0.001 (0.039) [6.80]	−0.004 (0.040) [6.79]	−0.003 (0.038) [6.79]
head secondary			0.040 (0.037) [6.49]	0.049 (0.050) [6.51]	0.053 (0.049) [6.58]	0.048 (0.050) [6.56]	0.052 (0.051) [6.53]
head spouse primary			−0.006 (0.033) [6.17]	0.040 (0.029) [6.28]	0.039 (0.033) [6.26]	0.056 (0.035) [6.28]	0.059 (0.035) [6.26]
head spouse secondary			−0.030 (0.036) [5.61]	0.021 (0.034) [5.70]	0.006 (0.038) [5.60]	0.016 (0.045) [5.72]	0.021 (0.043) [5.69]
OldSibF.yr2						0.023 (0.018) [5.32]	0.022 (0.018) [5.31]
OldSibM.yr2						0.018 (0.024) [5.68]	0.019 (0.025) [5.60]
per member land holding					0.029 (0.070) [4.31]	0.031 (0.075) [4.24]	0.030 (0.073) [4.22]
per member nonland asset					0.742 (1.310) [2.74]	0.578 (1.111) [2.74]	0.592 (1.089) [2.73]
own piped water					−0.002 (0.032) [5.66]	−0.004 (0.033) [5.71]	−0.010 (0.034) [5.64]
structured toilet					−0.020 (0.044) [6.22]	−0.021 (0.048) [6.23]	−0.013 (0.050) [6.20]

Table 14: 1999-2002, 10 years and older, all children, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
sex (female = 1)		0.074	0.079	0.078	0.070	0.069	0.068
		(0.114)	(0.112)	(0.118)	(0.126)	(0.127)	(0.127)
		[6.50]	[6.53]	[6.54]	[6.52]	[6.54]	[6.54]
OldSibF.agHH.yr2						−0.049	−0.050
						(0.041)	(0.041)
						[4.49]	[4.48]
OldSibM.agHH.yr2						−0.110*	−0.107*
						(0.052)	(0.052)
						[5.07]	[5.02]
per member land holding × agHH					−0.180	−0.177	−0.177
					(0.129)	(0.134)	(0.128)
					[3.67]	[3.67]	[3.65]
per member nonland asset × agHH					2.835	2.853	3.028
					(1.380)	(1.193)	(1.206)
					[2.36]	[2.37]	[2.34]
own piped water					0.022	0.020	0.017
					(0.055)	(0.053)	(0.051)
					[6.25]	[6.30]	[6.32]
structured toilet × ag HH					−0.038	−0.034	−0.025
					(0.057)	(0.060)	(0.062)
					[6.07]	[6.10]	[6.08]
thana dummies							yes
$\bar{R}^2$	−0.0006	.0148	.0111	.4423	.4399	.4463	.4456
n	682	682	682	682	682	682	682
control mean at baseline	0.76	0.76	0.76	0.76	0.76	0.76	0.76
control mean at follow up	0.47	0.47	0.47	0.47	0.47	0.47	0.47
treated mean at baseline	0.71	0.71	0.71	0.71	0.71	0.71	0.71
treated mean at follow up	0.39	0.39	0.39	0.39	0.39	0.39	0.39
raw DID	−0.03	−0.03	−0.03	−0.03	−0.03	−0.03	−0.03

Source: Compiled from IFPRI data. Cohort of 10 - 18 year olds in 1999 using all children in a household.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. P values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*, **, ***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 15: 1999-2002, 11 years and older, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.326*** (0.016) [6.71]	0.131 (0.168) [6.64]	0.138 (0.170) [6.63]	0.553** (0.162) [4.42]	0.518** (0.170) [4.69]	0.487** (0.158) [4.74]	0.789*** (0.172) [6.56]
age2		−0.005** (0.002) [6.62]	−0.005** (0.002) [6.61]	−0.008*** (0.002) [6.65]	−0.008*** (0.002) [6.68]	−0.007*** (0.001) [6.62]	−0.007*** (0.001) [6.62]
yield (thana)				0.825* (0.299) [2.44]	0.937* (0.332) [3.03]	0.878* (0.335) [3.08]	−0.706 (0.590) [6.06]
program				0.684*** (0.041) [6.80]	0.691*** (0.040) [6.82]	0.688*** (0.040) [6.83]	0.690*** (0.041) [6.83]
mean rainfall				0.001 (0.001) [2.73]	0.001* (0.001) [3.10]	0.001* (0.001) [3.12]	0.001*** (0.000) [5.86]
mean high temperature				−0.130* (0.044) [2.44]	−0.149* (0.054) [2.69]	−0.147 (0.064) [2.74]	0.114 (0.064) [5.92]
mean low temperature				−0.071 (0.086) [2.37]	−0.091 (0.108) [2.57]	−0.110 (0.122) [2.59]	−0.139 (0.089) [6.53]
interaction with 2002							
agricultural household	−0.048 (0.043) [6.44]	−0.048 (0.041) [6.44]	−0.044 (0.043) [6.36]	−0.075** (0.027) [6.29]	−0.073* (0.032) [6.13]	−0.079* (0.033) [6.06]	−0.082** (0.032) [5.98]
sex (female = 1)		−0.023 (0.043) [6.65]	−0.025 (0.045) [6.66]	−0.147** (0.043) [6.67]	−0.142** (0.044) [6.67]	−0.141** (0.043) [6.68]	−0.144** (0.045) [6.64]
head primary			−0.090 (0.049) [6.84]	−0.089** (0.030) [6.85]	−0.079* (0.034) [6.87]	−0.082* (0.037) [6.85]	−0.076* (0.035) [6.82]
head secondary			0.011 (0.035) [6.51]	0.064 (0.054) [6.52]	0.066 (0.057) [6.52]	0.061 (0.058) [6.48]	0.064 (0.061) [6.44]
head spouse primary			−0.015 (0.062) [6.34]	0.036 (0.034) [6.43]	0.048 (0.032) [6.36]	0.060 (0.036) [6.37]	0.062 (0.037) [6.36]
head spouse secondary			−0.017 (0.050) [5.57]	0.024 (0.041) [5.71]	0.022 (0.053) [5.61]	0.027 (0.057) [5.68]	0.030 (0.056) [5.66]
OldSibF.yr2						0.026 (0.020) [5.87]	0.025 (0.020) [5.84]
OldSibM.yr2						0.015 (0.027) [5.23]	0.017 (0.029) [5.14]
per member land holding					−0.003 (0.062) [4.05]	−0.003 (0.067) [3.99]	−0.007 (0.067) [3.97]
per member nonland asset					0.453 (2.228) [2.48]	0.348 (2.089) [2.50]	0.392 (2.088) [2.50]
own piped water					−0.004 (0.036) [5.27]	−0.005 (0.038) [5.31]	−0.006 (0.042) [5.25]
structured toilet					−0.062 (0.044) [6.13]	−0.063 (0.048) [6.13]	−0.061 (0.048) [6.08]

Table 15: 1999-2002, 11 years and older, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
sex (female = 1)		0.181*	0.179*	0.139	0.132	0.132	0.135
		(0.091)	(0.085)	(0.107)	(0.112)	(0.113)	(0.115)
		[6.43]	[6.47]	[6.48]	[6.52]	[6.54]	[6.54]
OldSibF.agHH.yr2						−0.033	−0.034
						(0.059)	(0.061)
						[4.84]	[4.81]
OldSibM.agHH.yr2						−0.077	−0.078
						(0.055)	(0.055)
						[4.58]	[4.54]
per member land holding × agHH					−0.269*	−0.267*	−0.277*
					(0.105)	(0.103)	(0.099)
					[3.58]	[3.58]	[3.57]
per member nonland asset × agHH					2.181	2.049	2.323
					(1.051)	(1.211)	(1.409)
					[2.13]	[2.19]	[2.17]
own piped water					0.033	0.031	0.039
					(0.064)	(0.068)	(0.066)
					[6.17]	[6.23]	[6.28]
structured toilet × ag HH					−0.026	−0.029	−0.025
					(0.069)	(0.071)	(0.074)
					[5.91]	[5.94]	[5.94]
thana dummies							yes
$\bar{R}^2$	.0003	.0233	.0207	.5055	.5073	.5086	.5075
n	513	513	513	513	513	513	513
control mean at baseline	0.74	0.74	0.74	0.74	0.74	0.74	0.74
control mean at follow up	0.44	0.44	0.44	0.44	0.44	0.44	0.44
treated mean at baseline	0.67	0.67	0.67	0.67	0.67	0.67	0.67
treated mean at follow up	0.33	0.33	0.33	0.33	0.33	0.33	0.33
raw DID	−0.05	−0.05	−0.05	−0.05	−0.05	−0.05	−0.05

Source: Compiled from IFPRI data. Cohort of 11 - 18 year olds in 1999. Only direct offspring of household head are used.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. P values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*, **, ***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 16: 1999-2002, 12 years and older, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.358*** (0.020) [6.69]	−0.110 (0.180) [6.48]	−0.129 (0.180) [6.44]	0.548* (0.231) [5.31]	0.501* (0.219) [5.50]	0.488* (0.208) [5.48]	0.821** (0.234) [6.22]
age2		−0.003 (0.002) [6.44]	−0.002 (0.002) [6.40]	−0.008*** (0.002) [6.37]	−0.007*** (0.002) [6.34]	−0.007*** (0.002) [6.36]	−0.007*** (0.002) [6.37]
yield (thana)				0.889 (0.383) [2.45]	1.013* (0.404) [3.00]	0.940* (0.386) [3.08]	−0.597 (0.662) [6.02]
program				0.708*** (0.047) [6.68]	0.707*** (0.047) [6.72]	0.709*** (0.050) [6.72]	0.712*** (0.051) [6.72]
mean rainfall				0.001 (0.001) [2.76]	0.002* (0.001) [3.15]	0.002* (0.001) [3.17]	0.001*** (0.000) [5.86]
mean high temperature				−0.132 (0.062) [2.49]	−0.148 (0.070) [2.83]	−0.148 (0.080) [2.87]	0.120 (0.078) [6.11]
mean low temperature				−0.093 (0.123) [2.38]	−0.110 (0.142) [2.63]	−0.129 (0.157) [2.65]	−0.085 (0.086) [6.37]
interaction with 2002							
agricultural household	−0.063 (0.042) [6.45]	−0.070 (0.043) [6.40]	−0.065 (0.047) [6.34]	−0.060* (0.028) [6.19]	−0.058* (0.027) [6.07]	−0.070** (0.028) [5.96]	−0.078** (0.025) [5.87]
sex (female = 1)		−0.075 (0.045) [6.63]	−0.080 (0.046) [6.62]	−0.157*** (0.034) [6.66]	−0.153*** (0.034) [6.68]	−0.148*** (0.032) [6.68]	−0.152*** (0.034) [6.65]
head primary			−0.080 (0.056) [6.82]	−0.057 (0.036) [6.87]	−0.047 (0.039) [6.90]	−0.054 (0.043) [6.87]	−0.046 (0.040) [6.85]
head secondary			0.009 (0.045) [6.38]	0.090* (0.041) [6.40]	0.090 (0.048) [6.41]	0.085 (0.049) [6.39]	0.091 (0.051) [6.33]
head spouse primary			−0.107 (0.057) [5.88]	−0.008 (0.036) [6.05]	0.005 (0.039) [6.00]	0.020 (0.041) [6.04]	0.023 (0.041) [6.04]
head spouse secondary			−0.015 (0.059) [5.47]	0.048 (0.048) [5.62]	0.059 (0.057) [5.62]	0.069 (0.068) [5.71]	0.073 (0.067) [5.69]
OldSibF.yr2						0.011 (0.026) [5.86]	0.010 (0.026) [5.83]
OldSibM.yr2						0.038 (0.033) [5.38]	0.040 (0.034) [5.31]
per member land holding					−0.036 (0.069) [3.88]	−0.043 (0.075) [3.84]	−0.048 (0.075) [3.80]
per member nonland asset					0.442 (2.321) [2.49]	0.468 (2.129) [2.55]	0.511 (2.142) [2.55]
own piped water					0.014 (0.038) [5.45]	0.012 (0.037) [5.53]	0.011 (0.042) [5.44]
structured toilet					−0.046 (0.045) [6.17]	−0.048 (0.045) [6.15]	−0.046 (0.045) [6.08]

Table 16: 1999-2002, 12 years and older, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
sex (female = 1)		0.185*	0.179*	0.139	0.131	0.119	0.123
		(0.091)	(0.088)	(0.100)	(0.103)	(0.098)	(0.102)
		[6.42]	[6.47]	[6.54]	[6.57]	[6.59]	[6.57]
OldSibF.agHH.yr2						−0.035	−0.033
						(0.061)	(0.062)
						[4.81]	[4.79]
OldSibM.agHH.yr2						−0.104	−0.105
						(0.057)	(0.057)
						[4.82]	[4.79]
per member land holding × agHH					−0.319**	−0.314*	−0.325*
					(0.108)	(0.123)	(0.121)
					[3.58]	[3.58]	[3.56]
per member nonland asset × agHH					2.086	2.212	2.552
					(1.013)	(1.434)	(1.628)
					[2.12]	[2.22]	[2.21]
own piped water					−0.016	−0.019	−0.011
					(0.079)	(0.075)	(0.073)
					[6.25]	[6.32]	[6.37]
structured toilet × ag HH					−0.107	−0.107	−0.105
					(0.082)	(0.081)	(0.086)
					[6.03]	[6.02]	[6.05]
thana dummies							yes
$\bar{R}^2$	.0015	.0117	.0133	.5253	.5301	.5322	.5313
n	425	425	425	425	425	425	425
control mean at baseline	0.69	0.69	0.69	0.69	0.69	0.69	0.69
control mean at follow up	0.37	0.37	0.37	0.37	0.37	0.37	0.37
treated mean at baseline	0.64	0.64	0.64	0.64	0.64	0.64	0.64
treated mean at follow up	0.26	0.26	0.26	0.26	0.26	0.26	0.26
raw DID	−0.06	−0.06	−0.06	−0.06	−0.06	−0.06	−0.06

Source: Compiled from IFPRI data. Cohort of 11 - 18 year olds in 1999. Only direct offspring of household head are used.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. P values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 17: 1999-2002, DID, 10 years and older, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.307*** (0.012) [6.72]	0.121 (0.118) [6.78]	0.123 (0.121) [6.75]	0.543** (0.130) [4.15]	0.510** (0.146) [4.46]	0.477** (0.147) [4.53]	0.625*** (0.173) [6.56]
age2		−0.005** (0.001) [6.75]	−0.005** (0.001) [6.72]	−0.007*** (0.001) [6.73]	−0.007*** (0.001) [6.72]	−0.007*** (0.001) [6.65]	−0.007*** (0.001) [6.65]
yield (thana)				0.623* (0.215) [2.48]	0.728** (0.231) [3.14]	0.659* (0.250) [3.18]	−0.287 (0.499) [6.24]
program				0.650*** (0.035) [6.80]	0.654*** (0.035) [6.81]	0.652*** (0.035) [6.82]	0.654*** (0.036) [6.81]
mean rainfall				0.001 (0.000) [2.73]	0.001* (0.000) [3.12]	0.001 (0.000) [3.13]	0.001** (0.000) [6.17]
mean high temperature				−0.094** (0.026) [2.47]	−0.116** (0.032) [2.76]	−0.115* (0.044) [2.79]	0.032 (0.065) [6.07]
mean low temperature				−0.039 (0.066) [2.38]	−0.063 (0.053) [2.54]	−0.086 (0.063) [2.56]	−0.181** (0.064) [6.54]
interaction with 2002							
agricultural household	−0.042 (0.045) [6.45]	−0.038 (0.047) [6.45]	−0.033 (0.052) [6.41]	−0.067** (0.025) [6.33]	−0.067* (0.030) [6.15]	−0.076** (0.029) [6.09]	−0.075** (0.028) [6.01]
sex (female = 1)		−0.003 (0.047) [6.72]	−0.006 (0.048) [6.72]	−0.142** (0.048) [6.69]	−0.139** (0.049) [6.68]	−0.138** (0.048) [6.68]	−0.139** (0.048) [6.67]
head primary			−0.034 (0.063) [6.87]	−0.043 (0.047) [6.88]	−0.034 (0.047) [6.89]	−0.036 (0.048) [6.88]	−0.036 (0.048) [6.87]
head secondary			0.030 (0.037) [6.43]	0.037 (0.054) [6.46]	0.042 (0.052) [6.51]	0.039 (0.054) [6.50]	0.040 (0.055) [6.46]
head spouse primary			−0.000 (0.043) [6.16]	0.049 (0.029) [6.31]	0.056* (0.028) [6.27]	0.071* (0.033) [6.28]	0.072* (0.033) [6.27]
head spouse secondary			−0.013 (0.040) [5.44]	0.043 (0.040) [5.58]	0.039 (0.043) [5.50]	0.045 (0.051) [5.57]	0.047 (0.050) [5.55]
OldSibF.yr2						0.026 (0.017) [5.33]	0.026 (0.017) [5.30]
OldSibM.yr2						0.020 (0.024) [5.58]	0.021 (0.025) [5.49]
per member land holding					−0.009 (0.071) [4.18]	−0.011 (0.077) [4.10]	−0.009 (0.077) [4.08]
per member nonland asset					0.763 (1.925) [2.81]	0.608 (1.780) [2.81]	0.589 (1.776) [2.80]
own piped water					−0.005 (0.029) [5.67]	−0.007 (0.030) [5.72]	−0.008 (0.032) [5.69]
structured toilet					−0.039 (0.041) [6.07]	−0.041 (0.043) [6.07]	−0.038 (0.045) [6.02]

, , NA, , , NA, , ,

Table 18: 1999-2002, DID, 10 years and older, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
sex (female = 1)		0.094 (0.107) [6.44]	0.097 (0.106) [6.48]	0.107 (0.128) [6.49]	0.101 (0.137) [6.49]	0.099 (0.135) [6.52]	0.098 (0.135) [6.52]
OldSibF.agHH.yr2						−0.028 (0.032) [4.55]	−0.028 (0.032) [4.55]
OldSibM.agHH.yr2						−0.095 (0.052) [5.01]	−0.096 (0.052) [4.96]
per member land holding × agHH					−0.271* (0.115) [3.61]	−0.269* (0.114) [3.61]	−0.268* (0.113) [3.60]
per member nonland asset × agHH					2.959 (1.476) [2.42]	2.948 (1.513) [2.45]	3.003 (1.561) [2.41]
own piped water					0.039 (0.060) [6.27]	0.034 (0.056) [6.32]	0.034 (0.054) [6.35]
structured toilet × ag HH					−0.065 (0.063) [5.98]	−0.064 (0.065) [6.01]	−0.062 (0.067) [5.99]
thana dummies							yes
$\bar{R}^2$	.0002	.0216	.0169	.4563	.4574	.4615	.4592
n	626	626	626	626	626	626	626
control mean at baseline	0.78	0.78	0.78	0.78	0.78	0.78	0.78
control mean at follow up	0.50	0.50	0.50	0.50	0.50	0.50	0.50
treated mean at baseline	0.71	0.71	0.71	0.71	0.71	0.71	0.71
treated mean at follow up	0.39	0.39	0.39	0.39	0.39	0.39	0.39
raw DID	−0.04	−0.04	−0.04	−0.04	−0.04	−0.04	−0.04

Source: Compiled from IFPRI data. Cohort of 10 - 18 year olds in 1999. Only direct offspring of household head are used.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. *P* values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

2.

V.1.2 Placebo

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Table 19: 2002-2006 (placebo), 10 years and older in 1999, all children, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.233*** (0.027) [6.78]	−0.231*** (0.026) [6.61]	−0.231*** (0.026) [6.60]	0.002 (0.140) [2.02]	0.000 (0.153) [2.01]	−0.026 (0.150) [2.09]	1.118*** (0.151) [5.78]
age2		0.000 (0.000) [6.55]	0.000 (0.000) [6.52]	−0.000 (0.000) [6.53]	−0.000 (0.000) [6.56]	0.000 (0.000) [6.50]	0.000 (0.000) [6.50]
yield (thana)				−0.286 (0.557) [2.18]	−0.332 (0.720) [2.55]	−0.366 (0.722) [2.61]	0.686** (0.246) [5.66]
program				0.553*** (0.061) [6.05]	0.554*** (0.059) [6.03]	0.553*** (0.058) [6.03]	0.546*** (0.058) [5.98]
mean rainfall				−0.000 (0.001) [2.14]	−0.000 (0.001) [2.21]	−0.000 (0.001) [2.23]	0.002*** (0.000) [4.80]
mean high temperature				−0.151 (0.105) [1.52]	−0.153 (0.113) [1.55]	−0.132 (0.113) [1.62]	−1.367*** (0.218) [6.03]
mean low temperature				−0.241 (0.151) [1.70]	−0.229 (0.171) [1.86]	−0.214 (0.169) [1.90]	−0.347** (0.138) [6.00]
interaction with 2006							
agricultural household	−0.042 (0.034) [6.49]	−0.045 (0.033) [6.50]	−0.061* (0.027) [6.50]	−0.040** (0.016) [6.39]	−0.041 (0.023) [6.27]	−0.041 (0.027) [6.19]	−0.047 (0.029) [6.14]
sex (female = 1)		−0.076 (0.067) [6.77]	−0.068 (0.070) [6.78]	0.054 (0.039) [6.54]	0.058 (0.041) [6.53]	0.059 (0.040) [6.53]	0.059 (0.040) [6.53]
head primary			−0.126* (0.053) [6.81]	−0.082 (0.050) [6.79]	−0.086 (0.048) [6.79]	−0.090 (0.049) [6.78]	−0.093 (0.050) [6.78]
head secondary			−0.110** (0.042) [6.51]	−0.052* (0.025) [6.63]	−0.063* (0.027) [6.67]	−0.063** (0.024) [6.66]	−0.064** (0.023) [6.64]
head spouse primary			−0.117** (0.034) [6.12]	−0.108** (0.032) [6.25]	−0.102** (0.036) [6.26]	−0.108** (0.034) [6.27]	−0.096** (0.030) [6.22]
head spouse secondary			−0.023 (0.071) [5.55]	−0.021 (0.069) [5.64]	−0.014 (0.070) [5.56]	−0.011 (0.071) [5.67]	−0.003 (0.071) [5.65]
OldSibF.yr3						−0.036 (0.022) [5.23]	−0.038 (0.021) [5.23]
OldSibM.yr3						0.004 (0.023) [5.68]	−0.001 (0.024) [5.61]
per member land holding					0.048 (0.060) [4.31]	0.047 (0.061) [4.27]	0.046 (0.063) [4.26]
per member nonland asset					−1.212 (1.202) [2.86]	−1.108 (1.202) [2.86]	−1.168 (1.352) [2.68]
own piped water					0.005 (0.042) [5.59]	0.009 (0.040) [5.64]	−0.008 (0.040) [5.68]
structured toilet					−0.021 (0.051) [6.23]	−0.018 (0.052) [6.24]	−0.014 (0.052) [6.24]

Table 19: 2002-2006 (placebo), 10 years and older in 1999, all children, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2006*agricultural household*							
sex (female = 1)		−0.066	−0.079	−0.083	−0.082	−0.082	−0.078
		(0.070)	(0.070)	(0.064)	(0.065)	(0.062)	(0.061)
		[6.52]	[6.55]	[6.57]	[6.56]	[6.58]	[6.58]
OldSibF.agHH.yr3						−0.016	−0.020
						(0.048)	(0.046)
						[4.29]	[4.27]
OldSibM.agHH.yr3						0.030	0.030
						(0.063)	(0.062)
						[5.05]	[5.04]
per member land holding × agHH					−0.006	−0.006	0.009
					(0.110)	(0.104)	(0.111)
					[3.66]	[3.66]	[3.65]
per member nonland asset × agHH					−3.153	−2.892	−3.154
					(2.034)	(2.200)	(2.550)
					[2.39]	[2.41]	[2.36]
own piped water					−0.046	−0.045	−0.057
					(0.065)	(0.067)	(0.076)
					[6.40]	[6.43]	[6.40]
structured toilet × ag HH					0.017	0.017	0.031
					(0.074)	(0.077)	(0.077)
					[6.11]	[6.15]	[6.15]
thana dummies							yes
$\bar{R}^2$	.0005	.0052	.0280	.2677	.2628	.2613	.2639
n	670	670	670	670	670	670	670
control mean at follow up	0.47	0.47	0.47	0.47	0.47	0.47	0.47
treated mean at follow up	0.39	0.39	0.39	0.39	0.39	0.39	0.39

Source: Compiled from IFPRI data. Cohorts of 6 - 20 year olds in 1999.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. P values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

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Table 20: 2002-2006 (placebo), 10 years and older in 1999, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	-0.234^{***} (0.030) [6.73]	-0.231^{***} (0.029) [6.55]	-0.231^{***} (0.028) [6.54]	−0.026 (0.136) [2.03]	−0.051 (0.155) [2.04]	−0.080 (0.154) [2.13]	1.160^{***} (0.144) [5.75]
age2		0.000 (0.000) [6.49]	0.000 (0.000) [6.48]	0.000 (0.000) [6.47]	0.000 (0.000) [6.49]	0.000 (0.000) [6.44]	0.000 (0.000) [6.42]
yield (thana)				−0.263 (0.553) [2.20]	−0.296 (0.737) [2.57]	−0.331 (0.749) [2.64]	1.184^{***} (0.286) [5.62]
program				0.567^{***} (0.064) [6.07]	0.570^{***} (0.064) [6.04]	0.569^{***} (0.063) [6.05]	0.561^{***} (0.063) [5.98]
mean rainfall				−0.001 (0.001) [2.09]	−0.001 (0.001) [2.17]	−0.001 (0.001) [2.19]	0.002^{***} (0.000) [4.65]
mean high temperature				−0.150 (0.096) [1.52]	−0.142 (0.106) [1.56]	−0.119 (0.107) [1.63]	-1.338^{***} (0.214) [6.01]
mean low temperature				−0.200 (0.152) [1.74]	−0.151 (0.172) [1.93]	−0.132 (0.171) [1.96]	-0.492^{**} (0.148) [6.04]
interaction with 2006							
agricultural household	−0.023 (0.044) [6.43]	−0.028 (0.043) [6.44]	−0.048 (0.036) [6.41]	−0.018 (0.018) [6.25]	−0.021 (0.026) [6.16]	−0.020 (0.032) [6.10]	−0.029 (0.034) [6.05]
sex (female = 1)		−0.091 (0.076) [6.72]	−0.081 (0.078) [6.71]	0.058 (0.046) [6.41]	0.061 (0.047) [6.41]	0.062 (0.047) [6.41]	0.060 (0.048) [6.41]
head primary			-0.122^{*} (0.054) [6.87]	−0.048 (0.054) [6.86]	−0.059 (0.051) [6.89]	−0.066 (0.051) [6.88]	−0.066 (0.052) [6.88]
head secondary			-0.120^{**} (0.041) [6.43]	−0.046 (0.028) [6.59]	-0.062^{*} (0.029) [6.61]	-0.064^{**} (0.025) [6.60]	-0.065^{**} (0.023) [6.57]
head spouse primary			-0.116^{**} (0.032) [6.11]	-0.114^{***} (0.022) [6.27]	-0.115^{***} (0.023) [6.29]	-0.120^{***} (0.023) [6.29]	-0.110^{***} (0.018) [6.24]
head spouse secondary			−0.031 (0.076) [5.40]	−0.035 (0.072) [5.55]	−0.032 (0.075) [5.50]	−0.026 (0.078) [5.58]	−0.017 (0.079) [5.55]
OldSibF.yr3						−0.045 (0.024) [5.19]	-0.047^{*} (0.023) [5.19]
OldSibM.yr3						−0.001 (0.022) [5.58]	−0.005 (0.021) [5.51]
per member land holding					0.115 (0.056) [4.21]	0.119 (0.058) [4.17]	0.125 (0.065) [4.14]
per member nonland asset					−1.798 (1.243) [2.92]	−1.670 (1.328) [2.91]	−2.010 (1.636) [2.76]
own piped water					0.006 (0.043) [5.60]	0.010 (0.041) [5.65]	−0.002 (0.038) [5.70]
structured toilet					0.002 (0.055) [6.01]	0.006 (0.055) [6.01]	0.011 (0.055) [6.00]

Table 20: 2002-2006 (placebo), 10 years and older in 1999, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2006*agricultural household*							
sex (female = 1)		−0.112 (0.085) [6.47]	−0.121 (0.084) [6.50]	−0.103 (0.072) [6.51]	−0.105 (0.073) [6.51]	−0.104 (0.071) [6.53]	−0.102 (0.069) [6.53]
OldSibF.agHH.yr3						−0.040 (0.047) [4.31]	−0.044 (0.045) [4.29]
OldSibM.agHH.yr3						0.016 (0.060) [4.99]	0.016 (0.058) [4.97]
per member land holding × agHH					0.101 (0.119) [3.59]	0.107 (0.112) [3.59]	0.116 (0.117) [3.58]
per member nonland asset × agHH					−4.213 (2.215) [2.43]	−3.850 (2.506) [2.47]	−4.233 (3.036) [2.42]
own piped water					−0.066 (0.059) [6.43]	−0.065 (0.064) [6.45]	−0.079 (0.072) [6.41]
structured toilet × ag HH					0.035 (0.080) [5.99]	0.038 (0.084) [6.02]	0.054 (0.085) [6.01]
thana dummies							yes
$\bar{R}^2$	−0.0010	.0106	.0338	.2924	.2909	.2904	.2941
n	616	616	616	616	616	616	616
control mean at follow up	0.50	0.50	0.50	0.50	0.50	0.50	0.50
treated mean at follow up	0.39	0.39	0.39	0.39	0.39	0.39	0.39

Source: Compiled from IFPRI data. Cohorts of 6 - 20 year olds in 1999.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. P values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

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TABLE 21: 2002-2006 (PLACEBO), 10 YEARS AND OLDER IN 2002, ALL CHILDREN, SATTERTHWAITE CORRECTION

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.278*** (0.021) [6.89]	−0.272*** (0.018) [6.86]	−0.272*** (0.018) [6.85]	−0.135 (0.097) [2.00]	−0.127 (0.113) [2.01]	−0.136 (0.114) [2.12]	0.710*** (0.124) [5.95]
age2		0.000** (0.000) [6.75]	0.000** (0.000) [6.75]	0.000** (0.000) [6.75]	0.000** (0.000) [6.75]	0.000** (0.000) [6.73]	0.000** (0.000) [6.73]
yield (thana)				−0.347 (0.344) [2.20]	−0.204 (0.432) [2.73]	−0.226 (0.459) [2.79]	0.258 (0.307) [6.00]
program				0.394*** (0.033) [6.39]	0.399*** (0.032) [6.38]	0.401*** (0.031) [6.40]	0.398*** (0.030) [6.38]
mean rainfall				−0.000 (0.001) [2.13]	0.000 (0.001) [2.27]	0.000 (0.001) [2.30]	0.002*** (0.000) [5.72]
mean high temperature				−0.086 (0.087) [1.45]	−0.085 (0.095) [1.48]	−0.083 (0.097) [1.57]	−1.097*** (0.153) [6.17]
mean low temperature				−0.151 (0.100) [1.73]	−0.131 (0.131) [1.87]	−0.122 (0.133) [1.89]	−0.061 (0.120) [5.94]
interaction with 2006							
agricultural household	−0.071** (0.028) [6.73]	−0.069** (0.028) [6.74]	−0.072** (0.029) [6.73]	−0.053* (0.028) [6.64]	−0.063 (0.036) [6.35]	−0.060 (0.036) [6.28]	−0.063 (0.039) [6.25]
sex (female = 1)		−0.002 (0.052) [6.86]	−0.001 (0.054) [6.87]	0.046 (0.041) [6.83]	0.046 (0.041) [6.82]	0.048 (0.042) [6.82]	0.047 (0.042) [6.82]
head primary			−0.082 (0.070) [6.78]	−0.052 (0.057) [6.77]	−0.055 (0.058) [6.78]	−0.058 (0.060) [6.77]	−0.061 (0.061) [6.77]
head secondary			−0.061 (0.045) [6.61]	−0.065 (0.043) [6.62]	−0.068 (0.040) [6.56]	−0.071 (0.039) [6.57]	−0.070* (0.037) [6.56]
head spouse primary			−0.068** (0.026) [6.13]	−0.065*** (0.015) [6.25]	−0.051** (0.016) [6.31]	−0.055** (0.022) [6.36]	−0.043 (0.026) [6.32]
head spouse secondary			0.019 (0.056) [5.59]	0.008 (0.054) [5.60]	0.028 (0.062) [5.43]	0.031 (0.067) [5.48]	0.035 (0.069) [5.46]
OldSibF.yr3						−0.011 (0.014) [5.55]	−0.013 (0.013) [5.54]
OldSibM.yr3						−0.003 (0.020) [6.17]	−0.005 (0.020) [6.14]
per member land holding					0.118* (0.048) [4.12]	0.114* (0.048) [4.10]	0.111* (0.051) [4.06]
per member nonland asset					−2.940* (1.095) [4.10]	−2.809* (1.098) [4.11]	−2.593 (1.354) [4.04]
own piped water					−0.027 (0.021) [5.69]	−0.027 (0.020) [5.71]	−0.044* (0.019) [5.79]
structured toilet					0.006 (0.036) [6.25]	0.009 (0.036) [6.27]	0.010 (0.035) [6.27]

Table 21: 2002-2006 (placebo), 10 years and older in 2002, all children, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2006*agricultural household*							
sex (female = 1)		−0.070 (0.047) [6.75]	−0.075 (0.046) [6.74]	−0.059** (0.023) [6.73]	−0.074** (0.022) [6.74]	−0.073*** (0.020) [6.74]	−0.065** (0.021) [6.73]
OldSibF.agHH.yr3						−0.045 (0.036) [5.01]	−0.048 (0.035) [5.00]
OldSibM.agHH.yr3						0.036 (0.046) [5.47]	0.036 (0.045) [5.47]
per member land holding × agHH					−0.006 (0.080) [3.13]	−0.011 (0.081) [3.14]	0.001 (0.081) [3.14]
per member nonland asset × agHH					−5.397* (2.255) [3.64]	−5.366* (2.225) [3.69]	−5.648* (2.186) [3.66]
own piped water					−0.027 (0.050) [6.50]	−0.022 (0.053) [6.52]	−0.028 (0.058) [6.49]
structured toilet × ag HH					−0.065 (0.100) [6.27]	−0.060 (0.096) [6.29]	−0.051 (0.094) [6.28]
thana dummies							yes
$\bar{R}^2$	.0042	.0259	.0307	.1875	.1903	.1887	.1895
n	870	870	870	870	870	870	870
control mean at follow up	0.67	0.67	0.67	0.67	0.67	0.67	0.67
treated mean at follow up	0.60	0.60	0.60	0.60	0.60	0.60	0.60

Source: Compiled from IFPRI data. Cohorts of 6 - 20 year olds in 1999.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. P values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

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Table 22: 2002-2006 (placebo), 10 years and older in 2002, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.276*** (0.021) [6.87]	−0.273*** (0.019) [6.86]	−0.273*** (0.019) [6.84]	−0.135 (0.088) [2.01]	−0.141 (0.111) [2.02]	−0.155 (0.113) [2.13]	0.796*** (0.115) [5.96]
age2		0.001** (0.000) [6.71]	0.001** (0.000) [6.72]	0.000** (0.000) [6.73]	0.000** (0.000) [6.72]	0.000** (0.000) [6.71]	0.000** (0.000) [6.71]
yield (thana)				−0.310 (0.341) [2.20]	−0.135 (0.434) [2.71]	−0.159 (0.479) [2.78]	0.565 (0.313) [5.93]
program				0.406*** (0.035) [6.29]	0.411*** (0.035) [6.26]	0.414*** (0.033) [6.28]	0.411*** (0.033) [6.26]
mean rainfall				−0.000 (0.000) [2.07]	−0.000 (0.001) [2.21]	−0.000 (0.001) [2.24]	0.002*** (0.000) [5.72]
mean high temperature				−0.096 (0.078) [1.46]	−0.087 (0.094) [1.50]	−0.081 (0.097) [1.59]	−1.160*** (0.148) [6.16]
mean low temperature				−0.138 (0.102) [1.76]	−0.097 (0.132) [1.93]	−0.082 (0.134) [1.96]	−0.115 (0.132) [6.02]
interaction with 2006							
agricultural household	−0.053 (0.032) [6.72]	−0.051 (0.033) [6.73]	−0.055 (0.035) [6.69]	−0.029 (0.034) [6.58]	−0.041 (0.040) [6.34]	−0.036 (0.042) [6.31]	−0.041 (0.045) [6.26]
sex (female = 1)		0.001 (0.059) [6.84]	0.002 (0.059) [6.85]	0.057 (0.046) [6.79]	0.054 (0.045) [6.80]	0.057 (0.045) [6.79]	0.055 (0.046) [6.79]
head primary			−0.089 (0.070) [6.81]	−0.038 (0.063) [6.81]	−0.048 (0.062) [6.83]	−0.052 (0.063) [6.82]	−0.055 (0.064) [6.82]
head secondary			−0.059 (0.047) [6.59]	−0.055 (0.042) [6.61]	−0.061 (0.040) [6.56]	−0.065 (0.040) [6.56]	−0.064 (0.036) [6.55]
head spouse primary			−0.066* (0.032) [6.12]	−0.071** (0.022) [6.28]	−0.058* (0.025) [6.34]	−0.061* (0.030) [6.39]	−0.049 (0.035) [6.35]
head spouse secondary			0.011 (0.057) [5.55]	−0.011 (0.055) [5.59]	0.007 (0.064) [5.49]	0.012 (0.071) [5.52]	0.018 (0.074) [5.49]
OldSibF.yr3						−0.019 (0.015) [5.51]	−0.021 (0.014) [5.50]
OldSibM.yr3						−0.007 (0.022) [6.11]	−0.009 (0.022) [6.09]
per member land holding					0.148** (0.051) [3.86]	0.149** (0.052) [3.83]	0.150* (0.058) [3.77]
per member nonland asset					−2.949* (1.220) [3.97]	−2.860* (1.235) [3.96]	−2.801 (1.505) [3.90]
own piped water					−0.031 (0.018) [5.71]	−0.029 (0.017) [5.73]	−0.046** (0.018) [5.82]
structured toilet					0.014 (0.041) [6.03]	0.019 (0.040) [6.04]	0.021 (0.040) [6.04]

Table 22: 2002-2006 (placebo), 10 years and older in 2002, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2006*agricultural household*							
sex (female = 1)		−0.085	−0.087	−0.059*	−0.075**	−0.075**	−0.067**
		(0.061)	(0.059)	(0.029)	(0.029)	(0.024)	(0.026)
		[6.75]	[6.74]	[6.73]	[6.75]	[6.74]	[6.73]
OldSibF.agHH.yr3						−0.068*	−0.072*
						(0.033)	(0.032)
						[5.02]	[5.01]
OldSibM.agHH.yr3						0.018	0.019
						(0.039)	(0.038)
						[5.47]	[5.47]
per member land holding × agHH					0.070	0.071	0.075
					(0.081)	(0.081)	(0.081)
					[2.96]	[2.96]	[2.96]
per member nonland asset × agHH					−5.707*	−5.660*	−6.028*
					(2.335)	(2.389)	(2.367)
					[3.49]	[3.53]	[3.49]
own piped water					−0.037	−0.033	−0.041
					(0.049)	(0.053)	(0.056)
					[6.50]	[6.52]	[6.48]
structured toilet × ag HH					−0.060	−0.049	−0.039
					(0.099)	(0.096)	(0.094)
					[6.17]	[6.20]	[6.18]
thana dummies							yes
$\bar{R}^2$	.0018	.0308	.0355	.2030	.2068	.2068	.2078
n	812	812	812	812	812	812	812
control mean at follow up	0.68	0.68	0.68	0.68	0.68	0.68	0.68
treated mean at follow up	0.60	0.60	0.60	0.60	0.60	0.60	0.60

Source: Compiled from IFPRI data. Cohorts of 6 - 20 year olds in 1999.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. *P* values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

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V.1.3 Other outcomes

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Table 23: Progression 1999-2002, enrolled at baseline, 10 years and older, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	1.045*** (0.180) [6.52]	2.380** (0.798) [6.54]	2.489** (0.749) [6.44]	4.784** (1.228) [4.71]	3.955** (1.123) [4.61]	3.635*** (0.886) [4.98]	2.401 (1.642) [4.60]
age2		−0.015 (0.008) [6.35]	−0.016* (0.008) [6.33]	−0.022** (0.008) [6.30]	−0.020 (0.010) [5.95]	−0.018 (0.009) [6.16]	−0.019* (0.010) [6.15]
yield (thana)				−7.963 (4.002) [2.99]	−5.046 (5.770) [3.30]	−5.366 (6.783) [3.36]	0.171 (5.293) [5.07]
program				0.600 (0.856) [1.24]	0.407 (0.733) [1.28]	0.163 (0.614) [1.50]	0.142 (0.585) [1.48]
mean rainfall				−0.010 (0.006) [3.50]	−0.007 (0.007) [3.93]	−0.006 (0.009) [4.04]	−0.008 (0.005) [5.82]
mean high temperature				0.859* (0.327) [2.82]	0.913 (0.545) [3.32]	0.934 (0.656) [3.45]	0.618 (1.001) [5.08]
mean low temperature				−0.151 (0.944) [2.94]	−0.175 (1.140) [3.28]	−0.027 (1.306) [3.43]	−2.223 (1.788) [3.71]
interaction with 2002							
agricultural household	−0.408** (0.124) [5.47]	−0.395 (0.249) [5.08]	−0.378 (0.235) [4.97]	−0.475 (0.352) [4.83]	0.285 (0.351) [1.89]	0.174 (0.409) [1.98]	0.188 (0.465) [1.88]
sex (female = 1)		−0.042 (0.428) [6.24]	−0.095 (0.409) [6.12]	0.159 (0.324) [6.18]	0.110 (0.361) [6.22]	0.142 (0.394) [6.16]	0.128 (0.371) [6.02]
head primary			0.379 (0.219) [5.66]	0.215 (0.229) [5.69]	0.266 (0.154) [5.39]	0.239 (0.201) [5.50]	0.103 (0.165) [5.43]
head secondary			0.473 (0.375) [5.57]	0.402 (0.312) [5.68]	0.344 (0.357) [6.00]	0.319 (0.379) [6.02]	0.176 (0.338) [5.95]
head spouse primary			−0.414 (0.235) [5.62]	−0.214 (0.173) [6.03]	−0.300* (0.148) [5.90]	−0.239 (0.143) [5.93]	−0.259 (0.182) [5.88]
head spouse secondary			0.330 (0.254) [3.21]	0.393* (0.138) [3.10]	0.698** (0.194) [3.54]	0.726** (0.172) [3.70]	0.703** (0.194) [3.66]
OldSibF.yr2						0.193 (0.366) [3.75]	0.222 (0.388) [3.75]
OldSibM.yr2						0.162 (0.123) [4.00]	0.220 (0.121) [3.85]
per member land holding					−2.489 (1.608) [2.35]	−2.517 (1.623) [2.37]	−2.565 (1.701) [2.08]
per member nonland asset					−11.357 (12.434) [2.51]	−10.752 (13.851) [2.76]	−11.010 (15.121) [2.87]
own piped water					0.763* (0.324) [5.02]	0.766* (0.300) [4.93]	0.812** (0.295) [4.91]
structured toilet					−0.245 (0.531) [5.01]	−0.235 (0.475) [4.91]	−0.233 (0.471) [4.88]

Table 23: Progression 1999-2002, enrolled at baseline, 10 years and older, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
sex (female = 1)		0.317	0.347	0.248	0.583	0.532	0.571
		(0.709)	(0.696)	(0.792)	(0.926)	(0.889)	(0.922)
		[5.32]	[5.25]	[5.18]	[5.28]	[5.42]	[5.31]
OldSibF.agHH.yr2						−0.272	−0.286
						(0.554)	(0.577)
						[3.26]	[3.30]
OldSibM.agHH.yr2						−0.223	−0.227
						(0.211)	(0.204)
						[3.23]	[3.11]
per member land holding × agHH					7.938	7.984	8.139
					(3.710)	(3.860)	(3.770)
					[2.08]	[2.06]	[1.78]
per member nonland asset × agHH					−31.606*	−33.181	−36.805*
					(9.242)	(15.403)	(14.040)
					[2.63]	[2.82]	[2.70]
own piped water					−0.167	−0.153	−0.019
					(0.975)	(0.917)	(0.834)
					[4.52]	[4.35]	[4.35]
structured toilet × ag HH					−0.068	−0.163	−0.286
					(0.842)	(0.733)	(0.689)
					[4.15]	[4.27]	[4.12]
thana dummies							yes
$\bar{R}^2$	.0112	.0168	.0356	.0934	.1352	.1223	.1303
n	133	133	133	133	133	133	133
control mean at baseline	5.61	5.61	5.61	5.61	5.61	5.61	5.61
control mean at follow up	6.93	6.93	6.93	6.93	6.93	6.93	6.93
treated mean at baseline	5.54	5.54	5.54	5.54	5.54	5.54	5.54
treated mean at follow up	6.45	6.45	6.45	6.45	6.45	6.45	6.45
raw DID	−0.41	−0.41	−0.41	−0.41	−0.41	−0.41	−0.41

Source: Compiled from IFPRI data. Cohorts of 10 - 18 year olds in 1999. Regressand is the number of completed school years between 1999 and 2002.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Mean completed school years in 1999, 2002 are, 5.53932584269663, 6.44943820224719, for agricultural households,, 5.61363636363636, 6.93181818181818, for non-agricultural households, respectively, with a difference-in-differences of, list(AgNonag = c("-0.408", "-0.122")), Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 24: Days absent in a month 1999-2002, all time enrollers, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.060 (0.377) [6.45]	−3.443* (1.731) [6.84]	−4.104* (1.752) [6.80]	−2.580 (2.924) [4.49]	−2.374 (2.705) [4.80]	−0.764 (3.480) [4.92]	−2.651 (1.952) [6.73]
age2		0.043 (0.025) [6.77]	0.051* (0.025) [6.71]	0.046* (0.023) [6.67]	0.049* (0.021) [6.73]	0.031 (0.025) [6.74]	0.036 (0.023) [6.68]
yield (thana)				3.666 (6.354) [2.41]	3.557 (7.777) [2.89]	3.321 (8.144) [2.88]	12.933 (8.776) [5.67]
program				−1.436** (0.364) [5.08]	−1.378** (0.469) [5.21]	−1.454** (0.481) [5.27]	−1.301* (0.517) [5.24]
mean rainfall				−0.015 (0.010) [2.60]	−0.018 (0.011) [2.87]	−0.022 (0.013) [2.94]	−0.018*** (0.003) [5.43]
mean high temperature				1.344 (0.844) [2.71]	1.753 (1.018) [3.14]	1.762 (1.179) [3.20]	−1.864 (1.245) [6.53]
mean low temperature				3.180 (1.645) [2.46]	3.482 (1.733) [2.58]	4.191 (2.113) [2.70]	9.859*** (1.372) [6.33]
interaction with 2002							
agricultural household	0.957* (0.399) [6.27]	1.011** (0.401) [6.24]	0.802* (0.408) [6.23]	1.311** (0.374) [6.28]	1.229** (0.340) [6.14]	1.199** (0.379) [6.14]	1.196** (0.328) [6.06]
sex (female = 1)		0.302 (0.484) [6.32]	0.230 (0.428) [6.31]	1.193* (0.496) [4.62]	1.104* (0.511) [4.82]	1.144* (0.462) [4.83]	1.163* (0.467) [4.82]
head primary			0.596 (0.699) [6.01]	0.776 (0.732) [6.04]	0.928 (0.759) [6.15]	0.753 (0.769) [6.07]	0.861 (0.786) [6.07]
head secondary			−0.149 (0.657) [6.35]	0.215 (0.622) [6.63]	0.162 (0.737) [6.40]	0.202 (0.675) [6.42]	0.142 (0.690) [6.42]
head spouse primary			0.104 (0.441) [6.23]	−0.139 (0.512) [6.19]	−0.067 (0.469) [6.30]	−0.319 (0.344) [6.32]	−0.195 (0.353) [6.27]
head spouse secondary			−0.759* (0.366) [5.74]	−1.077* (0.488) [5.79]	−0.653 (0.702) [5.70]	−0.594 (0.559) [5.78]	−0.531 (0.583) [5.73]
OldSibF.yr2						−0.845*** (0.188) [5.13]	−0.860*** (0.183) [5.09]
OldSibM.yr2						−0.395 (0.465) [5.53]	−0.435 (0.470) [5.39]
per member land holding					−1.101 (0.646) [4.72]	−0.636 (0.847) [4.75]	−0.831 (0.872) [4.76]
per member nonland asset					−43.699 (23.345) [4.03]	−43.630 (22.312) [4.03]	−40.014 (21.596) [4.01]
own piped water					0.672 (0.815) [5.43]	0.693 (0.804) [5.51]	0.545 (0.764) [5.45]
structured toilet					−0.083 (0.564) [6.19]	0.077 (0.461) [6.27]	−0.005 (0.529) [6.21]

Table 24: Days absent in a month 1999-2002, all time enrollers, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
sex (female = 1)		-1.664^{*}	-1.792	-1.363	-1.546	-1.519	-1.397
		(0.792)	(0.938)	(0.945)	(0.868)	(0.874)	(0.906)
		[6.16]	[6.11]	[6.18]	[6.16]	[6.21]	[6.18]
OldSibF.agHH.yr2						-0.408	-0.476
						(0.535)	(0.526)
						[4.80]	[4.79]
OldSibM.agHH.yr2						0.463	0.472
						(0.814)	(0.806)
						[5.13]	[5.11]
per member land holding × agHH					-3.561^{***}	-2.594^{*}	-2.701^{*}
					(0.694)	(1.141)	(1.087)
					[4.70]	[4.75]	[4.75]
per member nonland asset × agHH					-17.382	-19.628	-17.889
					(35.332)	(33.835)	(32.124)
					[4.03]	[4.08]	[3.94]
own piped water					0.062	-0.044	-0.014
					(1.419)	(1.533)	(1.468)
					[6.37]	[6.40]	[6.38]
structured toilet × ag HH					1.760^{**}	1.669^{**}	1.790^{**}
					(0.533)	(0.647)	(0.636)
					[5.99]	[6.00]	[5.99]
thana dummies							yes
$\bar{R}^2$	.0083	.0182	.0130	.0485	.0528	.0638	.0612
n	263	263	263	263	263	263	263
control mean at baseline	3.37	3.37	3.37	3.37	3.37	3.37	3.37
control mean at follow up	2.79	2.79	2.79	2.79	2.79	2.79	2.79
treated mean at baseline	3.38	3.38	3.38	3.38	3.38	3.38	3.38
treated mean at follow up	3.75	3.75	3.75	3.75	3.75	3.75	3.75
raw DID	0.96	0.96	0.96	0.96	0.96	0.96	0.96

Source: Compiled from IFPRI data. Cohorts of 6 - 10 or 15 year olds in 1999. Regressand is the monthly days of absence from school observed in 1999 and 2002.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Mean days of absence in 1999, 2002 are, 3.34871794871795, 4.16923076923077, for agricultural households,, 3.75816993464052, 2.5, for non-agricultural households, respectively, with a difference-in-differences of, list(AgNonag = c("2.079", "0.227", "1.004")), Location (*thana*) dummies are omitted from the table for brevity.

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V.1.4 Gender subsamples

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Table 25: Girls 1999-2002, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.303*** (0.022) [6.49]	0.450 (0.239) [6.25]	0.474 (0.254) [6.07]	0.273 (0.176) [4.05]	0.269 (0.153) [4.51]	0.196 (0.149) [4.59]	0.713*** (0.119) [6.27]
age2		−0.009** (0.003) [6.11]	−0.009** (0.003) [5.92]	−0.006*** (0.002) [5.82]	−0.006*** (0.002) [5.74]	−0.005** (0.002) [5.64]	−0.005** (0.002) [5.62]
yield (thana)				0.981 (0.471) [2.32]	0.884 (0.494) [2.92]	0.892 (0.423) [2.92]	−2.122*** (0.361) [6.02]
program				0.710*** (0.040) [6.36]	0.713*** (0.040) [6.27]	0.715*** (0.040) [6.32]	0.717*** (0.041) [6.31]
mean rainfall				0.001 (0.001) [2.68]	0.000 (0.001) [3.06]	0.001 (0.001) [3.07]	0.000 (0.000) [6.00]
mean high temperature				−0.129 (0.076) [2.61]	−0.140 (0.065) [2.95]	−0.137 (0.076) [2.96]	0.341*** (0.070) [5.73]
mean low temperature				−0.297 (0.148) [2.40]	−0.316 (0.141) [2.63]	−0.340 (0.144) [2.68]	−0.597*** (0.111) [6.28]
interaction with 2002							
agricultural household	0.009 (0.071) [6.26]	0.006 (0.065) [6.27]	0.016 (0.060) [6.32]	−0.031 (0.074) [6.17]	−0.044 (0.083) [5.86]	−0.050 (0.079) [5.80]	−0.049 (0.078) [5.74]
head primary			−0.066 (0.048) [6.41]	−0.062 (0.048) [6.42]	−0.063 (0.051) [6.55]	−0.060 (0.049) [6.51]	−0.064 (0.049) [6.46]
head secondary			0.022 (0.041) [6.21]	−0.021 (0.061) [6.30]	−0.021 (0.063) [6.60]	−0.022 (0.068) [6.61]	−0.016 (0.070) [6.58]
head spouse primary			0.083 (0.086) [5.95]	0.057 (0.041) [5.78]	0.058 (0.035) [5.59]	0.076 (0.043) [5.62]	0.077 (0.043) [5.57]
head spouse secondary			0.081 (0.045) [5.71]	0.010 (0.034) [5.68]	0.003 (0.053) [5.54]	−0.009 (0.079) [5.54]	−0.004 (0.077) [5.50]
OldSibF.yr2						0.053 (0.038) [4.99]	0.050 (0.038) [4.92]
OldSibM.yr2						0.029 (0.033) [5.13]	0.036 (0.035) [5.00]
per member land holding					0.106 (0.138) [4.56]	0.110 (0.144) [4.57]	0.100 (0.136) [4.51]
per member nonland asset					−0.632 (0.689) [3.69]	−0.870 (0.727) [3.65]	−0.861 (0.709) [3.59]
own piped water					−0.046 (0.039) [5.36]	−0.055 (0.037) [5.49]	−0.058 (0.040) [5.45]
structured toilet					−0.004 (0.038) [5.40]	−0.019 (0.045) [5.58]	−0.012 (0.044) [5.59]

Table 25: Girls 1999-2002, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
OldSibF.agHH.yr2						0.029	0.027
						(0.094)	(0.096)
						[4.60]	[4.56]
OldSibM.agHH.yr2						−0.098	−0.093
						(0.052)	(0.053)
						[4.64]	[4.54]
per member land holding × agHH					−0.088	−0.133	−0.116
					(0.266)	(0.230)	(0.221)
					[3.89]	[3.96]	[3.94]
per member nonland asset × agHH					−2.001	−1.646	−1.252
					(2.956)	(2.220)	(2.409)
					[3.84]	[3.85]	[3.77]
own piped water					0.034	0.043	0.052
					(0.103)	(0.093)	(0.091)
					[6.29]	[6.40]	[6.40]
structured toilet × ag HH					−0.037	−0.032	−0.027
					(0.056)	(0.048)	(0.048)
					[5.67]	[5.82]	[5.81]
thana dummies							yes
$\bar{R}^2$	−0.0031	.0568	.0552	.5764	.5694	.5755	.5755
n	320	320	320	320	320	320	320
control mean at baseline	0.83	0.83	0.83	0.83	0.83	0.83	0.83
control mean at follow up	0.52	0.52	0.52	0.52	0.52	0.52	0.52
treated mean at baseline	0.79	0.79	0.79	0.79	0.79	0.79	0.79
treated mean at follow up	0.49	0.49	0.49	0.49	0.49	0.49	0.49
raw DID	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Source: Compiled from IFPRI data. Cohorts of 10 to 18 year olds in 1999. Regressand is enrollment in 1999 and 2002.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Mean days of absence in 1999, 2002 are, NA, NA, for agricultural households,, NA, NA, for non-agricultural households, respectively, with a difference-in-differences of, list(AgNonag = character(0)), Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 26: Boys 1999-2002, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.310*** (0.031) [6.73]	−0.154 (0.184) [6.82]	−0.177 (0.183) [6.83]	0.680** (0.219) [4.50]	0.570* (0.222) [4.74]	0.580** (0.219) [4.79]	0.301 (0.263) [6.48]
age2		−0.002 (0.002) [6.75]	−0.002 (0.002) [6.77]	−0.007** (0.002) [6.78]	−0.006** (0.002) [6.75]	−0.006** (0.002) [6.62]	−0.006** (0.002) [6.61]
yield (thana)				0.336 (0.372) [2.67]	0.714 (0.361) [3.39]	0.630 (0.348) [3.53]	2.547** (0.784) [5.71]
program				0.607*** (0.063) [6.59]	0.603*** (0.060) [6.49]	0.615*** (0.061) [6.54]	0.610*** (0.062) [6.51]
mean rainfall				0.001 (0.000) [2.82]	0.002* (0.001) [3.30]	0.002* (0.001) [3.32]	0.002*** (0.000) [6.32]
mean high temperature				−0.075 (0.058) [2.37]	−0.102*** (0.014) [2.62]	−0.094** (0.015) [2.73]	−0.386*** (0.099) [5.69]
mean low temperature				0.208 (0.112) [2.35]	0.176 (0.074) [2.49]	0.156 (0.062) [2.58]	0.358** (0.122) [5.69]
interaction with 2002							
agricultural household	−0.097 (0.075) [6.33]	−0.093 (0.074) [6.28]	−0.097 (0.076) [6.22]	−0.117** (0.044) [6.19]	−0.111** (0.040) [6.03]	−0.114** (0.040) [5.77]	−0.116** (0.040) [5.67]
head primary			−0.005 (0.119) [6.36]	−0.022 (0.085) [6.37]	−0.004 (0.085) [6.31]	−0.013 (0.087) [6.33]	−0.012 (0.093) [6.30]
head secondary			0.043 (0.074) [6.46]	0.112 (0.073) [6.42]	0.115 (0.071) [6.43]	0.107 (0.074) [6.37]	0.108 (0.077) [6.28]
head spouse primary			−0.118** (0.041) [5.30]	0.036 (0.022) [5.37]	0.033 (0.033) [5.37]	0.045 (0.036) [5.42]	0.042 (0.037) [5.42]
head spouse secondary			−0.099 (0.092) [4.97]	0.053 (0.069) [5.09]	0.035 (0.075) [5.15]	0.057 (0.073) [5.23]	0.051 (0.077) [5.19]
OldSibF.yr2						0.021 (0.035) [5.32]	0.021 (0.034) [5.30]
OldSibM.yr2						0.004 (0.029) [5.25]	0.003 (0.030) [5.15]
per member land holding					−0.109 (0.064) [3.99]	−0.110 (0.069) [3.96]	−0.113 (0.074) [3.92]
per member nonland asset					2.322 (2.691) [2.39]	2.465 (2.616) [2.44]	2.515 (2.695) [2.46]
own piped water					0.043 (0.055) [5.73]	0.048 (0.053) [5.77]	0.048 (0.054) [5.74]
structured toilet					−0.084 (0.056) [6.18]	−0.079 (0.059) [6.16]	−0.089 (0.065) [6.01]

Table 26: Boys 1999-2002, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
OldSibF.agHH.yr2						-0.111^{**}	-0.109^{**}
						(0.038)	(0.037)
						[4.44]	[4.44]
OldSibM.agHH.yr2						-0.060	-0.054
						(0.060)	(0.062)
						[4.45]	[4.35]
per member land holding × agHH					-0.439^{**}	-0.449^{**}	-0.447^{**}
					(0.113)	(0.132)	(0.140)
					[3.18]	[3.19]	[3.14]
per member nonland asset × agHH					6.261^{**}	6.410^{**}	6.369^{**}
					(1.417)	(1.580)	(1.529)
					[2.06]	[2.14]	[2.13]
own piped water					0.054	0.043	0.051
					(0.088)	(0.086)	(0.090)
					[5.87]	[5.96]	[6.00]
structured toilet × ag HH					-0.069	-0.064	-0.072
					(0.085)	(0.100)	(0.109)
					[6.10]	[6.18]	[6.18]
thana dummies							yes
$\bar{R}^2$	.0063	.0067	.0045	.3449	.3588	.3595	.3546
n	306	306	306	306	306	306	306
control mean at baseline	0.72	0.72	0.72	0.72	0.72	0.72	0.72
control mean at follow up	0.47	0.47	0.47	0.47	0.47	0.47	0.47
treated mean at baseline	0.64	0.64	0.64	0.64	0.64	0.64	0.64
treated mean at follow up	0.29	0.29	0.29	0.29	0.29	0.29	0.29
raw DID	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10

Source: Compiled from IFPRI data. Cohorts of 10 to 18 year olds in 1999. Regressand is enrollment in 1999 and 2002.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Mean days of absence in 1999, 2002 are, NA, NA, for agricultural households,, NA, NA, for non-agricultural households, respectively, with a difference-in-differences of, list(AgNonag = character(0)), Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 27: Boys 2002-2006 (placebo), 10-18 in 1999, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.184*** (0.043) [6.74]	−0.183*** (0.046) [6.73]	−0.183*** (0.044) [6.69]	0.204 (0.113) [2.08]	0.146 (0.135) [2.13]	0.112 (0.145) [2.24]	1.001*** (0.189) [6.10]
age2		0.000 (0.000) [6.31]	0.000 (0.000) [6.31]	0.000** (0.000) [6.34]	0.000* (0.000) [6.34]	0.000** (0.000) [6.30]	0.000** (0.000) [6.29]
yield (thana)				0.132 (0.498) [2.43]	0.170 (0.688) [2.88]	0.050 (0.705) [3.00]	2.316*** (0.552) [5.95]
program				0.317** (0.121) [4.84]	0.307* (0.142) [4.77]	0.309* (0.130) [4.89]	0.316* (0.127) [4.87]
mean rainfall				−0.000 (0.001) [2.31]	−0.000 (0.002) [2.35]	−0.000 (0.002) [2.38]	0.002*** (0.000) [5.57]
mean high temperature				−0.429** (0.063) [1.49]	−0.412* (0.079) [1.55]	−0.385* (0.093) [1.62]	−0.916** (0.254) [6.35]
mean low temperature				−0.207 (0.090) [1.87]	−0.087 (0.110) [2.16]	−0.068 (0.123) [2.25]	−0.958*** (0.140) [6.01]
interaction with 2006							
agricultural household	0.030 (0.048) [6.32]	0.027 (0.050) [6.34]	−0.006 (0.042) [6.26]	−0.002 (0.034) [6.22]	0.002 (0.046) [6.17]	0.009 (0.047) [5.88]	−0.003 (0.046) [5.78]
head primary			−0.026 (0.065) [6.37]	−0.034 (0.054) [6.36]	−0.040 (0.051) [6.26]	−0.045 (0.052) [6.29]	−0.038 (0.054) [6.33]
head secondary			−0.078 (0.071) [6.46]	−0.046 (0.070) [6.38]	−0.070 (0.076) [6.42]	−0.069 (0.077) [6.33]	−0.074 (0.077) [6.30]
head spouse primary			−0.024 (0.067) [5.30]	−0.080 (0.077) [5.47]	−0.081 (0.083) [5.48]	−0.094 (0.087) [5.55]	−0.084 (0.083) [5.48]
head spouse secondary			−0.118 (0.085) [4.92]	−0.141 (0.088) [5.01]	−0.133 (0.094) [5.09]	−0.141 (0.093) [5.17]	−0.133 (0.090) [5.16]
OldSibF.yr3						−0.046 (0.036) [5.24]	−0.047 (0.036) [5.24]
OldSibM.yr3						−0.013 (0.029) [5.20]	−0.012 (0.030) [5.15]
per member land holding					0.128** (0.034) [4.04]	0.129** (0.038) [4.04]	0.142** (0.048) [4.02]
per member nonland asset					−3.800 (2.002) [2.59]	−3.550 (1.791) [2.64]	−4.466 (2.158) [2.46]
own piped water					0.016 (0.074) [5.45]	0.016 (0.073) [5.49]	0.026 (0.065) [5.72]
structured toilet					−0.014 (0.079) [6.09]	−0.014 (0.078) [6.09]	−0.010 (0.079) [6.09]

Table 27: Boys 2002-2006 (placebo), 10-18 in 1999, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2006*agricultural household*							
OldSibF.agHH.yr3						0.009	0.016
						(0.060)	(0.061)
						[4.59]	[4.58]
OldSibM.agHH.yr3						0.039	0.030
						(0.072)	(0.071)
						[4.38]	[4.34]
per member land holding × agHH					0.170	0.171	0.175
					(0.080)	(0.084)	(0.086)
					[3.14]	[3.18]	[3.15]
per member nonland asset × agHH					−7.315**	−6.774**	−7.321**
					(1.536)	(1.430)	(1.705)
					[2.01]	[2.14]	[2.12]
own piped water					−0.102	−0.092	−0.096
					(0.121)	(0.130)	(0.128)
					[6.15]	[6.19]	[6.17]
structured toilet × ag HH					0.220**	0.223*	0.223**
					(0.084)	(0.092)	(0.092)
					[6.10]	[6.17]	[6.17]
thana dummies							yes
$\bar{R}^2$	−0.0022	.0032	.0103	.0843	.0931	.0864	.0870
n	304	304	304	304	304	304	304
control mean at follow up	0.47	0.47	0.47	0.47	0.47	0.47	0.47
treated mean at follow up	0.29	0.29	0.29	0.29	0.29	0.29	0.29

Source: Compiled from IFPRI data. Cohorts of 10 to 18 year olds in 1999. Regressand is enrollment in 1999 and 2002.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Mean days of absence in 1999, 2002 are, NA, NA, for agricultural households,, NA, NA, for non-agricultural households, respectively, with a difference-in-differences of, list(AgNonag = character(0)), Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 28: Boys 2002-2006 (placebo), 10-18 in 2002, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.256*** (0.032) [6.85]	−0.279*** (0.036) [6.86]	−0.279*** (0.037) [6.84]	0.050 (0.083) [2.07]	0.017 (0.056) [2.16]	0.003 (0.065) [2.25]	−0.140 (0.122) [6.02]
age2		0.001** (0.000) [6.31]	0.001** (0.000) [6.31]	0.001*** (0.000) [6.40]	0.001*** (0.000) [6.34]	0.001** (0.000) [6.29]	0.001** (0.000) [6.29]
yield (thana)				−0.164 (0.235) [2.33]	−0.001 (0.267) [2.97]	−0.194 (0.274) [3.11]	−0.143 (0.446) [5.57]
program				0.259** (0.070) [5.79]	0.262*** (0.069) [5.87]	0.262*** (0.063) [5.91]	0.262*** (0.062) [5.90]
mean rainfall				−0.001 (0.000) [2.16]	−0.000 (0.000) [2.31]	−0.001 (0.000) [2.31]	−0.001 (0.001) [5.68]
mean high temperature				−0.368* (0.062) [1.46]	−0.341** (0.038) [1.50]	−0.346** (0.043) [1.58]	−0.131 (0.155) [6.40]
mean low temperature				−0.220* (0.071) [1.92]	−0.148 (0.068) [2.24]	−0.126 (0.080) [2.29]	−0.206 (0.119) [5.30]
interaction with 2006							
agricultural household	0.004 (0.043) [6.68]	−0.010 (0.044) [6.70]	−0.034 (0.043) [6.56]	−0.043 (0.029) [6.45]	−0.045 (0.024) [6.25]	−0.034 (0.028) [6.08]	−0.032 (0.028) [6.06]
head primary			−0.037 (0.092) [6.50]	−0.039 (0.083) [6.46]	−0.061 (0.089) [6.39]	−0.072 (0.089) [6.38]	−0.072 (0.089) [6.36]
head secondary			−0.045 (0.050) [6.49]	−0.039 (0.055) [6.49]	−0.060 (0.056) [6.38]	−0.068 (0.053) [6.32]	−0.070 (0.053) [6.31]
head spouse primary			−0.088* (0.044) [5.21]	−0.130** (0.045) [5.34]	−0.109* (0.050) [5.39]	−0.135* (0.058) [5.60]	−0.139* (0.058) [5.57]
head spouse secondary			−0.101 (0.056) [5.52]	−0.135* (0.067) [5.65]	−0.129 (0.081) [5.46]	−0.136 (0.092) [5.59]	−0.140 (0.094) [5.57]
OldSibF.yr3						−0.041 (0.029) [5.52]	−0.041 (0.030) [5.51]
OldSibM.yr3						−0.002 (0.026) [5.99]	−0.002 (0.026) [5.98]
per member land holding					0.166* (0.064) [4.02]	0.154* (0.067) [4.11]	0.155* (0.070) [4.08]
per member nonland asset					−2.495 (2.023) [3.96]	−2.198 (1.985) [4.00]	−2.208 (2.160) [3.90]
own piped water					−0.046** (0.017) [5.78]	−0.043** (0.017) [5.80]	−0.038* (0.017) [5.96]
structured toilet					−0.030 (0.047) [6.12]	−0.024 (0.052) [5.96]	−0.025 (0.053) [5.94]

Table 28: Boys 2002-2006 (placebo), 10-18 in 2002, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2006*agricultural household*							
OldSibF.agHH.yr3						−0.093	−0.091
						(0.056)	(0.057)
						[5.37]	[5.35]
OldSibM.agHH.yr3						0.078	0.081
						(0.043)	(0.045)
						[5.38]	[5.43]
per member land holding × agHH					0.116	0.093	0.090
					(0.097)	(0.109)	(0.112)
					[3.01]	[3.06]	[3.06]
per member nonland asset × agHH					−5.442	−5.049	−5.109
					(2.667)	(2.579)	(2.684)
					[3.23]	[3.32]	[3.29]
own piped water					-0.187^{*}	-0.179^{*}	-0.176^{*}
					(0.080)	(0.085)	(0.086)
					[6.58]	[6.63]	[6.60]
structured toilet × ag HH					0.041	0.070	0.068
					(0.094)	(0.103)	(0.106)
					[6.24]	[6.23]	[6.23]
thana dummies							yes
$\bar{R}^2$	−0.0026	.0371	.0412	.1081	.1163	.1194	.1125
n	386	386	386	386	386	386	386
control mean at follow up	0.66	0.66	0.66	0.66	0.66	0.66	0.66
treated mean at follow up	0.54	0.54	0.54	0.54	0.54	0.54	0.54

Source: Compiled from IFPRI data. Cohorts of 10 to 18 year olds in 1999. Regressand is enrollment in 1999 and 2002.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Mean days of absence in 1999, 2002 are, NA, NA, for agricultural households,, NA, NA, for non-agricultural households, respectively, with a difference-in-differences of, list(AgNonag = character(0)), Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 29: Non Muslim boys 1999-2002, direct offsprings, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.310*** (0.031) [6.73]	−0.145 (0.175) [6.81]	−0.168 (0.175) [6.82]	0.600* (0.226) [4.30]	0.513* (0.235) [4.47]	0.525* (0.232) [4.55]	0.311 (0.276) [6.49]
age2		−0.002 (0.002) [6.74]	−0.002 (0.002) [6.76]	−0.007** (0.002) [6.78]	−0.007** (0.002) [6.74]	−0.007** (0.002) [6.61]	−0.007** (0.002) [6.61]
yield (thana)				0.493 (0.356) [2.78]	0.806 (0.441) [3.40]	0.730 (0.411) [3.50]	2.493** (0.797) [5.77]
program				0.611*** (0.066) [6.59]	0.603*** (0.060) [6.48]	0.615*** (0.061) [6.53]	0.609*** (0.061) [6.49]
mean rainfall				0.001* (0.000) [3.02]	0.002* (0.001) [3.38]	0.002* (0.001) [3.40]	0.002*** (0.000) [5.48]
mean high temperature				−0.125* (0.044) [2.66]	−0.136** (0.024) [2.88]	−0.130** (0.030) [3.01]	−0.388*** (0.103) [6.13]
mean low temperature				0.085 (0.088) [2.61]	0.082 (0.097) [2.73]	0.063 (0.097) [2.91]	0.358** (0.138) [6.09]
interaction with 2002							
agricultural household	−0.097 (0.075) [6.33]	−0.101 (0.059) [6.22]	−0.101 (0.063) [6.17]	−0.127** (0.047) [6.17]	−0.120** (0.043) [6.05]	−0.125** (0.035) [5.81]	−0.132*** (0.033) [5.66]
non-Muslim		0.025 (0.061) [2.55]	0.021 (0.051) [2.69]	0.125 (0.062) [2.76]	0.097 (0.052) [2.82]	0.092* (0.037) [2.99]	0.098* (0.039) [2.90]
non-Muslim × ag HH		−0.388* (0.117) [1.99]	−0.389 (0.146) [2.15]	−0.268 (0.148) [2.13]	−0.274 (0.142) [2.25]	−0.267 (0.117) [2.33]	−0.280 (0.122) [2.14]
head primary			0.005 (0.117) [6.36]	−0.028 (0.090) [6.37]	−0.008 (0.088) [6.32]	−0.017 (0.092) [6.35]	−0.010 (0.095) [6.29]
head secondary			0.070 (0.069) [6.43]	0.119 (0.067) [6.34]	0.122 (0.067) [6.37]	0.114 (0.070) [6.28]	0.120 (0.073) [6.22]
head spouse primary			−0.106** (0.037) [5.22]	0.050* (0.021) [5.30]	0.047 (0.029) [5.31]	0.059 (0.034) [5.38]	0.058 (0.036) [5.39]
head spouse secondary			−0.101 (0.107) [4.99]	0.062 (0.077) [5.08]	0.044 (0.084) [5.14]	0.065 (0.081) [5.26]	0.060 (0.085) [5.22]
OldSibF.yr2						0.016 (0.038) [5.28]	0.016 (0.037) [5.27]
OldSibM.yr2						0.006 (0.028) [5.31]	0.007 (0.029) [5.21]
per member land holding					−0.112 (0.071) [4.01]	−0.114 (0.077) [3.97]	−0.119 (0.082) [3.92]
per member nonland asset					2.291 (2.816) [2.40]	2.414 (2.700) [2.44]	2.510 (2.786) [2.46]
own piped water					0.046 (0.049) [5.77]	0.051 (0.048) [5.81]	0.052 (0.051) [5.78]
structured toilet					−0.087 (0.055) [6.18]	−0.081 (0.059) [6.17]	−0.093 (0.064) [6.02]

Table 29: Non Muslim boys 1999-2002, direct offsprings, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
OldSibF.agHH.yr2						-0.102^{**} (0.038) [4.39]	-0.097^{*} (0.036) [4.36]
OldSibM.agHH.yr2						−0.071 (0.060) [4.56]	−0.070 (0.063) [4.47]
per member land holding × agHH					-0.421^{**} (0.115) [3.15]	-0.428^{*} (0.139) [3.16]	-0.430^{*} (0.146) [3.12]
per member nonland asset × agHH					5.965^{**} (1.371) [2.05]	6.165^{**} (1.371) [2.13]	6.272^{**} (1.432) [2.13]
own piped water					0.024 (0.085) [5.91]	0.011 (0.087) [5.97]	0.019 (0.090) [5.98]
structured toilet × ag HH					−0.068 (0.075) [6.09]	−0.066 (0.090) [6.18]	−0.080 (0.101) [6.17]
thana dummies							yes
$\bar{R}^2$	.0063	.0135	.0109	.3501	.3625	.3625	.3579
n	306	306	306	306	306	306	306
control mean in 1999, muslim	0.720	0.720	0.720	0.720	0.720	0.720	0.720
control mean in 1999, nonmuslim	0.667	0.667	0.667	0.667	0.667	0.667	0.667
treated mean in 1999, muslim	0.612	0.612	0.612	0.612	0.612	0.612	0.612
treated mean in 1999, nonmuslim	0.815	0.815	0.815	0.815	0.815	0.815	0.815
change in control mean, nmuslim	−0.270	−0.270	−0.270	−0.270	−0.270	−0.270	−0.270
change in control mean, nonmuslim	0.000	0.000	0.000	0.000	0.000	0.000	0.000
change in treated mean, muslim	−0.329	−0.329	−0.329	−0.329	−0.329	−0.329	−0.329
change in treated mean, nonmuslim	−0.444	−0.444	−0.444	−0.444	−0.444	−0.444	−0.444
raw DID, muslim	−0.059	−0.059	−0.059	−0.059	−0.059	−0.059	−0.059
raw DID, nonmuslim	−0.444	−0.444	−0.444	−0.444	−0.444	−0.444	−0.444

Source: Compiled from IFPRI data. Cohort of 10 - 18 year olds in 1999. Only direct offspring of household head are used.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. P values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

2.

Table 30: Flood 1999-2002, boys, direct offspring, Satterthwaite correction

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(Intercept)	−0.338** (0.067) [1.98]	−0.160 (0.191) [6.71]	−0.179 (0.192) [6.73]	0.756* (0.240) [2.68]	0.496 (0.297) [3.01]	0.522 (0.298) [3.29]	0.204 (0.330) [6.30]
age2		−0.002 (0.002) [6.76]	−0.002 (0.002) [6.77]	−0.007** (0.002) [6.79]	−0.007** (0.002) [6.76]	−0.006** (0.002) [6.59]	−0.006** (0.002) [6.59]
yield (thana)				0.194 (0.356) [1.92]	0.797 (0.500) [3.08]	0.699 (0.460) [3.19]	1.981** (0.731) [6.45]
program				0.601*** (0.063) [6.55]	0.600*** (0.060) [6.46]	0.612*** (0.060) [6.53]	0.608*** (0.060) [6.48]
mean rainfall				0.000 (0.001) [1.60]	0.002 (0.001) [2.28]	0.002 (0.001) [2.35]	0.002** (0.001) [6.34]
mean high temperature				−0.049 (0.041) [2.03]	−0.122* (0.042) [2.42]	−0.111* (0.044) [2.54]	−0.394** (0.131) [6.33]
mean low temperature				0.294* (0.071) [1.62]	0.069 (0.145) [1.85]	0.069 (0.157) [1.94]	0.109 (0.119) [5.95]
interaction with 2002							
agricultural household	−0.107 (0.069) [6.24]	−0.118** (0.039) [5.36]	−0.123** (0.044) [5.49]	−0.119** (0.041) [5.57]	−0.121** (0.043) [5.58]	−0.123** (0.041) [5.43]	−0.120** (0.043) [5.28]
flood × ag HH		−0.280** (0.082) [4.61]	−0.277** (0.089) [4.67]	−0.109 (0.096) [4.80]	−0.066 (0.092) [5.02]	−0.057 (0.093) [5.09]	−0.048 (0.105) [5.08]
head primary			−0.020 (0.119) [6.32]	−0.032 (0.084) [6.38]	−0.005 (0.087) [6.35]	−0.014 (0.090) [6.40]	−0.015 (0.093) [6.31]
head secondary			0.027 (0.073) [6.45]	0.104 (0.075) [6.41]	0.111 (0.075) [6.47]	0.103 (0.079) [6.41]	0.105 (0.080) [6.31]
head spouse primary			−0.104* (0.043) [5.28]	0.039 (0.024) [5.40]	0.038 (0.036) [5.41]	0.049 (0.040) [5.47]	0.046 (0.041) [5.46]
head spouse secondary			−0.098 (0.089) [5.00]	0.049 (0.069) [5.09]	0.038 (0.077) [5.16]	0.058 (0.075) [5.24]	0.051 (0.079) [5.18]
OldSibF.yr2						0.019 (0.036) [5.33]	0.019 (0.036) [5.33]
OldSibM.yr2						0.004 (0.029) [5.19]	0.002 (0.029) [5.16]
per member land holding					−0.105 (0.069) [4.02]	−0.107 (0.076) [3.96]	−0.110 (0.078) [3.95]
per member nonland asset					2.279 (2.774) [2.42]	2.425 (2.667) [2.46]	2.493 (2.708) [2.47]
own piped water					0.040 (0.059) [5.62]	0.045 (0.059) [5.65]	0.043 (0.059) [5.63]
structured toilet					−0.084 (0.057) [6.25]	−0.079 (0.062) [6.20]	−0.085 (0.063) [6.14]

Table 30: Flood 1999-2002, boys, direct offspring, Satterthwaite correction (continued)

variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
*interaction with 2002*agricultural household*							
OldSibF.agHH.yr2						-0.108^{**} (0.039) [4.47]	-0.108^{**} (0.039) [4.49]
OldSibM.agHH.yr2						−0.062 (0.058) [4.44]	−0.055 (0.061) [4.33]
per member land holding × agHH					-0.448^{**} (0.115) [3.17]	-0.455^{**} (0.132) [3.18]	-0.448^{**} (0.137) [3.16]
per member nonland asset × agHH					6.042^{**} (1.466) [2.12]	6.237^{**} (1.510) [2.19]	6.279^{**} (1.412) [2.17]
own piped water					0.054 (0.092) [6.09]	0.042 (0.091) [6.14]	0.046 (0.093) [6.12]
structured toilet × ag HH					−0.074 (0.088) [6.15]	−0.068 (0.106) [6.23]	−0.069 (0.107) [6.21]
thana dummies							yes
$\bar{R}^2$	.0051	.0214	.0182	.3437	.3557	.3559	.3528
n	306	306	306	306	306	306	306
control mean in 1999, unflooded	0.737	0.737	0.737	0.737	0.737	0.737	0.737
control mean in 1999, flooded	0.692	0.692	0.692	0.692	0.692	0.692	0.692
treated mean in 1999, unflooded	0.587	0.587	0.587	0.587	0.587	0.587	0.587
treated mean in 1999, flooded	0.664	0.664	0.664	0.664	0.664	0.664	0.664
change in control mean, unflooded	−0.351	−0.351	−0.351	−0.351	−0.351	−0.351	−0.351
change in control mean, flooded	−0.135	−0.135	−0.135	−0.135	−0.135	−0.135	−0.135
change in treated mean, unflooded	−0.302	−0.302	−0.302	−0.302	−0.302	−0.302	−0.302
change in treated mean, flooded	−0.366	−0.366	−0.366	−0.366	−0.366	−0.366	−0.366
raw DID, unflooded	0.049	0.049	0.049	0.049	0.049	0.049	0.049
raw DID, flooded	−0.231	−0.231	−0.231	−0.231	−0.231	−0.231	−0.231

Source: Compiled from IFPRI data. Cohort of 10 - 18 year olds in 1999. Only direct offspring of household head are used.

Notes: 1. A first-difference estimator with standard errors clustered at *thana* level. Standard errors are clusterd at thana level with Satterthwaite degrees of freedom adjusted for a small number of clusters. P values are shown in the parentheses. Satterthwaite degrees of freedom adjusted for a small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1%, respectively. Enrollment rates in 1999, 2002 are, NULL, NULL, NULL, NULL, NULL, NULL, NULL, Location (*thana*) dummies are omitted from the table for brevity.

2.

V.2 Selected main results for JHR

```
library(ggplot2)
Res ← qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
re ← Res[grepl("Em", data) & grepl("ma", coeff) & grepl("4|6|7", reg) & grepl("B", infere
  & grepl(0, agdef) & agelb == 10, ]
re[, yintercept := 0]
re[, spec := factor(reg, labels = 1:3)]
g ←
ggplot(data = re,
    aes(x = HHtype, y = beta, group = spec, fill = spec, shape = spec, colour = spec)) +
  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
    stat = "identity", fatten = 1.75,
    position = position_dodge(width = .5)) +
  scale_shape_manual(values = rep(c(0:6, 8), 2))+
  facet_grid(coeff ~ gender, scales = "free_y")+
  ThisThemeEnd+
  xlab("age groups") +
  labs(color  = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 1),
    fill = guide_legend(title = "regression specifications", nrow = 1),
    shape = guide_legend(title = "regression specifications", nrow = 1)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "MainImpactsByGender.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever ← dev.off()
```

```
Res ← qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
ii ← 1
agyr ← paste0("^agHH.yr|Sib.*H.*", (2:3)[ii], "$")
resl ← Res[grepl(agyr, Coef) & grepl(c("main", "placebo")[ii], objective),
  .(Coef, data, gender, agdef, agelb, reg, HHtype, inference, beta, p, CI_L, CI_U)][
  order(data, gender, reg, HHtype, agdef, inference)]
resl[, Estimate := formatC(beta, digits = 4, format = "f")]
resl[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
resl[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), ")}")]
AddStar ← T
if (AddStar) {
  resl[, est := Estimate]
  resl[, Estimate := paste0(est, "^{\\phantom{***}}")]
  resl[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  resl[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  resl[p < .01, Estimate := paste0(est, "^{***}")]
```

```
  resl[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  resl[, est := NULL]
}
# main/placebo results
options(width=120)
for (s in 1:3) {
  mr ← resl[agelb == (10:12)[s] & grepl("m", data) & reg ≥ 5 & grepl("b.*g", gender), ]
  nR ← NR[agelb == (10:12)[s] & grepl("m", data) & reg ≥ 5
    & grepl("^B", inference) & grepl("\\+", gender), ]
  enr0 ← Enr[agelb == (10:12)[s] & grepl("m", data) & grepl("B", inference) & grepl("\\+"
  enr0[, EnRate := formatC(EnRate, digits = 4, format = "f")]
  for (m in 1:4) {
    # tabulate by specification
    main ← rbind(
      mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("^B", inference), Estima
      ,
      unlist(mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("Z", inference), c
      ,
      unlist(mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("B", inference), c
    )
    sib ←  rbind(
      mr[grepl(aghh.defs[m], agdef)  & grepl("SibF.*H.*yr", Coef) & grepl("BR", inference
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("Z", inference),
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("B", inference),
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("BR", inference)
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("Z", inference),
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("B", inference),
     )
     if (ncol(main) == 9)
       sib ← cbind("", "", "", sib[, 1:2], "", sib[, 3:4], "") else
       sib ← cbind("", "", sib)
     nr ← rbind(
        formatC(nR[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), R], digits = 4, forma
      , formatC(nR[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), Yes], digits = 0, for
      , formatC(nR[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), n], digits = 0, forma
     )
     enr ← matrix(
       enr0[grepl(aghh.defs[m], agdef), ][order(HHtype, agHH, tee), EnRate]
       , byrow = F, nrow = 4)
     if (ncol(main) == 9) enr ← enr[, rep(1:3, 3)] else enr ← enr[, rep(1:2, 3)]
     main ← rbind(main, sib, nr, enr)
     assign(paste0("main", m), main)
  }
  # ii = 1: 3 specs * 2 HHtypes = spec 1 all, spec 1 direct off, spec 2 all, ...
  mrtab ← rbind(main1, main2, main3, main4)
  mrtab ←
    cbind(
        rep(c(
          "Agricultural households * year 2002",
          "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
          "\\underline{\\phantom{mm}} * Older sisters",
```

```
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "\\underline{\\phantom{mm}} * Older brothers",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
        paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
          list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[1]])
         ), 4
      ),
    mrtab)
  if (ncol(main)==9) SepCols ← c(3, 6) else SepCols ← c(2, 4)
  ltb ← latextab(mrtab, delimiterline = NULL,
      hcenter = c(3, rep(1.3, ncol(mrtab)-1)),
      hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
      hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
      headercolor = NULL,
      adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
      addseparatingcols = SepCols, separatingcolwidth = rep(.1, 2),
      separatingcoltitle = c("\\textsf{Specification 1}", "\\textsf{Specification 2}", "\\
    )
  if (ncol(main)==9)
    ltb ← c(
      ltb[1],
      "\\hline",
      ltb[2:grep("cline", ltb), ],
      paste0(
        "&\\textsf{All} & \\textsf{Direct} & \\textsf{ExOnly}",
        paste(rep("&&\\textsf{All} & \\textsf{Direct} & \\textsf{ExOnly}", 2), collapse =
        , "\\\\"),
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[1], "&",
        gsub("3\\)", "3)&", gsub("6\\)", "6)&", paste(paste0("(", 1:9, ")", collapse = "&"
        ),
      ltb[(grep("cline", ltb)+2):(grep("M.*rol in 2", ltb)[1]), ],
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[2], "&",
        gsub("2\\)", "2)&", gsub("5\\)", "5)&", paste(paste0("(", 1:9+9, ")", collapse = "
        ),
      ltb[(grep("^Ag", ltb)[2]):(grep("M.*rol in 2", ltb)[2]), ],
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[3], "&",
        gsub("1\\)", "1)&", gsub("4\\)", "4)&", paste(paste0("(", 1:9+18, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[3]):(grep("M.*rol in 2", ltb)[3]), ],
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[4], "&",
        gsub("0\\)", "0)&", gsub("3\\)", "3)&", paste(paste0("(", 1:9+27, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[4]):(grep("M.*rol in 2", ltb)[4]), ],
      "\\hline",
        ltb[nrow(ltb), ]
      ) else
    ltb ← c(
      ltb[1],
      "\\hline",
      ltb[2:grep("cline", ltb), ],
      paste0(
```

```
        "&\\textsf{All} & \\textsf{Direct}",
        paste(rep("&&\\textsf{All} & \\textsf{Direct}", 2), collapse = "")
        , "\\\\"),
      "&\\multicolumn{8}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[1], "&",
        gsub("2\\)", "2)&", gsub("4\\)", "4)&", paste(paste0("(", 1:6, ")", collapse = "&
        ),
      ltb[(grep("cline", ltb)+2):(grep("M.*rol in 2", ltb)[1]), ],
      "&\\multicolumn{8}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[2], "&",
        gsub("8\\)", "8)&", gsub("0\\)", "0)&", paste(paste0("(", 1:6+6, ")", collapse = "
        ),
      ltb[(grep("^Ag", ltb)[2]):(grep("M.*rol in 2", ltb)[2]), ],
      "&\\multicolumn{8}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[3], "&",
        gsub("4\\)", "4)&", gsub("6\\)", "6)&", paste(paste0("(", 1:6+12, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[3]):(grep("M.*rol in 2", ltb)[3]), ],
      "&\\multicolumn{8}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[4], "&",
        gsub("0\\)", "0)&", gsub("2\\)", "2)&", paste(paste0("(", 1:6+18, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[4]):(grep("M.*rol in 2", ltb)[4]), ],
      "\\hline",
        ltb[nrow(ltb), ]
      )
  ltb ← gsub("CI \\(.*?\\)", "", ltb)
  ltb ← gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
  ltb ← gsub("households", "HHs", ltb)
  ltb ← gsub("Number of ol", "Ol", ltb)
  ltb ← ltb[!grepl("Raw", ltb)]
  write.tablev(ltb
    , paste0(pathsaveThisVer, "Main", (10:12)[s], "ByAgHHdefResults_Table.tex")
    , colnamestrue = F)
}

Res ← qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
ii ← 1
Res[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
Res[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), ")}")]
agyr ← paste0("^agHH.yr|Sib.*H.*", (2:3)[ii], "$")
mr0 ← Res[grepl(agyr, Coef) & grepl(c("main", "placebo")[ii], objective)
  & grepl("\\+", gender),
  .(Coef, data, agdef, agelb, reg, HHtype, inference, beta, p, ci)][
  order(data, reg, HHtype, agdef, inference)]
mr0[, Estimate := formatC(beta, digits = 4, format = "f")]
if (AddStar) {
  mr0[, est := Estimate]
  mr0[, Estimate := paste0(est, "^{\\phantom{***}}")]
  mr0[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
```

```
  mr0[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  mr0[p < .01, Estimate := paste0(est, "^{***}")]
  mr0[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  mr0[, est := NULL]
}
mr0[, inference := factor(inference, levels = c("LZ", "BRL", "WCB")[1:2])]

options(width=120)
for (m in 1:4) {
    mr ← mr0[grepl(aghh.defs[m], agdef) & grepl("m", data) & reg ≥ 5, ]
    nR ← NR[grepl(aghh.defs[m], agdef) & grepl("m", data) & reg ≥ 5
      & grepl("\\+", gender) & grepl("B", inference), ]
    enr0 ← Enr[grepl(aghh.defs[m], agdef) & grepl("m", data)
      & grepl("\\+", gender) & grepl("B", inference), ]
    enr0[, EnRate := formatC(EnRate, digits = 4, format = "f")]
  for (s in 1:3) {
    # tabulate by specification
    mr1 ← mr[agelb == (10:12)[s], ]
    nR1 ← nR[agelb == (10:12)[s], ]
    enr1 ← enr0[agelb == (10:12)[s], ]
    main ← rbind(
      mr1[grepl("^ag", Coef) & grepl("^B", inference), Estimate]
      ,
      unlist(mr1[grepl("^ag", Coef) & grepl("Z", inference), ci])
      ,
      unlist(mr1[grepl("^ag", Coef) & grepl("B", inference), ci])
    )
    sib ←  rbind(
       mr1[grepl("SibF.*H.*yr", Coef) & grepl("BR", inference), Estimate]
       ,
       mr1[grepl("SibF.*H.*yr", Coef) & grepl("Z", inference), ci]
       ,
       mr1[grepl("SibF.*H.*yr", Coef) & grepl("B", inference), ci]
       ,
       mr1[grepl("SibM.*H.*yr", Coef) & grepl("BR", inference), Estimate]
       ,
       mr1[grepl("SibM.*H.*yr", Coef) & grepl("Z", inference), ci]
       ,
       mr1[grepl("SibM.*H.*yr", Coef) & grepl("B", inference), ci]
     )
     if (ncol(main)==9)
       sib ← cbind("", "", "", sib[, 1:2], "", sib[, 3:4], "") else
       sib ← cbind("", "", sib)
     nr ← rbind(
        formatC(nR1[order(reg, HHtype), R], digits = 4, format = "f")
      , formatC(nR1[order(reg, HHtype), Yes], digits = 0, format = "f")
      , formatC(nR1[order(reg, HHtype), n], digits = 0, format = "f")
     )
     enr ← matrix(
       enr1[order(HHtype, agHH, tee), EnRate]
       , byrow = F, nrow = 4)
     if (ncol(main)==9) enr ← enr[, rep(1:3, 3)] else enr ← enr[, rep(1:2, 3)]
     main ← rbind(main, sib, nr, enr)
     assign(paste0("main", s), main)
  }
  # ii = 1: 3 specs * 2 HHtypes = spec 1 all, spec 1 direct off, spec 2 all, ...
```

```
mrtab ← rbind(main1, main2, main3)
mrtab ←
  cbind(
      rep(c(
        ”Agricultural households ∗ year 2002”,
        ”\\hspace{1em} CI (LZ)”, ”\\hspace{1em} CI (BRL)”,
        ”\\underline{\\phantom{mm}} ∗ Older sisters”,
        ”\\hspace{1em} CI (LZ)”, ”\\hspace{1em} CI (BRL)”,
        ”\\underline{\\phantom{mm}} ∗ Older brothers”,
        ”\\hspace{1em} CI (LZ)”, ”\\hspace{1em} CI (BRL)”,
        ”$\\bar{R}^{2}$”, ”N: Agricultural HHs”, ”N”,
        paste0(”Mean of ”, rep(c(”treated”, ”control”), each = 2), ” in ”,
          list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[1]])
         ), 3
      ),
    mrtab)
if (ncol(main)==9) SepCols ← c(3, 6) else SepCols ← c(2, 4)
ltb ← latextab(mrtab, delimiterline = NULL,
    hcenter = c(3, rep(1.3, ncol(mrtab)−1)),
    hleft = c(”\\scriptsize”, rep(”\\hfil\\scriptsize$”, ncol(mrtab)−1)),
    hright = c(”\\hfill”, rep(”$”, ncol(mrtab)−1)),
    headercolor = NULL,
    adjustlineskip = ”−1ex”, adjlskiprows = grep(”CI”, mrtab[, 1])−1,
    addseparatingcols = SepCols, separatingcolwidth = rep(.1, 2),
    separatingcoltitle = c(”\\textsf{Specification 1}”, ”\\textsf{Specification 2}”, ”\\
  )
if (ncol(main)==9)
  ltb ← c(
    ltb[1]
    ,
    ”\\hline”
    ,
    ltb[2:grep(”cline”, ltb), ]
    ,
    paste0(
      ”&\\textsf{All} & \\textsf{Direct} & \\textsf{ExOnly}”,
      paste(rep(”&&\\textsf{All} & \\textsf{Direct} & \\textsf{ExOnly}”, 2), collapse =
      , ”\\\\”)
    ,
    ”&\\multicolumn{11}{c}{A. 10 − 18}\\\\”
    ,
    paste(”&”,
      gsub(”3\\)”, ”3)&”, gsub(”6\\)”, ”6)&”, paste(paste0(”(”, 1:9, ”)”, collapse = ”&”
      )
    ,
    ltb[(grep(”cline”, ltb)+2):(grep(”M.∗rol in 2”, ltb)[1]), ]
    ,
    ”&\\multicolumn{11}{c}{B. 11 − 18}\\\\”
    ,
    paste(”&”,
      gsub(”2\\)”, ”2)&”, gsub(”5\\)”, ”5)&”, paste(paste0(”(”, 1:9+9, ”)”, collapse = ”
      )
    ,
    ltb[(grep(”^Ag”, ltb)[2]):(grep(”M.∗rol in 2”, ltb)[2]), ]
    ,
    ”&\\multicolumn{11}{c}{C. 12 − 18}\\\\”
```

```
      ,
      paste("&",
        gsub("1\\)", "1)&", gsub("4\\)", "4)&", paste(paste0("(", 1:9+18, ")", collapse =
        )
      ,
      ltb[(grep("^Ag", ltb)[3]):(grep("M.*rol in 2", ltb)[3]), ]
      ,
      "\\hline"
      ,
        ltb[nrow(ltb), ]
      ) else
    ltb ← c(
      ltb[1]
      ,
      "\\hline"
      ,
      ltb[2:grep("cline", ltb), ]
      ,
      paste0(
        "&\\textsf{All} & \\textsf{Direct}",
        paste(rep("&&\\textsf{All} & \\textsf{Direct}", 2), collapse = "")
        , "\\\\")
      ,
      "&\\multicolumn{8}{c}{A. 10 - 18}\\\\"
      ,
      paste("&",
        gsub("2\\)", "2)&", gsub("4\\)", "4)&", paste(paste0("(", 1:6, ")", collapse = "&"
        )
      ,
      ltb[(grep("cline", ltb)+2):(grep("M.*rol in 2", ltb)[1]), ]
      ,
      "&\\multicolumn{8}{c}{B. 11 - 18}\\\\"
      ,
      paste("&",
        gsub("8\\)", "8)&", gsub("0\\)", "0)&", paste(paste0("(", 1:6+6, ")", collapse = "
        )
      ,
      ltb[(grep("^Ag", ltb)[2]):(grep("M.*rol in 2", ltb)[2]), ]
      ,
      "&\\multicolumn{8}{c}{C. 12 - 18}\\\\"
      ,
      paste("&",
        gsub("4\\)", "4)&", gsub("6\\)", "6)&", paste(paste0("(", 1:6+12, ")", collapse =
        )
      ,
      ltb[(grep("^Ag", ltb)[3]):(grep("M.*rol in 2", ltb)[3]), ]
      ,
      "\\hline"
      ,
        ltb[nrow(ltb), ]
      )
  ltb ← gsub("CI \\(.*?\\)", "", ltb)
  ltb ← gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
  ltb ← gsub("households", "HHs", ltb)
  ltb ← gsub("Number of ol", "Ol", ltb)
  ltb ← ltb[!grepl("Raw", ltb)]
```

```
  write.tablev(ltb
    , paste0(pathsaveThisVer, "MainByAgeLB", agd[m], "Results_Table.tex")
    , colnamestrue = F)
}

Res ← qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
ii ← 1
Res[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 2, format = "f"), ", ",
  formatC(CI_U, digits = 2, format = "f"), "]}")]
Res[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 2, format = "f"), ", ",
  formatC(CI_U, digits = 2, format = "f"), ")}")]
agyr ← paste0("^agHH.yr|Sib.*H.*", (2:3)[ii], "$")
mr0 ← Res[grepl(agyr, Coef) & grepl("Em.1", data) & grepl(0, agdef)
  & grepl("dir", HHtype) & grepl("4|6|7", reg),
  .(Coef, data, agdef, agelb, gender, reg, HHtype, inference, beta, p, ci)][
  order(data, reg, HHtype, agdef, inference)]
mr0[, Estimate := formatC(beta, digits = 4, format = "f")]
if (AddStar) {
  mr0[, est := Estimate]
  mr0[, Estimate := paste0(est, "^{\\phantom{***}}")]
  mr0[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  mr0[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  mr0[p < .01, Estimate := paste0(est, "^{***}")]
  mr0[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  mr0[, est := NULL]
}
mr0[, inference := factor(inference, levels = c("LZ", "BRL", "WCB")[1:2])]
options(width=120)
nR ← NR[grepl(0, agdef) & grepl("m", data) & grepl("4|6|7", reg)
  & grepl("^di", HHtype) & grepl("B", inference), ]
enr0 ← Enr[grepl(aghh.defs[m], agdef) & grepl("m", data)
  & grepl("^di", HHtype) & grepl("B", inference), ]
enr0[, EnRate := formatC(EnRate, digits = 4, format = "f")]
for (s in 1:3) {
  # tabulate by specification
  mr1 ← mr0[agelb == (10:12)[s], ]
  nR1 ← nR[agelb == (10:12)[s], ]
  enr1 ← enr0[agelb == (10:12)[s], ]
  main ← rbind(
    mr1[grepl("^ag", Coef) & grepl("^B", inference), Estimate]
    ,
    unlist(mr1[grepl("^ag", Coef) & grepl("Z", inference), ci])
    ,
    unlist(mr1[grepl("^ag", Coef) & grepl("B", inference), ci])
  )
  sib ← rbind(
     mr1[grepl("SibF.*H.*yr", Coef) & grepl("BR", inference), Estimate]
     ,
     mr1[grepl("SibF.*H.*yr", Coef) & grepl("Z", inference), ci]
     ,
     mr1[grepl("SibF.*H.*yr", Coef) & grepl("B", inference), ci]
     ,
```

```
    mr1[grepl("SibM.*H.*yr", Coef) & grepl("BR", inference), Estimate]
    ,
    mr1[grepl("SibM.*H.*yr", Coef) & grepl("Z", inference), ci]
    ,
    mr1[grepl("SibM.*H.*yr", Coef) & grepl("B", inference), ci]
  )
  sib ← cbind("", sib[, 1:2], "", sib[, 3:4], "", sib[, 5:6])
  nr ← rbind(
     formatC(nR1[order(reg, gender), R], digits = 4, format = "f")
   , formatC(nR1[order(reg, gender), Yes], digits = 0, format = "f")
   , formatC(nR1[order(reg, gender), n], digits = 0, format = "f")
  )
  enr ← matrix(
    enr1[order(gender, agHH, tee), EnRate]
    , byrow = F, nrow = 4)
  enr ← enr[, rep(1:3, 3)]
  main ← rbind(main, sib, nr, enr)
  assign(paste0("main", s), main)
}
# ii = 1: 3 specs * 2 HHtypes = spec 1 all, spec 1 direct off, spec 2 all, ...
mrtab ← rbind(main1, main2, main3)
mrtab ←
  cbind(
      rep(c(
        "Agricultural households * year 2002",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "\\underline{\\phantom{mm}} * Older sisters",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "\\underline{\\phantom{mm}} * Older brothers",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
        paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
          list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[1]])
        ), 3
      ),
    mrtab)
if (ncol(main)==9) SepCols ← c(3, 6) else SepCols ← c(2, 4)
ltb ← latextab(mrtab, delimiterline = NULL,
    hcenter = c(3, rep(1.3, ncol(mrtab)-1)),
    hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
    hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
    headercolor = NULL,
    adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
    addseparatingcols = SepCols, separatingcolwidth = rep(.1, 2),
    separatingcoltitle = c("\\textsf{Specification 1}", "\\textsf{Specification 2}", "\\te
  )
ltb ← c(
  ltb[1], "\\hline",
  ltb[2:grep("cline", ltb), ],
  paste0(
    "&\\textsf{Boys} & \\textsf{Girls} & \\textsf{Boys+Girls}",
    paste(rep("&&\\textsf{Boys} & \\textsf{Girls} & \\textsf{Boys+Girls}", 2), collapse =
    , "\\\\"),
  "&\\multicolumn{11}{c}{A. 10 - 18}\\\\",
  paste("&",
    gsub("3\\)", "3)&", gsub("6\\)", "6)&", paste(paste0("(", 1:9, ")", collapse = "&"), "
```

```
    ),
  ltb[(grep("cline", ltb)+2):(grep("M.*rol in 2", ltb)[1]), ]
  ,
  "&\\multicolumn{11}{c}{B. 11 - 18}\\\\",
  paste("&",
    gsub("2\\)", "2)&", gsub("5\\)", "5)&", paste(paste0("(", 1:9+9, ")", collapse = "&")
    ),
  ltb[(grep("^Ag", ltb)[2]):(grep("M.*rol in 2", ltb)[2]), ],
  "&\\multicolumn{11}{c}{C. 12 - 18}\\\\",
  paste("&",
    gsub("1\\)", "1)&", gsub("4\\)", "4)&", paste(paste0("(", 1:9+18, ")", collapse = "&")
    ),
  ltb[(grep("^Ag", ltb)[3]):(grep("M.*rol in 2", ltb)[3]), ],
  "\\hline",
    ltb[nrow(ltb), ]
  )
ltb <- gsub("CI \\(.*?\\)", "", ltb)
ltb <- gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
ltb <- gsub("households", "HHs", ltb)
ltb <- gsub("Number of ol", "Ol", ltb)
ltb <- ltb[!grepl("Raw", ltb)]
write.tablev(ltb
  , paste0(pathsaveThisVer, "MainByGenderByAgeLBAgHH0Results.tex")
  , colnamestrue = F)

Res <- qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr <- qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR <- qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
for (ii in 1) {
  agyr <- paste0("^agHH.yr|Sib.*H.*", (2:3)[ii], "$")
  resl <- Res[grepl(agyr, Coef) & grepl("di", HHtype) &
    grepl(c("main", "placebo")[ii], objective),
    .(Coef, data, gender, agdef, agelb, reg, HHtype, inference, beta, p, CI_L, CI_U)][
    order(data, gender, reg, HHtype, agdef, inference)]
  nR <- NR[grepl("di", HHtype) & grepl("^B", inference), ]
  enr00 <- Enr[grepl("di", HHtype) & grepl("^B", inference),]
  resl[, Estimate := formatC(beta, digits = 4, format = "f")]
  resl[, ci := paste0("\\mbox{\\tiny [",
    formatC(CI_L, digits = 3, format = "f"), ", ",
    formatC(CI_U, digits = 3, format = "f"), "]}")]
  resl[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
    formatC(CI_L, digits = 3, format = "f"), ", ",
    formatC(CI_U, digits = 3, format = "f"), ")}")]
  resl[, gender := factor(gender, levels = genderitems)]
  nR[, gender := factor(gender, levels = genderitems)]
  enr00[, gender := factor(gender, levels = genderitems)]
  AddStar <- T
  if (AddStar) {
    resl[, est := Estimate]
    resl[, Estimate := paste0(est, "^{\\phantom{***}}")]
    resl[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
    resl[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
    resl[p < .01, Estimate := paste0(est, "^{***}")]
    resl[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
    resl[, est := NULL]
  }
```

```
# main/placebo results
options(width=120)
setkey(resl, data, Coef, agelb, reg, gender)
if (ii == 1) jmax ← 1 else jmax ← 2
for (jj in 1:jmax) {
  if (ii == 2) thisdata ← c("Ep.1", "Ep.2")[jj] else thisdata ← "Em.1"
  for (s in 1:3) {
    mr ← resl[grepl(thisdata, data) & agelb == (10:12)[s] & reg ≥ 4 & reg != 5, ]
    nr0 ← nR[grepl(thisdata, data) & agelb == (10:12)[s] & reg ≥ 4 & reg != 5, ]
    enr0 ← enr00[grepl(thisdata, data) & agelb == (10:12)[s], ]
    enr0[, EnRate := formatC(EnRate, digits = 4, format = "f")]
    for (m in 1:4) {
      # tabulate by specification
      main ← rbind(
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("^B", inference), Es
        ,
        unlist(mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("Z", inference
        ,
        unlist(mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("B", inference
      )
      sib ←  rbind(
         mr[grepl(aghh.defs[m], agdef)  & grepl("SibF.*H.*yr", Coef) & grepl("BR", infer
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("Z", inferen
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("B", inferen
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("BR", infere
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("Z", inferen
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("B", inferen
       )
       sib ← cbind("", "", "", sib[, 1:3], sib[, 4:6])
       nr ← rbind(
          formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), R], digits = 4,
        , formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), Yes], digits = (
        , formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), n], digits = 0,
       )
       enr ← matrix(
         enr0[grepl(aghh.defs[m], agdef), ][order(HHtype, agHH, tee), EnRate]
         , byrow = F, nrow = 4)
       enr ← enr[, rep(1:3, 3)]
       main ← rbind(main, sib, nr, enr)
       assign(paste0("main", m), main)
    }
    # ii = 1: 3 specs * 2 HHtypes = spec 1 all, spec 1 direct off, spec 2 all, ...
    mrtab ← rbind(main1, main2, main3, main4)
    mrtab ←
      cbind(
          rep(c(
            "Agricultural households * year 2002",
            "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
            "\\underline{\\phantom{mm}} * Older sisters",
            "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
            "\\underline{\\phantom{mm}} * Older brothers",
```

```
            "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
            "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
            paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
              list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[1]])
             ), 4
          ),
        mrtab)
    SepCols ← c(3, 6)
    ltb ← latextab(mrtab, delimiterline = NULL,
        hcenter = c(3, rep(1.3, ncol(mrtab)-1)),
        hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
        hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
        headercolor = NULL,
        adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
        addseparatingcols = SepCols, separatingcolwidth = rep(.1, 2),
        separatingcoltitle = c("\\textsf{Specification 1}", "\\textsf{Specification 2}"
      )
    ltb ← c(
      ltb[1], "\\hline",
      ltb[2:grep("cline", ltb), ],
      paste0(
        "&\\textsf{Boys} & \\textsf{Girls} & \\textsf{Boys+girls}",
        paste(rep("&&\\textsf{Boys} & \\textsf{Girls} & \\textsf{Boys+girls}", 2), colla
        , "\\\\"),
      "&\\multicolumn{11}{l}{}\\\\",
      paste("AgHH def:", aghh.defs[1], "&",
        gsub("3\\)", "3)&", gsub("6\\)", "6)&", paste(paste0("(", 1:9, ")", collapse = "
        ),
      ltb[(grep("cline", ltb)+2):(grep("M.*rol in 2", ltb)[1]), ],
      "&\\multicolumn{11}{l}{}\\\\",
      paste("AgHH def:", aghh.defs[2], "&",
        gsub("2\\)", "2)&", gsub("5\\)", "5)&", paste(paste0("(", 1:9+9, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[2]):(grep("M.*rol in 2", ltb)[2]), ],
      "&\\multicolumn{11}{l}{}\\\\",
      paste("AgHH def:", aghh.defs[3], "&",
        gsub("1\\)", "1)&", gsub("4\\)", "4)&", paste(paste0("(", 1:9+18, ")", collapse
        ),
      ltb[(grep("^Ag", ltb)[3]):(grep("M.*rol in 2", ltb)[3]), ],
      "&\\multicolumn{11}{l}{}\\\\",
      paste("AgHH def:", aghh.defs[4], "&",
        gsub("0\\)", "0)&", gsub("3\\)", "3)&", paste(paste0("(", 1:9+27, ")", collapse
        ),
      ltb[(grep("^Ag", ltb)[4]):(grep("M.*rol in 2", ltb)[4]), ], "\\hline",
        ltb[nrow(ltb), ]
      )
    ltb ← gsub("CI \\(.*?\\)", "", ltb)
    ltb ← gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
    ltb ← gsub("households", "HHs", ltb)
    ltb ← gsub("Number of ol", "Ol", ltb)
    ltb ← ltb[!grepl("Raw", ltb)]
    write.tablev(ltb
      , paste0(pathsaveThisVer, c("Main", "Placebo")[ii], c(1999, 2002)[jj], "Older", 
          "ByGenderByAgHHdefResults_Table.tex")
      , colnamestrue = F)
  } # s
```

```
  } # data
} # main/placebo

Res ← qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
ii ← 2
agyr ← paste0("^agHH.yr|Sib.*H.*", (2:3)[ii], "$")
resl ← Res[grepl(agyr, Coef) & grepl("s.g", gender) &
  grepl(c("main", "placebo")[ii], objective),
  .(Coef, data, agdef, agelb, reg, HHtype, inference, beta, p, CI_L, CI_U)][
  order(data, HHtype, reg, agdef, inference)]
nR ← NR[grepl("s.g", gender) & grepl("^B", inference), ]
enr00 ← Enr[grepl("s.g", gender) & grepl("^B", inference),]
resl[, Estimate := formatC(beta, digits = 4, format = "f")]
resl[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
resl[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), ")}")]
AddStar ← T
if (AddStar) {
  resl[, est := Estimate]
  resl[, Estimate := paste0(est, "^{\\phantom{***}}")]
  resl[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  resl[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  resl[p < .01, Estimate := paste0(est, "^{***}")]
  resl[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  resl[, est := NULL]
}
# main/placebo results
options(width=120)
setkey(resl, data, Coef, agdef, agelb, reg, HHtype)
for (jj in 1:2) {
  thisdata ← c("Ep.1", "Ep.2")[jj]
  for (s in 1:3) {
    mr ← resl[grepl(thisdata, data) & agelb == (10:12)[s] & reg ≥ 4 & reg != 5, ]
    nr0 ← nR[grepl(thisdata, data) & agelb == (10:12)[s] & reg ≥ 4 & reg != 5, ]
    enr0 ← enr00[grepl(thisdata, data) & agelb == (10:12)[s], ]
    enr0[, EnRate := formatC(EnRate, digits = 4, format = "f")]
    for (m in 1:4) {
      # tabulate by specification
      main ← rbind(
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("^B", inference), Estin
        ,
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("Z", inference), ci]
        ,
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("^B", inference), ci]
      )
      sib ←  rbind(
         mr[grepl(aghh.defs[m], agdef)  & grepl("SibF.*H.*yr", Coef) & grepl("BR", inferen
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("Z", inference
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("B", inference
```

```
              ,
              mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("BR", inferenc
              ,
              mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("Z", inference
              ,
              mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("B", inference
            )
            if (ncol(main) == 9)
              sib ← cbind("", "", "", sib[, 1:2], "", sib[, 3:4], "") else
              sib ← cbind("", "", sib)
            nr ← rbind(
                formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), R], digits = 4, fo
              , formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), Yes], digits = 0,
              , formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), n], digits = 0, fo
            )
            enr ← matrix(
              enr0[grepl(aghh.defs[m], agdef), ][order(HHtype, agHH, tee), EnRate]
              , byrow = F, nrow = 4)
            if (ncol(main) == 9) enr ← enr[, rep(1:3, 3)] else enr ← enr[, rep(1:2, 3)]
            main ← rbind(main, sib, nr, enr)
            assign(paste0("main", m), main)
        }
        # ii = 1: 3 specs * 2 HHtypes = spec 1 all, spec 1 direct off, spec 2 all, ...
        mrtab ← rbind(main1, main2, main3, main4)
        mrtab ←
          cbind(
              rep(c(
                "Agricultural households * year 2002",
                "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
                "\\underline{\\phantom{mm}} * Older sisters",
                "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
                "\\underline{\\phantom{mm}} * Older brothers",
                "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
                "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
                paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
                  list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[1]])
                ), 4
              ),
            mrtab)
        if (ncol(main)==9) SepCols ← c(3, 6) else SepCols ← c(2, 4)
        ltb ← latextab(mrtab, delimiterline = NULL,
            hcenter = c(3, rep(1.3, ncol(mrtab)-1)),
            hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
            hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
            headercolor = NULL,
            adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
            addseparatingcols = SepCols, separatingcolwidth = rep(.1, 2),
            separatingcoltitle = c("\\textsf{Specification 1}", "\\textsf{Specification 2}", "
          )
      if (ncol(main)==9)
        ltb ← c(
          ltb[1],
          "\\hline",
          ltb[2:grep("cline", ltb), ],
          paste0(
            "&\\textsf{All} & \\textsf{Direct} & \\textsf{ExOnly}",
```

```
        paste(rep("&&\\textsf{All} & \\textsf{Direct} & \\textsf{ExOnly}", 2), collapse =
        , "\\\\"),
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[1], "&",
        gsub("3\\)", "3)&", gsub("6\\)", "6)&", paste(paste0("(", 1:9, ")", collapse = "&"
        ),
      ltb[(grep("cline", ltb)+2):(grep("M.*rol in 2", ltb)[1]), ],
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[2], "&",
        gsub("2\\)", "2)&", gsub("5\\)", "5)&", paste(paste0("(", 1:9+9, ")", collapse = "
        ),
      ltb[(grep("^Ag", ltb)[2]):(grep("M.*rol in 2", ltb)[2]), ],
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[3], "&",
        gsub("1\\)", "1)&", gsub("4\\)", "4)&", paste(paste0("(", 1:9+18, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[3]):(grep("M.*rol in 2", ltb)[3]), ],
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[4], "&",
        gsub("0\\)", "0)&", gsub("3\\)", "3)&", paste(paste0("(", 1:9+27, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[4]):(grep("M.*rol in 2", ltb)[4]), ],
      "\\hline",
        ltb[nrow(ltb), ]
      ) else
    ltb ← c(
      ltb[1],
      "\\hline",
      ltb[2:grep("cline", ltb), ],
      paste0(
        "&\\textsf{All} & \\textsf{Direct}",
        paste(rep("&&\\textsf{All} & \\textsf{Direct}", 2), collapse = "")
        , "\\\\"),
      "&\\multicolumn{8}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[1], "&",
        gsub("2\\)", "2)&", gsub("4\\)", "4)&", paste(paste0("(", 1:6, ")", collapse = "&"
        ),
      ltb[(grep("cline", ltb)+2):(grep("M.*rol in 2", ltb)[1]), ],
      "&\\multicolumn{8}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[2], "&",
        gsub("8\\)", "8)&", gsub("0\\)", "0)&", paste(paste0("(", 1:6+6, ")", collapse = "
        ),
      ltb[(grep("^Ag", ltb)[2]):(grep("M.*rol in 2", ltb)[2]), ],
      "&\\multicolumn{8}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[3], "&",
        gsub("4\\)", "4)&", gsub("6\\)", "6)&", paste(paste0("(", 1:6+12, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[3]):(grep("M.*rol in 2", ltb)[3]), ],
      "&\\multicolumn{8}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[4], "&",
        gsub("0\\)", "0)&", gsub("2\\)", "2)&", paste(paste0("(", 1:6+18, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[4]):(grep("M.*rol in 2", ltb)[4]), ],
      "\\hline",
        ltb[nrow(ltb), ]
      )
```

```
    ltb ← gsub("CI \\(.*?\\)", "", ltb)
    ltb ← gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
    ltb ← gsub("households", "HHs", ltb)
    ltb ← gsub("Number of ol", "Ol", ltb)
    ltb ← ltb[!grepl("Raw", ltb)]
    write.tablev(ltb
      , paste0(pathsaveThisVer, "Placebo", c(1999, 2002)[jj], "Older", (10:12)[s], "ByHH
      , colnamestrue = F)
  } # s
} # data

Res ← qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
ii ← 2
agyr ← paste0("^agHH.yr|Sib.*H.*", (2:3)[ii], "$")
resl ← Res[grepl(agyr, Coef) & grepl("di", HHtype) &
  grepl(c("main", "placebo")[ii], objective),
  .(Coef, data, gender, agdef, agelb, reg, HHtype, inference, beta, p, CI_L, CI_U)][
  order(data, gender, reg, HHtype, agdef, inference)]
nR ← NR[grepl("di", HHtype) & grepl("^B", inference), ]
enr00 ← Enr[grepl("di", HHtype) & grepl("^B", inference),]
resl[, Estimate := formatC(beta, digits = 4, format = "f")]
resl[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
resl[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), ")}")]
resl[, gender := factor(gender, levels = genderitems)]
nR[, gender := factor(gender, levels = genderitems)]
enr00[, gender := factor(gender, levels = genderitems)]
AddStar ← T
if (AddStar) {
  resl[, est := Estimate]
  resl[, Estimate := paste0(est, "^{\\phantom{***}}")]
  resl[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  resl[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  resl[p < .01, Estimate := paste0(est, "^{***}")]
  resl[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  resl[, est := NULL]
}
# main/placebo results
options(width=120)
setkey(resl, data, Coef, agelb, reg, gender)
for (jj in 1:2) {
  thisdata ← c("Ep.1", "Ep.2")[jj]
  for (s in 1:3) {
    mr ← resl[grepl(thisdata, data) & agelb == (10:12)[s] & reg ≥ 4 & reg != 5, ]
    nr0 ← nR[grepl(thisdata, data) & agelb == (10:12)[s] & reg ≥ 4 & reg != 5, ]
    enr0 ← enr00[grepl(thisdata, data) & agelb == (10:12)[s], ]
    enr0[, EnRate := formatC(EnRate, digits = 4, format = "f")]
    for (m in 1:4) {
      # tabulate by specification
      main ← rbind(
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("^B", inference), Estin
```

```
      ,
      unlist(mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("Z", inference),
      ,
      unlist(mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("B", inference),
    )
    sib <-  rbind(
      mr[grepl(aghh.defs[m], agdef)  & grepl("SibF.*H.*yr", Coef) & grepl("BR", inferen
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("Z", inference
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("B", inference
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("BR", inferenc
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("Z", inference
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("B", inference
    )
    sib <- cbind("", "", "", sib[, 1:3], sib[, 4:6])
    nr <- rbind(
      formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), R], digits = 4, fo
    , formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), Yes], digits = 0,
    , formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), n], digits = 0, fo
    )
    enr <- matrix(
      enr0[grepl(aghh.defs[m], agdef), ][order(HHtype, agHH, tee), EnRate]
      , byrow = F, nrow = 4)
    enr <- enr[, rep(1:3, 3)]
    main <- rbind(main, sib, nr, enr)
    assign(paste0("main", m), main)
  }
  # ii = 1: 3 specs * 2 HHtypes = spec 1 all, spec 1 direct off, spec 2 all, ...
  mrtab <- rbind(main1, main2, main3, main4)
  mrtab <-
    cbind(
      rep(c(
        "Agricultural households * year 2002",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "\\underline{\\phantom{mm}} * Older sisters",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "\\underline{\\phantom{mm}} * Older brothers",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
        paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
          list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[1]])
        ), 4
      ),
    mrtab)
  SepCols <- c(3, 6)
  ltb <- latextab(mrtab, delimiterline = NULL,
      hcenter = c(3, rep(1.3, ncol(mrtab)-1)),
      hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
      hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
      headercolor = NULL,
      adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
      addseparatingcols = SepCols, separatingcolwidth = rep(.1, 2),
```

```
        separatingcoltitle = c("\\textsf{Specification 1}", "\\textsf{Specification 2}", "
      )
    ltb <- c(
      ltb[1], "\\hline",
      ltb[2:grep("cline", ltb), ],
      paste0(
        "&\\textsf{boys} & \\textsf{girls} & \\textsf{boys+girls}",
        paste(rep("&&\\textsf{boys} & \\textsf{girls} & \\textsf{boys+girls}", 2), collaps
        , "\\\\"),
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[1], "&",
        gsub("3\\)", "3)&", gsub("6\\)", "6)&", paste(paste0("(", 1:9, ")", collapse = "&"
        ),
      ltb[(grep("cline", ltb)+2):(grep("M.*rol in 2", ltb)[1]), ],
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[2], "&",
        gsub("2\\)", "2)&", gsub("5\\)", "5)&", paste(paste0("(", 1:9+9, ")", collapse = "
        ),
      ltb[(grep("^Ag", ltb)[2]):(grep("M.*rol in 2", ltb)[2]), ],
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[3], "&",
        gsub("1\\)", "1)&", gsub("4\\)", "4)&", paste(paste0("(", 1:9+18, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[3]):(grep("M.*rol in 2", ltb)[3]), ],
      "&\\multicolumn{11}{1}{}\\\\",
      paste("AgHH def:", aghh.defs[4], "&",
        gsub("0\\)", "0)&", gsub("3\\)", "3)&", paste(paste0("(", 1:9+27, ")", collapse =
        ),
      ltb[(grep("^Ag", ltb)[4]):(grep("M.*rol in 2", ltb)[4]), ], "\\hline",
        ltb[nrow(ltb), ]
      )
    ltb <- gsub("CI \\(.*?\\)", "", ltb)
    ltb <- gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
    ltb <- gsub("households", "HHs", ltb)
    ltb <- gsub("Number of ol", "Ol", ltb)
    ltb <- ltb[!grepl("Raw", ltb)]
    write.tablev(ltb
      , paste0(pathsaveThisVer, "Placebo", c(1999, 2002)[jj], "Older", (10:12)[s],
          "ByGenderByAgHHdefResults_Table.tex")
      , colnamestrue = F)
  } # s
} # data

Res <- qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr <- qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR <- qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
ii <- 1
agyr <- paste0("^agHH.yr|Sib.*H.*", (2:3)[ii], "$")
resl <- Res[grepl(agyr, Coef) & grepl(c("main", "placebo")[ii], objective),
  .(Coef, data, gender, agdef, agelb, reg, HHtype, inference, beta, p, CI_L, CI_U)][
  order(data, gender, reg, HHtype, agdef, inference)]
resl[, Estimate := formatC(beta, digits = 4, format = "f")]
resl[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
resl[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
```

```
  formatC(CI_L, digits = 3, format = ”f”), ”, ”,
  formatC(CI_U, digits = 3, format = ”f”), ”)}”)]
AddStar ← T
if (AddStar) {
  resl[, est := Estimate]
  resl[, Estimate := paste0(est, ”^{\\phantom{∗∗∗}}”)]
  resl[p < .1, Estimate := paste0(est, ”^{∗\\phantom{∗∗}}”)]
  resl[p < .05, Estimate := paste0(est, ”^{∗∗\\phantom{∗}}”)]
  resl[p < .01, Estimate := paste0(est, ”^{∗∗∗}”)]
  resl[est > 0, Estimate := paste0(”\\phantom{−}”, Estimate)]
  resl[, est := NULL]
}
# main/placebo results
options(width=120)
for (s in 1:3) {
  mr ← resl[agelb == (10:12)[s] & grepl(”m”, data) & reg ≥ 4 & reg != 5 &
    grepl(”b.∗g”, gender) & grepl(”di”, HHtype), ]
  nR ← NR[agelb == (10:12)[s] & grepl(”m”, data) & reg ≥ 4 & reg != 5
    & grepl(”^B”, inference) & grepl(”b.∗g”, gender) & grepl(”di”, HHtype), ]
  enr0 ← Enr[agelb == (10:12)[s] & grepl(”m”, data)
    & grepl(”B”, inference) & grepl(”b.∗g”, gender) & grepl(”di”, HHtype), ]
  enr0[, EnRate := formatC(EnRate, digits = 4, format = ”f”)]
  for (m in c(1, 3)) {
    # tabulate by specification
    main ← rbind(
      mr[grepl(aghh.defs[m], agdef) & grepl(”^ag”, Coef) & grepl(”^B”, inference), Estimat
      ,
      unlist(mr[grepl(aghh.defs[m], agdef) & grepl(”^ag”, Coef) & grepl(”Z”, inference), c
      ,
      unlist(mr[grepl(aghh.defs[m], agdef) & grepl(”^ag”, Coef) & grepl(”B”, inference), c
    )
    sib ←  rbind(
      mr[grepl(aghh.defs[m], agdef)  & grepl(”SibF.∗H.∗yr”, Coef) & grepl(”BR”, inference
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl(”SibF.∗H.∗yr”, Coef) & grepl(”Z”, inference),
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl(”SibF.∗H.∗yr”, Coef) & grepl(”B”, inference),
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl(”SibM.∗H.∗yr”, Coef) & grepl(”BR”, inference)
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl(”SibM.∗H.∗yr”, Coef) & grepl(”Z”, inference),
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl(”SibM.∗H.∗yr”, Coef) & grepl(”B”, inference),
    )
    sib ← cbind(””, sib)
    nr ← rbind(
      formatC(nR[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), R], digits = 4, forma
    , formatC(nR[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), Yes], digits = 0, for
    , formatC(nR[grepl(aghh.defs[m], agdef), ][order(reg, HHtype), n], digits = 0, forma
    )
    enr ← matrix(
      enr0[grepl(aghh.defs[m], agdef), ][order(HHtype, agHH, tee), EnRate]
      , byrow = F, nrow = 4)
    enr ← enr[, rep(1, 3)]
    main ← rbind(main, sib, nr, enr)
    assign(paste0(”main”, m), main)
```

```
}
mrtab ← cbind(main1, main3)
mrtab ←
  cbind(
      rep(c(
        "Agricultural households * year 2002",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "\\underline{\\phantom{mm}} * Older sisters",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "\\underline{\\phantom{mm}} * Older brothers",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
        paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
          list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[1]])
         ), 1
      ),
     mrtab)
SepCols ← 3
ltb ← latextab(mrtab, delimiterline = NULL,
     hcenter = c(3, rep(1.3, ncol(mrtab)-1)),
     hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
     hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
     headercolor = NULL,
     adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
     addseparatingcols = SepCols, separatingcolwidth = rep(.1, length(SepCols)),
     separatingcoltitle = c("\\textsf{Agricultural households}", "\\textsf{Agricultural h
  )
ltb ← c(
  ltb[1],
  "\\hline",
  ltb[2:grep("cline", ltb), ],
  "&\\multicolumn{7}{1}{}\\\\",
  paste("&",
     gsub("3\\)", "3)&", paste(paste0("(", 1:6, ")", collapse = "&"), "\\\\"))
     ),
  ltb[(grep("cline", ltb)+2):(grep("BRL", ltb)[3]), ],
  paste("Demographic fixed trends",
     gsub("\\&$", "\\\\\\\\",
     paste(rep(paste(paste(rep("& \\mbox{\\scriptsize Yes}", 3), collapse = ""), "&"), 2)
     ),
  paste("Other household fixed trends&",
     paste(rep(paste(rep("& \\mbox{\\scriptsize Yes}", 2), collapse = ""), 2), collapse =
     "\\\\"),
  paste("Thana fixed trends&",
     paste(rep("&&\\mbox{\\scriptsize Yes}", 2), collapse = "&&"),
     "\\\\"),
  ltb[(grep("BRL", ltb)[3]+1):(grep("M.*rol in 2", ltb)), ],
  "\\hline",
     ltb[nrow(ltb), ]
  )
ltb ← gsub("CI \\(.*?\\)", "", ltb)
ltb ← gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
ltb ← gsub("households", "HHs", ltb)
ltb ← gsub("Number of ol", "Ol", ltb)
N1 ← gsub("N.*?&", "", ltb[grepl("N: A", ltb)])
N1 ← gsub("\\\\", "", N1)
```

```
  N1 ← gsub(" ", "", N1)
  N1 ← unique(unlist(strsplit(N1, " ?\\& ?")))
  N1 ← N1[nchar(N1)>0]
  for (nn in 1:2)
    ltb ← gsub(paste0(N1[nn], ".*\\& ", N1[nn], collapse = ""),
      paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N1[nn], "}"), ltb)
  N2 ← gsub("N *\\&", "", ltb[grepl("N *\\&", ltb)])
  N2 ← gsub("\\\\", "", N2)
  N2 ← gsub(" ", "", N2)
  N2 ← unique(unlist(strsplit(N2, " ?\\& ?")))
  N2 ← N2[nchar(N2)>0]
  ltb[grepl(N2, ltb)] ←
    paste("N", paste(rep(paste("& \\multicolumn{3}{c}{\\scriptsize",  N2, "}"), 2), collap
  N3 ← gsub("Mean.*?\\&", "", ltb[grepl("Mean", ltb)])
  N3 ← gsub("\\&", "", N3)
  N3 ← gsub("\\\\\\\\", "", N3)
  N3 ← strsplit(N3, " +")
  N3 ← lapply(N3, unique)
  N3 ← lapply(N3, function(x) x[nchar(x)>0])
  for (mm in 1:3 )
    for (nn in 1:2)
      ltb ← gsub(paste0(N3[[mm]][nn], ".*", N3[[mm]][nn], collapse = ""),
        paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N3[[mm]][nn], "}"), ltb)
  ltb ← ltb[!grepl("Raw", ltb)]
  write.tablev(ltb
    , paste0(pathsaveThisVer, "MainResults", (10:12)[s], "WithInteractionsTable.tex")
    , colnamestrue = F)
  # for compact tables without triple interactions
  ltb ← ltb[-(grep("Older", ltb)+rep(0:2, 2))]
  write.tablev(ltb
    , paste0(pathsaveThisVer, "MainResults", (10:12)[s], "Table.tex")
    , colnamestrue = F)
}

Res ← qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
ii ← 1
agyr ← paste0("^agHH.yr|Sib.*H.*", (2:3)[ii], "$")
resl ← Res[grepl(agyr, Coef) & grepl(c("main", "placebo")[ii], objective),
  .(Coef, data, gender, agdef, agelb, reg, HHtype, inference, beta, p, CI_L, CI_U)][
  order(data, gender, reg, HHtype, agdef, inference)]
resl[, Estimate := formatC(beta, digits = 4, format = "f")]
resl[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
resl[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), ")}")]
AddStar ← T
if (AddStar) {
  resl[, est := Estimate]
  resl[, Estimate := paste0(est, "^{\\phantom{***}}")]
  resl[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  resl[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  resl[p < .01, Estimate := paste0(est, "^{***}")]
```

```
  resl[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  resl[, est := NULL]
}
# main/placebo results
options(width=120)
for (s in 1:3) {
  mr ← resl[agelb == (10:12)[s] & grepl("m", data) & reg ≥ 4 & reg != 5 &
    !grepl("b.*g", gender) & grepl("di", HHtype), ]
  nR ← NR[agelb == (10:12)[s] & grepl("m", data) & reg ≥ 4 & reg != 5
    & grepl("^B", inference) & !grepl("b.*g", gender) & grepl("di", HHtype), ]
  enr0 ← Enr[agelb == (10:12)[s] & grepl("m", data)
    & grepl("B", inference) & !grepl("b.*g", gender) & grepl("di", HHtype), ]
  enr0[, EnRate := formatC(EnRate, digits = 4, format = "f")]
  for (m in c(1, 3)) {
    # tabulate by specification
    main ← rbind(
      mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("^B", inference), Estimat
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("Z", inference), ci]
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("B", inference), ci]
    )
    sib ←  rbind(
      mr[grepl(aghh.defs[m], agdef)  & grepl("SibF.*H.*yr", Coef) & grepl("BR", inference
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("Z", inference),
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("B", inference),
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("BR", inference)
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("Z", inference),
      ,
      mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("B", inference),
    )
    sib ← cbind("", sib[, 1:2], "", sib[, 3:4])
    nr ← rbind(
      formatC(nR[grepl(aghh.defs[m], agdef), ][order(gender, reg), R], digits = 4, forma
     , formatC(nR[grepl(aghh.defs[m], agdef), ][order(gender, reg), Yes], digits = 0, for
     , formatC(nR[grepl(aghh.defs[m], agdef), ][order(gender, reg), n], digits = 0, forma
    )
    enr ← matrix(
      enr0[grepl(aghh.defs[m], agdef), ][order(gender, agHH, tee), EnRate]
      , byrow = F, nrow = 4)
    enr ← enr[, rep(1:2, each = 3)]
    main ← rbind(main, sib, nr, enr)
    assign(paste0("main", m), main)
  }
  mrtab ← rbind(main1, main3)
  mrtab ←
    cbind(
        rep(c(
          "Agricultural households * year 2002",
          "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
          "\\underline{\\phantom{mm}} * Older sisters",
          "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
```

```
        "\\underline{\\phantom{mm}} * Older brothers",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
        paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
          list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[1]])
         ), 2
      ),
    mrtab)
  SepCols ← 3
  ltb ← latextab(mrtab, delimiterline = NULL,
      hcenter = c(3, rep(1.3, ncol(mrtab)-1)),
      hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
      hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
      headercolor = NULL,
      adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
      addseparatingcols = SepCols, separatingcolwidth = rep(.1, length(SepCols)),
      separatingcoltitle = c("\\textsf{Boys}", "\\textsf{Girls}")
    )
  ltb ← c(
    ltb[1],
    "\\hline",
    ltb[2:grep("cline", ltb), ],
    "&\\multicolumn{7}{c}{\\scriptsize A. Agricultural household}\\\\",
    paste("&",
      gsub("3\\)", "3)&", paste(paste0("(", 1:6, ")", collapse = "&"), "\\\\"))
      ),
    ltb[(grep("cline", ltb)+2):(grep("BRL", ltb)[3]), ],
    paste("Demographic fixed trends",
      gsub("\\&$", "\\\\\\\\",
      paste(rep(paste(paste(rep("& \\mbox{\\scriptsize Yes}", 3), collapse = ""), "&"), 2
      ),
    paste("Other household fixed trends&",
      paste(rep(paste(rep("& \\mbox{\\scriptsize Yes}", 2), collapse = ""), 2), collapse =
      "\\\\"),
    paste("Thana fixed trends&",
      paste(rep("&&\\mbox{\\scriptsize Yes}", 2), collapse = "&&"),
      "\\\\"),
    ltb[(grep("BRL", ltb)[3]+1):(grep("M.*rol in 2", ltb)[1]), ],
    "&\\multicolumn{7}{c}{\\scriptsize B. Agricultural household (head)}\\\\",
    paste("&",
      gsub("9\\)", "9)&", paste(paste0("(", 1:6+6, ")", collapse = "&"), "\\\\"))
      ),
    ltb[(grep("M.*rol in 2", ltb)[1]+1):(nrow(ltb)-1), ],
    "\\hline",
      ltb[nrow(ltb), ]
    )
  ltb ← gsub("CI \\(.*?\\)", "", ltb)
  ltb ← gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
  ltb ← gsub("households", "HHs", ltb)
  ltb ← gsub("Number of ol", "Ol", ltb)
  N1 ← gsub("N.*?&", "", ltb[grepl("N: A", ltb)])
  N1 ← gsub("\\\\", "", N1)
  N1 ← gsub(" ", "", N1)
  N1 ← unique(unlist(strsplit(N1, " ?\\& ?")))
  N1 ← N1[nchar(N1)>0]
  for (nn in 1:4)
```

```
    ltb ← gsub(paste0(N1[nn], ".∗\\& ", N1[nn], collapse = ""),
      paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N1[nn], "}"), ltb)
  N2 ← gsub("N ∗\\&", "", ltb[grepl("N ∗\\&", ltb)])
  N2 ← gsub("\\\\", "", N2)
  N2 ← gsub(" ", "", N2)
  N2 ← unique(unlist(strsplit(N2, " ?\\& ?")))
  N2 ← N2[nchar(N2)>0]
  ltb[grep(N2[1], ltb)] ←
      paste("N", paste(
      paste("& \\multicolumn{3}{c}{\\scriptsize",  N2, "}")
      , collapse = "&"), "\\\\")
  N3 ← gsub("Mean.∗?\\&", "", ltb[grepl("Mean", ltb)])
  N3 ← gsub("\\&", "", N3)
  N3 ← gsub("\\\\\\\\", "", N3)
  N3 ←  strsplit(N3, " +")
  N3 ← lapply(N3, unique)
  N3 ← lapply(N3, function(x) x[nchar(x)>0])
  for (mm in 1:8)
    for (nn in 1:2)
      ltb ← gsub(paste0(N3[[mm]][nn], ".∗", N3[[mm]][nn], collapse = ""),
        paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N3[[mm]][nn], "}"), ltb)
  ltb ← ltb[!grepl("Raw", ltb)]
  write.tablev(ltb
    , paste0(pathsaveThisVer, "MainGenderResults", (10:12)[s], "WithInteractionsTable.tex
    , colnamestrue = F)
  # for compact tables without triple interactions
  ninter ← length(grep("Older", ltb))
  ltb ← ltb[-(grep("Older", ltb)+rep(0:2, ninter))]
  ltb ← ltb[-(grep("B. A", ltb):grep("^Me.∗rol.∗02 \\&", ltb)[2])]
  ltb ← ltb[-(grep("A. A", ltb))]
  write.tablev(ltb
    , paste0(pathsaveThisVer, "MainGenderResults", (10:12)[s], "Table.tex")
    , colnamestrue = F)
}

Res ← qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
ii ← 1
agyr ← paste0("^agHH.yr|Sib.∗H.∗", (2:3)[ii], "$")
resl ← Res[grepl(agyr, Coef) & grepl(c("main", "placebo")[ii], objective)
  & grepl("^d", HHtype) & grepl("m", data) & agelb == 10 & grepl("4|6|7", reg),
  .(Coef, data, gender, agdef, agelb, reg, HHtype, inference, beta, p, CI_L, CI_U)][
  order(data, gender, reg, agdef, inference)]
nR ← NR[grepl(c("main", "placebo")[ii], objective) & grepl("B", inference)
  & grepl("^d", HHtype) & grepl("m", data) & agelb == 10 & grepl("4|6|7", reg), ]
enr0 ← Enr[grepl(c("main", "placebo")[ii], objective)
  & grepl("^d", HHtype) & grepl("m", data) & agelb == 10 & grepl("B", inference), ]

resl[, Estimate := formatC(beta, digits = 4, format = "f")]
resl[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 2, format = "f"), ", ",
  formatC(CI_U, digits = 2, format = "f"), "]}")]
resl[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 2, format = "f"), ", ",
  formatC(CI_U, digits = 2, format = "f"), ")}")]
```

```r
AddStar ← T
if (AddStar) {
  resl[, est := Estimate]
  resl[, Estimate := paste0(est, "^{\\phantom{***}}")]
  resl[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  resl[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  resl[p < .01, Estimate := paste0(est, "^{***}")]
  resl[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  resl[, est := NULL]
}
setkey(resl, data, agdef, reg, gender)
setkey(nR, data, agdef, reg, gender)
setkey(enr0, data, agdef, gender)
# main/placebo results
options(width=120)
for (m in 1:4) {
  mr ← resl[grepl(aghh.defs[m], agdef), ]
  nr ← nR[grepl(aghh.defs[m], agdef), ]
  enr1 ← enr0[grepl(aghh.defs[m], agdef), ]
  enr1[, EnRate := formatC(EnRate, digits = 4, format = "f")]
  # tabulate by specification
  main ← rbind(
    mr[grepl("^ag", Coef) & grepl("^B", inference), Estimate]
    ,
    mr[grepl("^ag", Coef) & grepl("Z", inference), ci]
    ,
    mr[grepl("^ag", Coef) & grepl("B", inference), ci]
  )
  sib ←  rbind(
     mr[grepl("SibF.*H.*yr", Coef) & grepl("BR", inference), Estimate]
     ,
     mr[grepl("SibF.*H.*yr", Coef) & grepl("Z", inference), ci]
     ,
     mr[grepl("SibF.*H.*yr", Coef) & grepl("B", inference), ci]
     ,
     mr[grepl("SibM.*H.*yr", Coef) & grepl("BR", inference), Estimate]
     ,
     mr[grepl("SibM.*H.*yr", Coef) & grepl("Z", inference), ci]
     ,
     mr[grepl("SibM.*H.*yr", Coef) & grepl("B", inference), ci]
   )
   sib ← cbind("", "", "", sib)
   nr ← rbind(
       formatC(nR[grepl(aghh.defs[m], agdef), R], digits = 4, format = "f")
     , formatC(nR[grepl(aghh.defs[m], agdef), Yes], digits = 0, format = "f")
     , formatC(nR[grepl(aghh.defs[m], agdef), n], digits = 0, format = "f")
   )
   enr ← matrix(
     enr1[grepl(aghh.defs[m], agdef), EnRate]
     , byrow = F, nrow = 4)
   enr ← enr[, rep(1:3, each = 3)]
   main ← rbind(main, sib, nr, enr)
   assign(paste0("main", m), main)
}
mrtab ← rbind(main1, main2, main3, main4)
mrtab ←
```

```
  cbind(
      rep(c(
        "Agricultural * year 2002",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "\\underline{\\phantom{mm}} * Older sisters",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "\\underline{\\phantom{mm}} * Older brothers",
        "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
        "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
        paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
          list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[1]])
         ), 4
      ),
   mrtab)
SepCols ← c(3, 6)
ltb ← latextab(mrtab, delimiterline = NULL,
    hcenter = c(3, rep(1.1, ncol(mrtab)-1)),
    hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
    hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
    headercolor = NULL,
    adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
    addseparatingcols = SepCols, separatingcolwidth = rep(.1, length(SepCols)),
    separatingcoltitle = c("\\textsf{Specification 1}", "\\textsf{Specification 2}", "\\te
  )
ltb ← c(
  ltb[1],
  "\\hline",
  ltb[2:grep("cline", ltb), ],
  paste0("&", paste(rep("\\textsf{Boys}&\\textsf{Girls}&\\textsf{Boys+Girls}", 3), collaps
  "&\\multicolumn{11}{c}{\\scriptsize A. Agricultural household}\\\\",
  paste("&",
    gsub("6\\)", "6)&", gsub("3\\)", "3)&", paste(paste0("(", 1:9, ")", collapse = "&"))))
  ltb[(grep("cline", ltb)+2):(grep("BRL", ltb)[3]), ],
  paste("Demographic fixed trends",
    gsub("\\&$", "\\\\\\\\",
    paste(rep(paste(paste(rep("& \\mbox{\\scriptsize Yes}", 3), collapse = ""), "&"), 2),
    ),
  paste("Other household fixed trends&",
    paste(rep(paste(rep("& \\mbox{\\scriptsize Yes}", 2), collapse = ""), 2), collapse = "
    "\\\\"),
  paste("Thana fixed trends&",
    paste(rep("&&\\mbox{\\scriptsize Yes}", 2), collapse = "&&"),
    "\\\\"),
  ltb[(grep("BRL", ltb)[3]+1):(grep("M.*rol in 2", ltb)[1]), ],
  "&\\multicolumn{11}{c}{\\scriptsize B. Agricultural household (head)}\\\\",
  paste("&",
    gsub("5\\)", "5)&", gsub("2\\)", "2)&", paste(paste0("(", 1:9+9, ")", collapse = "&"))
  ltb[(grep("M.*rol in 2", ltb)[1]+1):(grep("^Ag", ltb)[3]-1), ],
  "&\\multicolumn{11}{c}{\\scriptsize C. Agricultural household (income)}\\\\",
  paste("&",
    gsub("4\\)", "4)&", gsub("1\\)", "1)&", paste(paste0("(", 1:9+18, ")", collapse = "&"
  ltb[(grep("M.*rol in 2", ltb)[2]+1):(grep("^Ag", ltb)[4]-1), ],
  "&\\multicolumn{11}{c}{\\scriptsize D. Agricultural household (occupation)}\\\\",
  paste("&",
    gsub("3\\)", "3)&", gsub("0\\)", "0)&", paste(paste0("(", 1:9+27, ")", collapse = "&"
  ltb[(grep("M.*rol in 2", ltb)[3]+1):(nrow(ltb)-1), ],
```

```
  "\\hline",
    ltb[nrow(ltb), ]
  )
ltb ← gsub("CI \\(.*?\\)", "", ltb)
ltb ← gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
ltb ← gsub("households", "HHs", ltb)
ltb ← gsub("Number of ol", "Ol", ltb)
ltb ← ltb[-(grep("^N ", ltb)[-4])]
N3 ← gsub("Mean.*?\\&", "", ltb[grepl("Mean", ltb)])
N3 ← gsub("\\&", "", N3)
N3 ← gsub("\\\\\\\\", "", N3)
N3 ← strsplit(N3, " +")
N3 ← lapply(N3, unique)
N3 ← lapply(N3, function(x) x[nchar(x)>0])
for (mm in 1:16)
  for (nn in 1:3)
    ltb ← gsub(paste0(N3[[mm]][nn], ".*", N3[[mm]][nn], collapse = ""),
      paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N3[[mm]][nn], "}"), ltb)
ltb ← ltb[!grepl("Raw", ltb)]
write.tablev(ltb
  , paste0(pathsaveThisVer, "MainGenderByAgdefResults10WithInteractionsTable.tex")
  , colnamestrue = F)
# for compact tables without triple interactions
ninter ← length(grep("Older", ltb))
ltb2 ← ltb[-(grep("Older", ltb)+rep(0:2, ninter))]
write.tablev(ltb2
  , paste0(pathsaveThisVer, "MainGenderByAgdefResults10Table.tex")
  , colnamestrue = F)
```

```
Res ← qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR ← qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
ii ← 2
agyr ← paste0("^agHH.yr|Sib.*H.*", (2:3)[ii], "$")
resl ← Res[grepl(agyr, Coef) & grepl("s.g", gender) & grepl("di", HHtype) &
  grepl(c("main", "placebo")[ii], objective),
  .(Coef, data, agdef, agelb, gender, reg, inference, beta, p, CI_L, CI_U)][
  order(data, gender, reg, agdef, inference)]
nR ← NR[grepl("s.g", gender) & grepl("^d", HHtype) & grepl("^B", inference), ]
enr00 ← Enr[grepl("s.g", gender) & grepl("^d", HHtype) & grepl("^B", inference),]
resl[, Estimate := formatC(beta, digits = 4, format = "f")]
resl[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
resl[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), ")}")]
AddStar ← T
if (AddStar) {
  resl[, est := Estimate]
  resl[, Estimate := paste0(est, "^{\\phantom{***}}")]
  resl[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  resl[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  resl[p < .01, Estimate := paste0(est, "^{***}")]
  resl[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  resl[, est := NULL]
```

```
}
# main/placebo results
options(width=120)
setkey(resl, data, Coef, agdef, agelb, reg)
for (jj in 1:2) {
  thisdata ← c("Ep.1", "Ep.2")[jj]
  for (s in 1:3) {
    mr ← resl[grepl(thisdata, data) & agelb == (10:12)[s] & reg ≥ 4 & reg != 5, ]
    nr0 ← nR[grepl(thisdata, data) & agelb == (10:12)[s] & reg ≥ 4 & reg != 5, ]
    enr0 ← enr00[grepl(thisdata, data) & agelb == (10:12)[s], ]
    enr0[, EnRate := formatC(EnRate, digits = 4, format = "f")]
    for (m in c(1, 3)) {
      # tabulate by specification
      main ← rbind(
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("^B", inference), Estin
        ,
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("Z", inference), ci]
        ,
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("^B", inference), ci]
      )
      sib ←  rbind(
         mr[grepl(aghh.defs[m], agdef)  & grepl("SibF.*H.*yr", Coef) & grepl("BR", inferen
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("Z", inference
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("B", inference
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("BR", inferenc
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("Z", inference
         ,
         mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("B", inference
       )
       sib ← cbind("", sib)
       nr ← rbind(
          formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg), R], digits = 4, format = '
        , formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg), Yes], digits = 0, format =
        , formatC(nr0[grepl(aghh.defs[m], agdef), ][order(reg), n], digits = 0, format = '
       )
       enr ← matrix(
         enr0[grepl(aghh.defs[m], agdef), ][order(agHH, tee), EnRate]
         , byrow = F, nrow = 4)
       enr ← enr[, rep(1, 3)]
       main ← rbind(main, sib, nr, enr)
       assign(paste0("main", m), main)
    }
    mrtab ← cbind(main1, main3)
    mrtab ←
      cbind(
          rep(c(
            "Agricultural households * year 2002",
            "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
            "\\underline{\\phantom{mm}} * Older sisters",
            "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
            "\\underline{\\phantom{mm}} * Older brothers",
            "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
```

```
            "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
            paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
              list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[jj]])
             ), 1
          ),
        mrtab)
    SepCols ← 3
    ltb ← latextab(mrtab, delimiterline = NULL,
        hcenter = c(3, rep(1.3, ncol(mrtab)-1)),
        hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
        hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
        headercolor = NULL,
        adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
        addseparatingcols = SepCols, separatingcolwidth = rep(.1, length(SepCols)),
        separatingcoltitle = c("\\textsf{Agricultural household}", "\\textsf{Agricultural
      )
    assign(paste0("ltb", jj, s), ltb)
  } # s
} # jj: data
for (s in 1:3) {
  ltb1 ← get(paste0("ltb", 1, s))
  ltb2 ← get(paste0("ltb", 2, s))
  ltb ← c(
    ltb1[1],
    "\\hline",
    ltb1[2:grep("cline", ltb), ],
    "&\\multicolumn{7}{c}{\\scriptsize A. 1999 cohort}\\\\",
    paste("&", gsub("3\\)", "3)&", paste(paste0("(", 1:6, ")", collapse = "&"), "\\\\"))),
    ltb1[(grep("cline", ltb1)+2):(grep("M.*rol in 2", ltb1)), ],
    "&\\multicolumn{7}{c}{\\scriptsize B. 2002 cohort}\\\\",
    paste("&", gsub("9\\)", "9)&", paste(paste0("(", 1:6+6, ")", collapse = "&"), "\\\\"))
    ltb2[(grep("^Ag", ltb2)):(grep("M.*rol .*6", ltb2)), ],
    "\\hline",
    ltb1[nrow(ltb1), ]
  )
  ltb ← gsub("CI \\(.*?\\)", "", ltb)
  ltb ← gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
  ltb ← gsub("households", "HHs", ltb)
  ltb ← gsub("Number of ol", "Ol", ltb)
  N1 ← gsub("N.*?&", "", ltb[grepl("N: A", ltb)])
  N1 ← gsub("\\\\", "", N1)
  N1 ← gsub(" ", "", N1)
  N1 ← unique(unlist(strsplit(N1, " ?\\& ?")))
  N1 ← N1[nchar(N1)>0]
  for (nn in 1:length(N1))
    ltb ← gsub(paste0(N1[nn], ".*\\& ", N1[nn], collapse = ""),
      paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N1[nn], "}"), ltb)
  N2 ← gsub("N *\\&", "", ltb[grepl("N *\\&", ltb)])
  N2 ← gsub("\\\\", "", N2)
  N2 ← gsub(" ", "", N2)
  N2 ← unique(unlist(strsplit(N2, " ?\\& ?")))
  N2 ← N2[nchar(N2)>0]
  for (nn in 1:length(N2))
    ltb[grep(paste0(" ", N2[nn], " "), ltb)] ←
      paste("N", paste(rep(paste(
      paste("& \\multicolumn{3}{c}{\\scriptsize", N2[nn], "}")
```

```
         , collapse = "&"), 2), collapse = "&"), "\\\\")
  N3 <- gsub("Mean.*?\\&", "", ltb[grepl("Mean", ltb)])
  N3 <- gsub("\\&", "", N3)
  N3 <- gsub("\\\\\\\\", "", N3)
  N3 <- strsplit(N3, " +")
  N3 <- lapply(N3, unique)
  N3 <- lapply(N3, function(x) x[nchar(x)>0])
  for (mm in 1:8)
    for (nn in 1:2)
      ltb <- gsub(paste0(N3[[mm]][nn], ".*", N3[[mm]][nn], collapse = ""),
        paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N3[[mm]][nn], "}"), ltb)
  ltb <- ltb[!grepl("Raw", ltb)]
  write.tablev(ltb
    , paste0(pathsaveThisVer, "Placebo", (10:12)[s], "AgHHWithInteractionsResults.tex")
    , colnamestrue = F)
  # for compact tables without triple interactions
  ninter <- length(grep("Older", ltb))
  ltb <- ltb[-(grep("Older", ltb)+rep(0:2, ninter))]
  write.tablev(ltb
    , paste0(pathsaveThisVer, "Placebo", (10:12)[s], "AgHHResults.tex")
    , colnamestrue = F)
}
```

```
Res <- qread(paste0(pathsaveThisVer, "TabulatedAllResults.qs"))
Enr <- qread(paste0(pathsaveThisVer, "TabulatedAllResultsEnr.qs"))
NR <- qread(paste0(pathsaveThisVer, "TabulatedAllResultsNR.qs"))
ii <- 2
agyr <- paste0("^agHH.yr|Sib.*H.*", (2:3)[ii], "$")
resl <- Res[grepl(agyr, Coef) & !grepl("s.g", gender) & grepl("di", HHtype) &
  grepl(c("main", "placebo")[ii], objective),
  .(Coef, data, agdef, agelb, gender, reg, inference, beta, p, CI_L, CI_U)][
  order(data, gender, reg, agdef, inference)]
nR <- NR[!grepl("s.g", gender) & grepl("^d", HHtype)
   & grepl("^B", inference) & is.na(agegroup) & grepl("pl", objective), ]
enr00 <- Enr[!grepl("s.g", gender) &  grepl("^d", HHtype)
  & grepl("^B", inference) & is.na(agegroup) & grepl("pl", objective),]
resl[, Estimate := formatC(beta, digits = 4, format = "f")]
resl[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
resl[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), ")}")]
AddStar <- T
if (AddStar) {
  resl[, est := Estimate]
  resl[, Estimate := paste0(est, "^{\\phantom{***}}")]
  resl[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  resl[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  resl[p < .01, Estimate := paste0(est, "^{***}")]
  resl[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  resl[, est := NULL]
}
# main/placebo results
options(width=120)
setkey(resl, data, Coef, agdef, agelb, gender, reg)
```

```
setkey(nR, data, agdef, agelb, gender, reg)
for (m in c(1, 3)) {
  for (jj in 1:2) {
    thisdata ← c("Ep.1", "Ep.2")[jj]
    for (s in 1:3) {
      mr ← resl[grepl(thisdata, data) & agelb == (10:12)[s] & reg ≥ 4 & reg != 5, ]
      nr0 ← nR[grepl(thisdata, data) & agelb == (10:12)[s] & reg ≥ 4 & reg != 5, ]
      enr0 ← enr00[grepl(thisdata, data) & agelb == (10:12)[s], ]
      enr0[, EnRate := formatC(EnRate, digits = 4, format = "f")]
      main ← rbind(
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("^B", inference), Estin
        ,
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("Z", inference), ci]
        ,
        mr[grepl(aghh.defs[m], agdef) & grepl("^ag", Coef) & grepl("^B", inference), ci]
      )
      sib ←  rbind(
          mr[grepl(aghh.defs[m], agdef)  & grepl("SibF.*H.*yr", Coef) & grepl("BR", inferen
          ,
          mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("Z", inference
          ,
          mr[grepl(aghh.defs[m], agdef) & grepl("SibF.*H.*yr", Coef) & grepl("B", inference
          ,
          mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("BR", inferenc
          ,
          mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("Z", inference
          ,
          mr[grepl(aghh.defs[m], agdef) & grepl("SibM.*H.*yr", Coef) & grepl("B", inference
      )
      sib ← cbind("", sib[, 1:2], "", sib[, 3:4])
      nr ← rbind(
          formatC(nr0[grepl(aghh.defs[m], agdef), ][order(gender, reg), R], digits = 4, fo
        , formatC(nr0[grepl(aghh.defs[m], agdef), ][order(gender, reg), Yes], digits = 0,
        , formatC(nr0[grepl(aghh.defs[m], agdef), ][order(gender, reg), n], digits = 0, fo
      )
      enr ← matrix(
          enr0[grepl(aghh.defs[m], agdef), ][order(gender, agHH, tee), EnRate]
          , byrow = F, nrow = 4)
      enr ← enr[, rep(1:2, each = 3)]
      main ← rbind(main, sib, nr, enr)
      mrtab ←
          cbind(
              rep(c(
                "Agricultural households * year 2006",
                "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
                "\\underline{\\phantom{mm}} * Older sisters",
                "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
                "\\underline{\\phantom{mm}} * Older brothers",
                "\\hspace{1em} CI (LZ)", "\\hspace{1em} CI (BRL)",
                "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
                paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
                  list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[2]])
                ), 1
              ),
            main)
      SepCols ← 3
```

```
      ltb ← latextab(mrtab, delimiterline = NULL,
          hcenter = c(3, rep(1.3, ncol(mrtab)-1)),
          hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
          hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
          headercolor = NULL,
          adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
          addseparatingcols = SepCols, separatingcolwidth = rep(.1, length(SepCols)),
          separatingcoltitle = c("\\textsf{Boys}", "\\textsf{Girls}")
       )
      assign(paste0("ltb", jj, m, s), ltb)
    } # s
  } # jj: data
} # m
for (m in c(1, 3)) {
  for (s in 1:3) {
    ltb1 ← get(paste0("ltb", 1, m, s))
    ltb2 ← get(paste0("ltb", 2, m, s))
    ltb ← c(
      ltb1[1],
      "\\hline",
      ltb1[2:grep("cline", ltb), ],
      "&\\multicolumn{7}{c}{\\scriptsize A. 1999 cohort}\\\\",
      paste("&", gsub("3\\)", "3)&", paste(paste0("(", 1:6, ")", collapse = "&"), "\\\\"))
      ltb1[(grep("cline", ltb1)+2):(grep("M.*rol in 2006", ltb1)), ],
      "&\\multicolumn{7}{c}{\\scriptsize B. 2002 cohort}\\\\",
      paste("&", gsub("9\\)", "9)&", paste(paste0("(", 1:6+6, ")", collapse = "&"), "\\\\
      ltb2[(grep("^Ag", ltb2)):(grep("M.*rol in 2006", ltb2)), ],
      "\\hline",
      ltb1[nrow(ltb1), ]
    )
    ltb ← gsub("CI \\(.*?\\)", "", ltb)
    ltb ← gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
    ltb ← gsub("households", "HHs", ltb)
    ltb ← gsub("Number of ol", "Ol", ltb)
    N1 ← gsub("N.*?&", "", ltb[grepl("N: A", ltb)])
    N1 ← gsub("\\\\", "", N1)
    N1 ← gsub(" ", "", N1)
    N1 ← unique(unlist(strsplit(N1, " ?\\& ?")))
    N1 ← N1[nchar(N1)>0]
    for (nn in 1:length(N1))
      ltb ← gsub(paste0(N1[nn], ".*\\& ", N1[nn], collapse = ""),
        paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N1[nn], "}"), ltb)
    N2 ← gsub("N *\\&", "", ltb[grepl("N *\\&", ltb)])
    N2 ← gsub("\\\\", "", N2)
    N2 ← gsub(" ", "", N2)
    N2 ← unique(unlist(strsplit(N2, " ?\\& ?")))
    N2 ← N2[nchar(N2)>0]
    for (nn in c(1, 3))
      ltb[grep(paste0(" ", N2[nn], " "), ltb)] ←
        paste("N", "& \\multicolumn{3}{c}{\\scriptsize", N2[nn], "}",
           "&& \\multicolumn{3}{c}{\\scriptsize", N2[nn+1], "}", "\\\\")
    N3 ← gsub("Mean.*?\\&", "", ltb[grepl("Mean", ltb)])
    N3 ← gsub("\\&", "", N3)
    N3 ← gsub("\\\\\\\\", "", N3)
    N3 ← strsplit(N3, " +")
    N3 ← lapply(N3, unique)
```

```
    N3 ← lapply(N3, function(x) x[nchar(x)>0])
    for (mm in 1:8)
      for (nn in 1:2)
        ltb ← gsub(paste0(N3[[mm]][nn], ".*", N3[[mm]][nn], collapse = ""),
          paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N3[[mm]][nn], "}"), ltb)
    ltb ← ltb[!grepl("Raw", ltb)]
    write.tablev(ltb
      , paste0(pathsaveThisVer, "Placebo", (10:12)[s], aghh.defs[m], "ByGenderWithIntera
      , colnamestrue = F)
    # for compact tables without triple interactions
    ninter ← length(grep("Older", ltb))
    ltb ← ltb[-(grep("Older", ltb)+rep(0:2, ninter))]
    write.tablev(ltb
      , paste0(pathsaveThisVer, "Placebo", (10:12)[s], aghh.defs[m], "ByGenderResults.tex
      , colnamestrue = F)
  } # s
}  # m
```

```
ga ← qread(paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulated.qs"))
NR ← qread(paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulatedNR.qs"))
Enr ← qread(paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulatedEnr.qs"))
ga1 ← ga[grepl("^agHH.yr.$", Coef) & grepl(0, agdef) & grepl("4|6|7", reg) &
  agelb == 10 & grepl("di", HHtype) & grepl("s.g", gender), ]
ga1[, spec := factor(as.numeric(as.character(reg))-3)]
ga1[, spec := factor(spec, labels = 1:3)]
ga1[, Estimate := formatC(beta, digits = 4, format = "f")]
ga1[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
ga1[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), ")}")]
setnames(ga1, "p_val", "p")
setkey(ga1, file, spec, gender)
AddStar ← T
if (AddStar) {
  ga1[, est := Estimate]
  ga1[, Estimate := paste0(est, "^{\\phantom{***}}")]
  ga1[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  ga1[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  ga1[p < .01, Estimate := paste0(est, "^{***}")]
  ga1[beta > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  ga1[, est := NULL]
}
# tabulate by specification
setorder(ga1, spec, file)
  #ga2 ← ga1[grepl(c("de$", "de enr$", "l enr", "nt$", "nt enr$")[gd], file), ]
gtab ← rbind(
  # grade initial enrollers, grade (all time) enrollers
    ga1[grepl("ini", file) & grepl("B", inference), Estimate],
    ga1[grepl("ini", file) & grepl("^L", inference), ci],
    ga1[grepl("ini", file) & grepl("B", inference), ci],
    ga1[grepl("de en", file) & grepl("B", inference), Estimate],
    ga1[grepl("de en", file) & grepl("^L", inference), ci],
    ga1[grepl("de en", file) & grepl("B", inference), ci]
  )
```

```
atab ← rbind(
    ga1[grepl("ini", file) & grepl("B", inference), Estimate],
    ga1[grepl("ini", file) & grepl("^L", inference), ci],
    ga1[grepl("ini", file) & grepl("B", inference), ci],
    ga1[grepl("nt en", file) & grepl("B", inference), Estimate],
    ga1[grepl("nt en", file) & grepl("^L", inference), ci],
    ga1[grepl("nt en", file) & grepl("B", inference), ci]
   )
atab[1:3, ] ← ""
# N and R2
nrg ← unique(NR[grepl("gr.*en", file) & grepl("s.g", gender) &
  grepl(0, agdef) & grepl("4|6|7", reg) &
  agelb == 10 & grepl("di", HHtype), ])
setorder(nrg, -file)
nra ← unique(NR[grepl("ab.*enr", file) & grepl("s.g", gender) &
  grepl(0, agdef) & grepl("4|6|7", reg) &
  agelb == 10 & grepl("di", HHtype), ])
nrg ← t(nrg[, .(R, n)])
nra ← t(nra[, .(R, n)])
nra ← cbind("", "", "", nra)
# in the order of initial enrollers, all time enrollers
gtab ← rbind(gtab[1:3, ], nrg[, 1:3], gtab[4:6, ], nrg[, 4:6])
atab ← rbind(atab[1:3, ], nra[, 1:3], atab[4:6, ], nra[, 4:6])
# grade progression
enrg ← unique(Enr[grepl("gr.*enr", file) & grepl("s.g", gender) &
  agelb == 10 & grepl(0, agdef) & grepl("di", HHtype), ])
enrg[, EnRate := formatC(EnRate, digits = 4, format = "f")]
enrgW ← reshape(enrg, direction = "wide", idvar = c("agHH", "tee"),
  timevar = "file", v.names = grepout("En|Nu", colnames(enrg)))
enrgW[, grepout("^d|def|lb|ty|gen|data|Num", colnames(enrgW)) := NULL]
gtab ← rbind(
  gtab[1:5, ], enrgW[, rep(3, 3), with = F],
  gtab[6:10, ], enrgW[, rep(4, 3), with = F],
  use.names = F)
enra ← unique(Enr[grepl("ab.*enr", file) & grepl("s.g", gender) &
  agelb == 10 & grepl(0, agdef) & grepl("di", HHtype), ])
enra[, EnRate := formatC(EnRate, digits = 4, format = "f")]
enraW ← reshape(enra, direction = "wide", idvar = c("agHH", "tee"),
  timevar = "file", v.names = grepout("En|Nu", colnames(enra)))
enraW[, grepout("^d|def|lb|ty|gen|data|Num", colnames(enraW)) := NULL]
atab ← rbind(
  atab[1:5, ], enraW[, rep(3, 3), with = F],
  atab[6:10, ], enraW[, rep(3, 3), with = F],
  use.names = F)
atab[1:9, ] ← ""
gatab ← cbind(gtab, atab)
ii ← 1
hdr ← paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
   list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[ii]])
gaTab ← cbind(
  Covariates = rep(c("Agricultural households * year 2002",
      "\\hspace{1em} CI (LZ)",
      "\\hspace{1em} CI (BRL)",
      "$\\bar{R}^{2}$", "N", hdr), 2)
  , gatab)
SepCols ← 3
```

```
ltb ← latextab(as.matrix(gaTab), delimiterline = NULL,
    hcenter = c(3, rep(1.5, ncol(gaTab)-1)),
    hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(gaTab)-1)),
    hright = c("\\hfill", rep("$", ncol(gaTab)-1)),
    headercolor = NULL,
    adjustlineskip = "-1ex", adjlskiprows = grep("CI", unlist(gaTab[, 1]))-1,
    addseparatingcols = SepCols, separatingcolwidth = rep(.1, length(SepCols)),
    separatingcoltitle = c("\\textsf{Grade progression}", "\\textsf{Absent days per month}
  )
controlsexplained1 ← c(
  "Demographic fixed trends & \\mbox{\\scriptsize Yes} & \\mbox{\\scriptsize Yes} & \\mbox
    ,
    "Household fixed trends & \\mbox{\\scriptsize } & \\mbox{\\scriptsize Yes} & \\mbox{\\
    ,
    "Thana fixed trends & \\mbox{\\scriptsize } & \\mbox{\\scriptsize } & \\mbox{\\scripts
controlsexplained2 ← c(
  "Demographic fixed trends & \\mbox{\\scriptsize Yes} & \\mbox{\\scriptsize Yes} & \\mbox
    ,
    "Household fixed trends & \\mbox{\\scriptsize } & \\mbox{\\scriptsize Yes} & \\mbox{\\
    ,
    "Thana fixed trends & \\mbox{\\scriptsize } & \\mbox{\\scriptsize } & \\mbox{\\scripts
ltb ← c(
  ltb[1, ], "\\hline",
  ltb[2:grep("cline", ltb), ],
  "&\\multicolumn{7}{c}{\\footnotesize A. Initial enrollers}\\\\",
    "&(1) & (2) &(3) && & & \\\\",
  ltb[(grep("^Ag", ltb)[1]):(grep("Ag", ltb)[1]+2), ],
  controlsexplained1,
  ltb[(grep("^Ag", ltb)[1]+3):(grep("Ag", ltb)[2]-1), ],
  "&\\multicolumn{7}{c}{\\footnotesize B. All time enrollers}\\\\",
    "&(4) & (5) &(6) && (7) & (8) & (9)\\\\",
  ltb[(grep("^Ag", ltb)[2]):(grep("Ag", ltb)[2]+2), ],
  controlsexplained2,
  ltb[(grep("Ag", ltb)[2]+3):(nrow(ltb)-1), ],
  "\\hline",
  ltb[(nrow(ltb)), ]
  )
ltb ← ltb[!grepl("Raw", ltb)]

N2 ← gsub("N *\\&", "", ltb[grepl("N *\\&", ltb)])
N2 ← gsub("\\\\", "", N2)
N2 ← gsub(" ", "", N2)
N2 ← unique(unlist(strsplit(N2, " ?\\& ?")))
N2 ← N2[nchar(N2)>0]
for (nn in 1:length(N2))
  ltb ← gsub(paste0(N2[nn], ".*\\& ", N2[nn], collapse = ""),
    paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N2[nn], "}"), ltb)
N3 ← gsub("Mean.*?\\&", "", ltb[grepl("Mean", ltb)])
N3 ← gsub("\\&", "", N3)
N3 ← gsub("\\\\\\\\", "", N3)
N3 ← strsplit(N3, " +")
N3 ← lapply(N3, unique)
N3 ← lapply(N3, function(x) x[nchar(x)>0])
for (mm in 1:8)
  for (nn in 1:length(N3[[mm]]))
    ltb ← gsub(paste0(N3[[mm]][nn], ".*", N3[[mm]][nn]),
```

```
      paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N3[[mm]][nn], "}"), ltb)
ltb ← gsub("CI \\(.*?\\)", "", ltb)
ltb ← gsub("households", "HHs", ltb)
write.tablev(ltb
    , paste0(pathsaveThisVer, "NumGradesDaysAbsentResults.tex")
  , colnamestrue = F)

Res2 ← qread(paste0(pathsaveThisVer, "TabulatedMainResults2.qs"))
NR2 ← qread(paste0(pathsaveThisVer, "TabulatedMainResultsNR2.qs"))
Enr2 ← qread(paste0(pathsaveThisVer, "TabulatedMainResultsEnr2.qs"))
Res2[, gender := factor(gender, levels = genderitems)]
res2 ← Res2[grepl("4|6|7", reg) & grepl("di", HHtype) &
  grepl(0, agdef) & grepl("m.1", data) & grepl(2, agegroup) & !is.na(group), ]
res2[, spec := factor(reg, labels = 1:3)]
res2[, Estimate := formatC(beta, digits = 4, format = "f")]
res2[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 2, format = "f"), ", ",
  formatC(CI_U, digits = 2, format = "f"), "]}")]
res2[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 2, format = "f"), ", ",
  formatC(CI_U, digits = 2, format = "f"), ")}")]
setnames(res2, "p_val", "p")
AddStar ← T
if (AddStar) {
  res2[, est := Estimate]
  res2[, Estimate := paste0(est, "^{\\phantom{***}}")]
  res2[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  res2[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  res2[p < .01, Estimate := paste0(est, "^{***}")]
  res2[est > 0, Estimate := paste0("\\phantom{-}", Estimate)]
  res2[, est := NULL]
}
# main/placebo results
options(width=120)

nR ← NR2[grepl(0, agdef) & grepl("m", data) & spec ≥ 4 & spec != 5
& grepl("^B", inference) & grepl("di", HHtype) & grepl(2, agegroup), ]
enr0 ← Enr2[grepl(0, agdef) & grepl("m", data) & grepl(2, agegroup)
& grepl("B", inference) & grepl("di", HHtype), ]
enr0[, EnRate := formatC(EnRate, digits = 4, format = "f")]
# tabulate by specification
for (s in c("pri", "sec")) {
  main ← rbind(
    res2[grepl(s, group) & grepl("^agH", Coef) & grepl("^B", inference), Estimate]
    ,
    res2[grepl(s, group) & grepl("^agH", Coef) & grepl("Z", inference), ci]
    ,
    res2[grepl(s, group) & grepl("^agH", Coef) & grepl("B", inference), ci]
  )
  sib ←  rbind(
     res2[grepl(s, group) & grepl("SibF.*H.*yr", Coef) & grepl("BR", inference), Estimate]
     ,
     res2[grepl(s, group) & grepl("SibF.*H.*yr", Coef) & grepl("Z", inference), ci]
     ,
     res2[grepl(s, group) & grepl("SibF.*H.*yr", Coef) & grepl("B", inference), ci]
     ,
```

```
    res2[grepl(s, group) & grepl("SibM.*H.*yr", Coef) & grepl("BR", inference), Estimate]
    ,
    res2[grepl(s, group) & grepl("SibM.*H.*yr", Coef) & grepl("Z", inference), ci]
    ,
    res2[grepl(s, group) & grepl("SibM.*H.*yr", Coef) & grepl("B", inference), ci]
  )
  sib ← cbind("", sib[, 1:2], "", sib[, 3:4], "", sib[, 5:6])
  nr ← rbind(
    formatC(nR[grepl(s, group), ][order(gender, spec), R], digits = 4, format = "f")
  , formatC(nR[grepl(s, group), ][order(gender, spec), Yes], digits = 0, format = "f")
  , formatC(nR[grepl(s, group), ][order(gender, spec), n], digits = 0, format = "f")
  )
  enr ← matrix(
   enr0[grepl(s, group), ][order(gender, agHH, tee), EnRate]
   , byrow = F, nrow = 4)
  enr ← enr[, rep(1:3, each = 3)]
  main ← rbind(main, sib, nr, enr)
  assign(paste0("main", s), main)
}
mrtab ← rbind(mainpri, mainsec)
mrtab ←
cbind(
    rep(c(
      "Agricultural households * year 2002",
      #"\\hspace{1em} CI (LZ)",
      "\\hspace{1em} CI (BRL)",
      "\\underline{\\phantom{mm}} * Older sisters",
      #"\\hspace{1em} CI (LZ)",
      "\\hspace{1em} CI (BRL)",
      "\\underline{\\phantom{mm}} * Older brothers",
      #"\\hspace{1em} CI (LZ)",
      "\\hspace{1em} CI (BRL)",
      "$\\bar{R}^{2}$", "N: Agricultural HHs", "N",
      paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
        list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[1]])
      ), 2
    ),
 mrtab)
SepCols ← c(3, 6)
ltb ← latextab(mrtab, delimiterline = NULL,
    hcenter = c(3, rep(1.3, ncol(mrtab)-1)),
    hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(mrtab)-1)),
    hright = c("\\hfill", rep("$", ncol(mrtab)-1)),
    headercolor = NULL,
    adjustlineskip = "-1ex", adjlskiprows = grep("CI", mrtab[, 1])-1,
    addseparatingcols = SepCols, separatingcolwidth = rep(.1, length(SepCols)),
    separatingcoltitle = c("\\textsf{Boys}", "\\textsf{Girls}", "Boys+Girls")
  )
ltb ← c(
  ltb[1],
  "\\hline",
  ltb[2:grep("cline", ltb), ],
  "&\\multicolumn{11}{c}{\\scriptsize A. Primary school ages}\\\\",
  paste("&",
    gsub("6\\)", "6)&", gsub("3\\)", "3)&", paste(paste0("(", 1:9, ")", collapse = "&")))),
  ltb[(grep("cline", ltb)+2):(grep("BRL", ltb)[3]), ],
```

```
  paste("Demographic fixed trends",
    gsub("\\&$", "\\\\\\\\",
    paste(rep(paste(paste(rep("& \\mbox{\\scriptsize Yes}", 3), collapse = ""), "&"), 3),
    ),
  paste("Other household fixed trends&",
    paste(rep(paste(rep("& \\mbox{\\scriptsize Yes}", 2), collapse = ""), 3), collapse = "
    "\\\\"),
  paste("Thana fixed trends&",
    paste(rep("&&\\mbox{\\scriptsize Yes}", 3), collapse = "&&"),
    "\\\\"),
  ltb[(grep("BRL", ltb)[3]+1):(grep("M.*rol in 2", ltb)[1]), ],
  "&\\multicolumn{11}{c}{\\scriptsize B. Secodary school ages}\\\\",
  paste("&",
    gsub("5\\)", "5)&", gsub("2\\)", "2)&", paste(paste0("(", 1:9+9, ")", collapse = "&"))
  ltb[(grep("M.*rol in 2", ltb)[1]+1):(nrow(ltb)-1), ],
  "\\hline",
    ltb[nrow(ltb), ]
  )
ltb ← gsub("CI \\(.*?\\)", "", ltb)
ltb ← gsub("(^\\\\cline.*$)", "\\1[-1ex]", ltb)
ltb ← gsub("households", "HHs", ltb)
ltb ← gsub("Number of ol", "Ol", ltb)
N1 ← gsub("N.*?&", "", ltb[grepl("N: A", ltb)])
N1 ← gsub("\\\\", "", N1)
N1 ← gsub(" ", "", N1)
N1 ← unique(unlist(strsplit(N1, " ?\\& ?")))
N1 ← N1[nchar(N1)>0]
for (nn in 1:length(N1))
  ltb ← gsub(paste0(N1[nn], ".*\\& ", N1[nn], collapse = ""),
    paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N1[nn], "}"), ltb)
N2 ← gsub("N *\\&", "", ltb[grepl("N *\\&", ltb)])
N2 ← gsub("\\\\", "", N2)
N2 ← gsub(" ", "", N2)
N2 ← unique(unlist(strsplit(N2, " ?\\& ?")))
N2 ← N2[nchar(N2)>0]
ltb[grep(N2[1], ltb)] ←
    paste("N", paste(
    paste("& \\multicolumn{3}{c}{\\scriptsize",  N2[1:3], "}")
    , collapse = "&"), "\\\\")
ltb[grep(N2[4], ltb)] ←
    paste("N", paste(
    paste("& \\multicolumn{3}{c}{\\scriptsize",  N2[3+1:3], "}")
    , collapse = "&"), "\\\\")
N3 ← gsub("Mean.*?\\&", "", ltb[grepl("Mean", ltb)])
N3 ← gsub("\\&", "", N3)
N3 ← gsub("\\\\\\\\", "", N3)
N3 ← strsplit(N3, " +")
N3 ← lapply(N3, unique)
N3 ← lapply(N3, function(x) x[nchar(x)>0])
for (mm in 1:8)
  for (nn in 1:3)
    ltb ← gsub(paste0(N3[[mm]][nn], ".*", N3[[mm]][nn], collapse = ""),
      paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N3[[mm]][nn], "}"), ltb)
ltb ← ltb[!grepl("Raw", ltb)]
write.tablev(ltb
  , paste0(pathsaveThisVer, "MainGenderAgeGroup2ResultsWithInteractions.tex")
```

```
  ,  colnamestrue = F)
# for compact tables without triple interactions
ninter ← length(grep("Older", ltb))
ltb2 ← ltb[-(grep("Older", ltb)+rep(0:2, ninter))]
write.tablev(ltb2
  , paste0(pathsaveThisVer, "MainGenderAgeGroup2Results.tex")
  , colnamestrue = F)
```

```
library(ggplot2)
Res2 ← qread(paste0(pathsaveThisVer, "TabulatedMainResults2.qs"))
Res2[, gender := factor(gender, levels = genderitems)]
mbga ← Res2[grepl("4|6|7", reg) & grepl("di", HHtype) & grepl(0, agdef) & grepl("^agHH.y
mbga[, spec := factor(reg, labels = 1:3)]
PointRange ←  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
    stat = "identity", fatten = 1.75,
    position = position_dodge(width = .25))
g ← ggplot(data = mbga[grepl("A.*2", agegroup) & !is.na(group), ],
    aes(x = group, y = beta, group = spec, fill = spec, shape = spec, colour = spec)) +
  PointRange + ThisTheme + facet_grid( ~ gender) +
  xlab("age groups") +
  labs(color  = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  ThisThemeEnd +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 1),
    fill = guide_legend(title = "regression specifications", nrow = 1),
    shape = guide_legend(title = "regression specifications", nrow = 1)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "GenderAgeGroup2Impacts.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever ← dev.off()
```

```
thanas ← as.character(lapply(unique(yzw[, thana]), function(x)
  paste0(toupper(substring(x, 1, 1)), substring(x, 2, 30))))
thanas ← thanas[!grepl("NA", thanas)]
```

Table 31: Main results

	Agricultural HHs			Agricultural HHs (head)		
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	-0.0673^{**} (-0.114, -0.021) [-0.127, -0.008]	-0.0760^{**} (-0.126, -0.026) [-0.147, -0.005]	-0.0754^{**} (-0.125, -0.026) [-0.144, -0.007]	-0.0827^{**} (-0.126, -0.039) [-0.139, -0.027]	-0.0842^{**} (-0.135, -0.033) [-0.156, -0.013]	-0.0833^{**} (-0.132, -0.034) [-0.151, -0.016]
___ * Older sisters		−0.0278 (-0.087, 0.031) [-0.112, 0.057]	−0.0281 (-0.088, 0.032) [-0.114, 0.057]		−0.0266 (-0.086, 0.033) [-0.106, 0.053]	−0.0267 (-0.086, 0.033) [-0.106, 0.052]
___ * Older brothers		−0.0951 (-0.190, 0.000) [-0.228, 0.038]	−0.0957 (-0.191, 0.000) [-0.230, 0.038]		−0.0561 (-0.148, 0.036) [-0.177, 0.065]	−0.0567 (-0.150, 0.036) [-0.179, 0.066]
Demographic fixed trends	Yes	Yes	Yes	Yes	Yes	Yes
Other household fixed trends		Yes	Yes		Yes	Yes
Thana fixed trends			Yes			Yes
$\bar{R}^2$	0.4676	0.4830	0.4835	0.4712	0.4829	0.4835
N: Agricultural HHs		384			346	
N		626			626	
Mean of treated in 1999		0.7769			0.7464	
Mean of treated in 2002		0.4959			0.4893	
Mean of control in 1999		0.7135			0.7312	
Mean of control in 2002	0.3906	0.3906	0.3906	0.3844	0.3844	0.3844

Source: Compiled from IFPRI data.

Notes:

1. Sample of direct offspring of household heads. Agricultural households * year 2002 is an interaction term of agricultural household dummy and year 2002 dummy. All the interaction terms are demeaned. Columns (1), (4) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6) add Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 32: Main results by gender

	Boys			Girls		
	A. Agricultural household					
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	-0.1169^{**} (-0.200, -0.034) [-0.225, -0.009]	-0.1143^{**} (-0.185, -0.044) [-0.213, -0.016]	-0.1161^{**} (-0.189, -0.043) [-0.215, -0.017]	-0.0310 (-0.168, 0.106) [-0.212, 0.150]	-0.0505 (-0.187, 0.086) [-0.245, 0.144]	-0.0494 (-0.187, 0.088) [-0.243, 0.144]
___ * Older sisters		-0.1106^{**} (-0.183, -0.038) [-0.211, -0.010]	-0.1093^{**} (-0.184, -0.034) [-0.209, -0.009]		0.0287 (-0.139, 0.196) [-0.221, 0.278]	0.0268 (-0.142, 0.196) [-0.226, 0.280]
___ * Older brothers		-0.0599 (-0.159, 0.040) [-0.220, 0.100]	-0.0536 (-0.156, 0.049) [-0.220, 0.113]		-0.0982 (-0.198, 0.001) [-0.235, 0.038]	-0.0932 (-0.196, 0.009) [-0.235, 0.049]
Demographic fixed trends	Yes	Yes	Yes	Yes	Yes	Yes
Other household fixed trends		Yes	Yes		Yes	Yes
Thana fixed trends			Yes			Yes
$\bar{R}^2$	0.3685	0.4078	0.4096	0.5911	0.6061	0.6101
N: Agricultural HHs		197			187	
N		306			320	
Mean of treated in 1999		0.7156			0.8271	
Mean of treated in 2002		0.4679			0.5188	
Mean of control in 1999		0.6396			0.7914	
Mean of control in 2002		0.2944			0.4920	
	B. Agricultural household (head)					
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	-0.1454^{**} (-0.225, -0.066) [-0.245, -0.046]	-0.1381^{***} (-0.194, -0.082) [-0.210, -0.066]	-0.1412^{***} (-0.194, -0.088) [-0.208, -0.075]	-0.0329 (-0.156, 0.090) [-0.192, 0.126]	-0.0444 (-0.174, 0.085) [-0.225, 0.136]	-0.0448 (-0.176, 0.087) [-0.226, 0.137]
___ * Older sisters		-0.0806 (-0.162, 0.001) [-0.193, 0.031]	-0.0805 (-0.160, -0.001) [-0.188, 0.027]		0.0061 (-0.170, 0.182) [-0.250, 0.262]	0.0052 (-0.172, 0.183) [-0.254, 0.264]
___ * Older brothers		-0.0079 (-0.096, 0.081) [-0.133, 0.118]	-0.0030 (-0.091, 0.085) [-0.129, 0.123]		-0.0773 (-0.170, 0.016) [-0.204, 0.050]	-0.0738 (-0.172, 0.024) [-0.206, 0.059]
$\bar{R}^2$	0.3767	0.4126	0.4150	0.5912	0.6032	0.6079
N: Agricultural HHs		177			169	
N		306			320	
Mean of treated in 1999		0.6512			0.8278	
Mean of treated in 2002		0.4419			0.5298	
Mean of control in 1999		0.6780			0.7870	
Mean of control in 2002		0.2938			0.4793	

Source: Compiled from IFPRI data.

Notes:

1. Sample of direct offspring of household heads. Agricultural households * year 2002 is an interaction term of agricultural household dummy and year 2002 dummy. All the interaction terms are demeaned. Columns (1), (4), (7), (10) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5), (8), (11) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6), (9), (12) add Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 33: Main results by gender and by age lowerbound

	Specification 1			Specification 2			Specification 3		
	Boys	Girls	Boys+Girls	Boys	Girls	Boys+Girls	Boys	Girls	Boys+Girls
					A. 10 - 18				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Agricultural HHs * year 2002	-0.1169^{**} (-0.20, -0.03) [-0.22, -0.01]	-0.0310 (-0.17, 0.11) [-0.21, 0.15]	-0.0673^{**} (-0.11, -0.02) [-0.13, -0.01]	-0.1143^{**} (-0.18, -0.04) [-0.21, -0.02]	-0.0505 (-0.19, 0.09) [-0.25, 0.14]	-0.0760^{**} (-0.13, -0.03) [-0.15, -0.01]	-0.1161^{**} (-0.19, -0.04) [-0.22, -0.02]	-0.0494 (-0.19, 0.09) [-0.24, 0.14]	-0.0754^{**} (-0.12, -0.03) [-0.14, -0.01]
___ * Older sisters		-0.1106^{**} (-0.18, -0.04) [-0.21, -0.01]	0.0287 (-0.14, 0.20) [-0.22, 0.28]		-0.0278 (-0.09, 0.03) [-0.11, 0.06]	-0.1093^{**} (-0.18, -0.03) [-0.21, -0.01]		0.0268 (-0.14, 0.20) [-0.23, 0.28]	-0.0281 (-0.09, 0.03) [-0.11, 0.06]
___ * Older brothers		-0.0599 (-0.16, 0.04) [-0.22, 0.10]	-0.0982 (-0.20, 0.00) [-0.23, 0.04]		-0.0951 (-0.19, 0.00) [-0.23, 0.04]	-0.0536 (-0.16, 0.05) [-0.22, 0.11]		-0.0932 (-0.20, 0.01) [-0.23, 0.05]	-0.0957 (-0.19, 0.00) [-0.23, 0.04]
$\bar{R}^2$	0.3685	0.5911	0.4676	0.4078	0.6061	0.4830	0.4096	0.6101	0.4835
N: Agricultural HHs	197	187	384	197	187	384	197	187	384
N	306	320	626	306	320	626	306	320	626
Mean of treated in 1999	0.7222	0.8375	0.7867	0.7222	0.8375	0.7867	0.7222	0.8375	0.7867
Mean of treated in 2002	0.4444	0.5188	0.4860	0.4444	0.5188	0.4860	0.4444	0.5188	0.4860
Mean of control in 1999	0.6278	0.7750	0.6971	0.6278	0.7750	0.6971	0.6278	0.7750	0.6971
Mean of control in 2002	0.2944	0.4875	0.3853	0.2944	0.4875	0.3853	0.2944	0.4875	0.3853
					B. 11 - 18				
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	-0.1464^{***} (-0.21, -0.09) [-0.22, -0.07]	-0.0243 (-0.15, 0.10) [-0.19, 0.14]	-0.0749^{**} (-0.13, -0.02) [-0.14, -0.01]	-0.1303^{***} (-0.18, -0.08) [-0.20, -0.06]	-0.0488 (-0.17, 0.08) [-0.22, 0.13]	-0.0788^{*} (-0.14, -0.02) [-0.16, 0.00]	-0.1340^{***} (-0.19, -0.08) [-0.21, -0.06]	-0.0482 (-0.18, 0.08) [-0.23, 0.13]	-0.0822^{**} (-0.14, -0.03) [-0.16, -0.00]
___ * Older sisters		-0.1503^{*} (-0.27, -0.03) [-0.31, 0.01]	0.0442 (-0.16, 0.25) [-0.25, 0.34]		-0.0327 (-0.14, 0.08) [-0.19, 0.12]	-0.1484^{*} (-0.27, -0.03) [-0.31, 0.01]		0.0469 (-0.17, 0.26) [-0.26, 0.35]	-0.0339 (-0.15, 0.08) [-0.19, 0.13]
___ * Older brothers		-0.0137 (-0.14, 0.12) [-0.20, 0.17]	-0.1176 (-0.24, 0.01) [-0.29, 0.05]		-0.0772 (-0.18, 0.02) [-0.22, 0.07]	-0.0170 (-0.15, 0.12) [-0.21, 0.18]		-0.1136 (-0.25, 0.02) [-0.31, 0.08]	-0.0781 (-0.18, 0.03) [-0.23, 0.07]
$\bar{R}^2$	0.4233	0.6232	0.5181	0.4709	0.6406	0.5326	0.4720	0.6430	0.5344
N: Agricultural HHs	159	158	317	159	158	317	159	158	317
N	244	269	513	244	269	513	244	269	513
Mean of treated in 1999	0.6733	0.8148	0.7542	0.6733	0.8148	0.7542	0.6733	0.8148	0.7542
Mean of treated in 2002	0.4158	0.4593	0.4407	0.4158	0.4593	0.4407	0.4158	0.4593	0.4407
Mean of control in 1999	0.5664	0.7388	0.6498	0.5664	0.7388	0.6498	0.5664	0.7388	0.6498
Mean of control in 2002	0.1958	0.4403	0.3141	0.1958	0.4403	0.3141	0.1958	0.4403	0.3141
					C. 12 - 18				
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Agricultural HHs * year 2002	-0.1305^{*} (-0.24, -0.02) [-0.27, 0.01]	-0.0171 (-0.13, 0.09) [-0.15, 0.12]	-0.0603^{*} (-0.11, -0.01) [-0.13, 0.01]	-0.1229^{**} (-0.20, -0.05) [-0.23, -0.02]	-0.0474 (-0.15, 0.06) [-0.19, 0.10]	-0.0697^{**} (-0.12, -0.02) [-0.14, -0.00]	-0.1360^{**} (-0.23, -0.04) [-0.26, -0.01]	-0.0468 (-0.15, 0.06) [-0.20, 0.11]	-0.0776^{**} (-0.12, -0.03) [-0.14, -0.02]
___ * Older sisters		-0.1678^{*} (-0.31, -0.03) [-0.38, 0.04]	0.0533 (-0.15, 0.26) [-0.23, 0.33]		-0.0351 (-0.15, 0.08) [-0.19, 0.12]	-0.1535 (-0.29, -0.02) [-0.36, 0.05]		0.0566 (-0.15, 0.27) [-0.23, 0.35]	-0.0335 (-0.15, 0.09) [-0.20, 0.13]
___ * Older brothers		0.0049 (-0.10, 0.11) [-0.13, 0.14]	-0.2133^{**} (-0.35, -0.08) [-0.41, -0.02]		-0.1044 (-0.20, -0.00) [-0.25, 0.04]	-0.0038 (-0.11, 0.10) [-0.14, 0.13]		-0.2107^{*} (-0.36, -0.06) [-0.42, 0.00]	-0.1052 (-0.21, -0.00) [-0.25, 0.04]
$\bar{R}^2$	0.4721	0.6222	0.5399	0.5190	0.6538	0.5598	0.5233	0.6547	0.5623
N: Agricultural HHs	138	124	262	138	124	262	138	124	262
N	208	217	425	208	217	425	208	217	425
Mean of treated in 1999	0.6235	0.7768	0.7107	0.6235	0.7768	0.7107	0.6235	0.7768	0.7107
Mean of treated in 2002	0.3647	0.3750	0.3706	0.3647	0.3750	0.3706	0.3647	0.3750	0.3706
Mean of control in 1999	0.5366	0.7048	0.6140	0.5366	0.7048	0.6140	0.5366	0.7048	0.6140
Mean of control in 2002	0.1626	0.3333	0.2412	0.1626	0.3333	0.2412	0.1626	0.3333	0.2412

Source: Compiled from IFPRI data.

Notes:

1. Sample of direct offspring of household heads. Agricultural households * year 2002 is an interaction term of agricultural household dummy and year 2002 dummy. All the interaction terms are demeaned. Columns (1), (4), (7), (10) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5), (8), (11) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6), (9), (12) add Thana fixed trends which allow heterogenous trends at Thana level.

2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 34: Main results by gender and by agricultural household definitions

	Specification 1			Specification 2			Specification 3		
	Boys	Girls	Boys+Girls	Boys	Girls	Boys+Girls	Boys	Girls	Boys+Girls
A. Agricultural household									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Agricultural * year 2002	-0.1169^{**} (-0.20, -0.03) [-0.22, -0.01]	-0.0310 (-0.17, 0.11) [-0.21, 0.15]	-0.0673^{**} (-0.11, -0.02) [-0.13, -0.01]	-0.1143^{**} (-0.18, -0.04) [-0.21, -0.02]	-0.0505 (-0.19, 0.09) [-0.25, 0.14]	-0.0760^{**} (-0.13, -0.03) [-0.15, -0.01]	-0.1161^{**} (-0.19, -0.04) [-0.22, -0.02]	-0.0494 (-0.19, 0.09) [-0.24, 0.14]	-0.0754^{**} (-0.12, -0.03) [-0.14, -0.01]
___ * Older sisters				-0.1106^{**} (-0.18, -0.04) [-0.21, -0.01]	0.0287 (-0.14, 0.20) [-0.22, 0.28]	-0.0278 (-0.09, 0.03) [-0.11, 0.06]	-0.1093^{**} (-0.18, -0.03) [-0.21, -0.01]	0.0268 (-0.14, 0.20) [-0.23, 0.28]	-0.0281 (-0.09, 0.03) [-0.11, 0.06]
___ * Older brothers				-0.0599 (-0.16, 0.04) [-0.22, 0.10]	-0.0982 (-0.20, 0.00) [-0.23, 0.04]	-0.0951 (-0.19, 0.00) [-0.23, 0.04]	-0.0536 (-0.16, 0.05) [-0.22, 0.11]	-0.0932 (-0.20, 0.01) [-0.23, 0.05]	-0.0957 (-0.19, 0.00) [-0.23, 0.04]
Demographic fixed trends	Yes	Yes	Yes	Yes	Yes	Yes			
Other household fixed trends		Yes	Yes		Yes	Yes			
Thana fixed trends			Yes			Yes			
$\bar{R}^2$	0.3685	0.5911	0.4676	0.4078	0.6061	0.4830	0.4096	0.6101	0.4835
N: Agricultural HHs	197	187	384	197	187	384	197	187	384
Mean of treated in 1999		0.6396			0.8271			0.7135	
Mean of treated in 2002		0.2944			0.5188			0.3906	
Mean of control in 1999		0.7156			0.7914			0.7769	
Mean of control in 2002		0.4679			0.4920			0.4959	
B. Agricultural household (head)									
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural * year 2002	-0.1448^{**} (-0.23, -0.06) [-0.25, -0.04]	-0.0293 (-0.16, 0.10) [-0.20, 0.14]	-0.0801^{**} (-0.13, -0.03) [-0.14, -0.02]	-0.1390^{***} (-0.19, -0.08) [-0.22, -0.06]	-0.0498 (-0.18, 0.08) [-0.24, 0.14]	-0.0878^{**} (-0.13, -0.04) [-0.15, -0.02]	-0.1418^{***} (-0.20, -0.08) [-0.22, -0.06]	-0.0524 (-0.19, 0.08) [-0.24, 0.13]	-0.0887^{**} (-0.13, -0.04) [-0.15, -0.03]
___ * Older sisters				-0.0830^{*} (-0.16, -0.01) [-0.19, 0.02]	0.0077 (-0.17, 0.18) [-0.25, 0.26]	-0.0224 (-0.08, 0.04) [-0.11, 0.06]	-0.0827^{*} (-0.16, -0.01) [-0.18, 0.02]	0.0059 (-0.17, 0.18) [-0.25, 0.26]	-0.0222 (-0.09, 0.04) [-0.11, 0.06]
___ * Older brothers				-0.0334 (-0.14, 0.07) [-0.20, 0.13]	-0.1082^{**} (-0.17, -0.04) [-0.20, -0.02]	-0.0884 (-0.17, -0.00) [-0.21, 0.03]	-0.0289 (-0.14, 0.08) [-0.20, 0.14]	-0.1054^{**} (-0.17, -0.04) [-0.19, -0.02]	-0.0899 (-0.18, -0.00) [-0.21, 0.03]
$\bar{R}^2$	0.3755	0.5910	0.4707	0.4119	0.6073	0.4859	0.4139	0.6121	0.4865
N: Agricultural HHs	189	171	360	189	171	360	189	171	360
Mean of treated in 1999		0.6402			0.8255			0.7111	
Mean of treated in 2002		0.2804			0.5168			0.3806	
Mean of control in 1999		0.7094			0.7895			0.7744	
Mean of control in 2002		0.4786			0.4912			0.5000	
C. Agricultural household (income)									
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Agricultural * year 2002	-0.1454^{**} (-0.22, -0.07) [-0.25, -0.05]	-0.0329 (-0.16, 0.09) [-0.19, 0.13]	-0.0827^{**} (-0.13, -0.04) [-0.14, -0.03]	-0.1381^{***} (-0.19, -0.08) [-0.21, -0.07]	-0.0444 (-0.17, 0.09) [-0.22, 0.14]	-0.0842^{**} (-0.14, -0.03) [-0.16, -0.01]	-0.1412^{***} (-0.19, -0.09) [-0.21, -0.07]	-0.0448 (-0.18, 0.09) [-0.23, 0.14]	-0.0833^{**} (-0.13, -0.03) [-0.15, -0.02]
___ * Older sisters				-0.0806 (-0.16, 0.00) [-0.19, 0.03]	0.0061 (-0.17, 0.18) [-0.25, 0.26]	-0.0266 (-0.09, 0.03) [-0.11, 0.05]	-0.0805 (-0.16, -0.00) [-0.19, 0.03]	0.0052 (-0.17, 0.18) [-0.25, 0.26]	-0.0267 (-0.09, 0.03) [-0.11, 0.05]
___ * Older brothers				-0.0079 (-0.10, 0.08) [-0.13, 0.12]	-0.0773 (-0.17, 0.02) [-0.20, 0.05]	-0.0561 (-0.15, 0.04) [-0.18, 0.07]	-0.0030 (-0.09, 0.08) [-0.13, 0.12]	-0.0738 (-0.17, 0.02) [-0.21, 0.06]	-0.0567 (-0.15, 0.04) [-0.18, 0.07]
$\bar{R}^2$	0.3767	0.5912	0.4712	0.4126	0.6032	0.4829	0.4150	0.6079	0.4835
N: Agricultural HHs	177	169	346	177	169	346	177	169	346
Mean of treated in 1999		0.6780			0.8278			0.7312	
Mean of treated in 2002		0.2938			0.5298			0.3844	
Mean of control in 1999		0.6512			0.7870			0.7464	
Mean of control in 2002		0.4419			0.4793			0.4893	
D. Agricultural household (occupation)									
	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
Agricultural * year 2002	-0.1019^{**} (-0.18, -0.02) [-0.20, -0.00]	-0.0047 (-0.13, 0.12) [-0.16, 0.15]	-0.0485^{*} (-0.09, -0.01) [-0.10, 0.00]	-0.0974^{*} (-0.18, -0.01) [-0.21, 0.02]	-0.0180 (-0.13, 0.10) [-0.18, 0.14]	-0.0523^{*} (-0.09, -0.02) [-0.11, 0.00]	-0.0951^{*} (-0.18, -0.01) [-0.21, 0.02]	-0.0197 (-0.14, 0.10) [-0.18, 0.14]	-0.0515^{**} (-0.09, -0.02) [-0.10, -0.00]
___ * Older sisters				-0.0682 (-0.15, 0.01) [-0.18, 0.04]	0.0249 (-0.12, 0.17) [-0.18, 0.23]	-0.0146 (-0.07, 0.04) [-0.09, 0.06]	-0.0699 (-0.15, 0.01) [-0.18, 0.04]	0.0249 (-0.12, 0.17) [-0.19, 0.24]	-0.0152 (-0.07, 0.04) [-0.09, 0.06]
___ * Older brothers				-0.0413 (-0.15, 0.06) [-0.20, 0.11]	-0.0656 (-0.17, 0.04) [-0.20, 0.07]	-0.0665 (-0.16, 0.03) [-0.19, 0.06]	-0.0329 (-0.14, 0.08) [-0.19, 0.13]	-0.0586 (-0.17, 0.05) [-0.20, 0.09]	-0.0664 (-0.16, 0.03) [-0.20, 0.06]
$\bar{R}^2$	0.3662	0.5902	0.4665	0.3961	0.6018	0.4780	0.3980	0.6060	0.4786
N: Agricultural HHs	180	160	340	180	160	340	180	160	340
N	306	320	626	306	320	626	306	320	626
Mean of treated in 1999		0.6278			0.8375			0.6971	
Mean of treated in 2002		0.2944			0.5188			0.3853	
Mean of control in 1999		0.7222			0.7750			0.7867	
Mean of control in 2002		0.4444			0.4875			0.4860	

Source: Compiled from IFPRI data.

Notes: 1. Sample of direct offspring of household heads. Agricultural households * year 2002 is an interaction term of agricultural household dummy and year 2002 dummy. All the interaction terms are demeaned. Columns (1), (4), (7), (10) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5), (8), (11) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6), (9), (12) add Thana fixed trends which allow heterogenous trends at Thana level.

TABLE 35: PLACEBO TEST RESULTS

	Agricultural household			Agricultural household (head)		
	A. 1999 cohort					
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0181 (-0.049, 0.013) [-0.062, 0.026]	−0.0202 (-0.072, 0.031) [-0.099, 0.058]	−0.0290 (-0.082, 0.024) [-0.113, 0.055]	−0.0122 (-0.070, 0.045) [-0.087, 0.063]	−0.0198 (-0.076, 0.036) [-0.097, 0.057]	−0.0308 (-0.082, 0.020) [-0.104, 0.043]
___ * Older sisters		−0.0404 (-0.122, 0.042) [-0.167, 0.086]	−0.0441 (-0.124, 0.036) [-0.166, 0.078]		−0.0601 (-0.139, 0.018) [-0.171, 0.051]	−0.0628 (-0.138, 0.012) [-0.169, 0.043]
___ * Older brothers		0.0157 (-0.095, 0.127) [-0.138, 0.169]	0.0165 (-0.093, 0.126) [-0.134, 0.167]		−0.0002 (-0.114, 0.114) [-0.149, 0.149]	0.0004 (-0.112, 0.112) [-0.145, 0.146]
$\bar{R}^2$	0.3073	0.3193	0.3262	0.3062	0.3196	0.3262
N: Agricultural HHs		379			341	
N		616			616	
Mean of treated in 1999		0.4979			0.4909	
Mean of treated in 2002		0.2785			0.2691	
Mean of control in 1999		0.3852			0.3783	
Mean of control in 2002		0.1425			0.1349	
	B. 2002 cohort					
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0293 (-0.098, 0.039) [-0.112, 0.053]	−0.0363 (-0.116, 0.044) [-0.137, 0.065]	−0.0411 (-0.127, 0.045) [-0.151, 0.069]	−0.0208 (-0.094, 0.053) [-0.110, 0.068]	−0.0299 (-0.103, 0.043) [-0.122, 0.062]	−0.0363 (-0.112, 0.039) [-0.132, 0.059]
___ * Older sisters		−0.0685* (-0.131, -0.006) [-0.152, 0.015]	−0.0717* (-0.133, -0.011) [-0.153, 0.009]		−0.0737* (-0.144, -0.003) [-0.167, 0.020]	−0.0781* (-0.147, -0.009) [-0.170, 0.014]
___ * Older brothers		0.0177 (-0.053, 0.089) [-0.079, 0.114]	0.0187 (-0.052, 0.089) [-0.076, 0.114]		0.0053 (-0.074, 0.085) [-0.100, 0.110]	0.0073 (-0.071, 0.086) [-0.095, 0.110]
$\bar{R}^2$	0.2158	0.2312	0.2352	0.2148	0.2264	0.2301
N: Agricultural HHs		492			440	
N		812			812	
Mean of treated in 2002		0.6844			0.6747	
Mean of treated in 2006		0.4406			0.4247	
Mean of control in 2002		0.5955			0.5932	
Mean of control in 2006		0.2988			0.2955	

Source: Compiled from IFPRI data.

Notes:

1. Sample of direct offspring of household heads. Agricultural households * year 2002 is an interaction term of agricultural household dummy and year 2002 dummy. All the interaction terms are demeaned. Columns (1), (4) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6) add Thana fixed trends which allow heterogenous trends at Thana level.

2. Impacts of nonexisting exam-Ramadan overlap in 2002. Each specification has two cohort variations, 10-18 in 1999 of all children and direct offsprings in households. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.

2. 10-18 in 1999 are the same cohorts of main estimation who received treatments in 1999. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively. No correction for multiple testing is used (due to complex overlapping structure of data), so each p values are underestimated and the tests are biased toward rejecting the null of zero impacts. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 36: Placebo test results, 11-18

	Agricultural household			Agricultural household (head)		
	A. 1999 cohort					
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0066 (-0.029, 0.016) [-0.035, 0.022]	−0.0108 (-0.040, 0.019) [-0.059, 0.037]	−0.0191 (-0.049, 0.011) [-0.069, 0.031]	0.0030 (-0.046, 0.052) [-0.059, 0.065]	−0.0070 (-0.044, 0.030) [-0.060, 0.046]	−0.0150 (-0.049, 0.019) [-0.064, 0.034]
___ * Older sisters		−0.0764 (-0.168, 0.015) [-0.203, 0.050]	−0.0806 (-0.171, 0.010) [-0.205, 0.043]		−0.1060* (-0.193, -0.019) [-0.221, 0.009]	−0.1057* (-0.195, -0.017) [-0.223, 0.012]
___ * Older brothers		0.0129 (-0.098, 0.124) [-0.145, 0.171]	0.0141 (-0.097, 0.125) [-0.144, 0.173]		−0.0016 (-0.108, 0.105) [-0.145, 0.141]	−0.0018 (-0.108, 0.104) [-0.144, 0.140]
$\bar{R}^2$	0.3072	0.3175	0.3244	0.3067	0.3231	0.3292
N: Agricultural HHs		308			278	
N		500			500	
Mean of treated in 1999		0.4479			0.4369	
Mean of treated in 2002		0.2500			0.2342	
Mean of control in 1999		0.3149			0.3094	
Mean of control in 2002		0.1104			0.1079	
	B. 2002 cohort					
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0449 (-0.108, 0.018) [-0.123, 0.034]	−0.0495 (-0.122, 0.023) [-0.146, 0.047]	−0.0557 (-0.134, 0.023) [-0.162, 0.051]	−0.0412 (-0.111, 0.029) [-0.129, 0.046]	−0.0499 (-0.121, 0.021) [-0.143, 0.044]	−0.0613 (-0.133, 0.010) [-0.157, 0.034]
___ * Older sisters		−0.0832* (-0.154, -0.012) [-0.176, 0.010]	−0.0898* (-0.163, -0.017) [-0.186, 0.007]		−0.0810 (-0.166, 0.003) [-0.192, 0.030]	−0.0892* (-0.175, -0.004) [-0.201, 0.023]
___ * Older brothers		0.0047 (-0.063, 0.072) [-0.088, 0.097]	0.0066 (-0.059, 0.073) [-0.083, 0.096]		−0.0001 (-0.083, 0.083) [-0.109, 0.109]	0.0033 (-0.078, 0.085) [-0.103, 0.109]
$\bar{R}^2$	0.2363	0.2557	0.2648	0.2353	0.2529	0.2623
N: Agricultural HHs		438			392	
N		711			711	
Mean of treated in 2002		0.6520			0.6395	
Mean of treated in 2006		0.3956			0.3793	
Mean of control in 2002		0.5502			0.5485	
Mean of control in 2006		0.2443			0.2398	

Source: Compiled from IFPRI data.

Notes:

1. Sample of direct offspring of household heads. Agricultural households * year 2002 is an interaction term of agricultural household dummy and year 2002 dummy. All the interaction terms are demeaned. Columns (1), (4) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6) add Thana fixed trends which allow heterogenous trends at Thana level.

2. Impacts of nonexisting exam-Ramadan overlap in 2002. Each specification has two cohort variations, 10-18 in 1999 of all children and direct offsprings in households. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.

2. 10-18 in 1999 are the same cohorts of main estimation who received treatments in 1999. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*, **, ***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively. No correction for multiple testing is used (due to complex overlapping structure of data), so each p values are underestimated and the tests are biased toward rejecting the null of zero impacts. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*, **, ***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 37: Placebo test results, 12-18

	Agricultural household			Agricultural household (head)		
	A. 1999 cohort					
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0073 (-0.058, 0.043) [-0.067, 0.053]	−0.0063 (-0.041, 0.028) [-0.053, 0.040]	−0.0159 (-0.053, 0.021) [-0.067, 0.035]	0.0001 (-0.058, 0.058) [-0.071, 0.071]	−0.0057 (-0.042, 0.031) [-0.055, 0.044]	−0.0148 (-0.051, 0.021) [-0.063, 0.033]
___ * Older sisters		−0.0495 (-0.138, 0.039) [-0.173, 0.074]	−0.0502 (-0.138, 0.037) [-0.170, 0.070]		−0.0777 (-0.165, 0.009) [-0.193, 0.037]	−0.0764 (-0.165, 0.013) [-0.193, 0.040]
___ * Older brothers		0.0060 (-0.133, 0.145) [-0.198, 0.210]	0.0061 (-0.134, 0.147) [-0.198, 0.210]		−0.0158 (-0.144, 0.112) [-0.190, 0.158]	−0.0173 (-0.145, 0.110) [-0.190, 0.155]
$\bar{R}^2$	0.3085	0.3193	0.3277	0.3097	0.3234	0.3311
N: Agricultural HHs		261			236	
N		421			421	
Mean of treated in 1999		0.3812			0.3622	
Mean of treated in 2002		0.1938			0.1838	
Mean of control in 1999		0.2529			0.2542	
Mean of control in 2002		0.0881			0.0847	
	B. 2002 cohort					
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0255 (-0.104, 0.053) [-0.125, 0.074]	−0.0315 (-0.127, 0.064) [-0.162, 0.099]	−0.0385 (-0.138, 0.061) [-0.176, 0.099]	−0.0252 (-0.105, 0.055) [-0.125, 0.075]	−0.0348 (-0.115, 0.046) [-0.141, 0.071]	−0.0454 (-0.127, 0.036) [-0.156, 0.066]
___ * Older sisters		−0.0727 (-0.143, -0.002) [-0.172, 0.027]	−0.0793* (-0.150, -0.009) [-0.179, 0.020]		−0.0890* (-0.167, -0.011) [-0.196, 0.017]	−0.0961* (-0.175, -0.017) [-0.204, 0.012]
___ * Older brothers		−0.0178 (-0.104, 0.068) [-0.136, 0.101]	−0.0173 (-0.100, 0.066) [-0.131, 0.097]		−0.0103 (-0.106, 0.086) [-0.138, 0.117]	−0.0086 (-0.101, 0.084) [-0.130, 0.113]
$\bar{R}^2$	0.2746	0.2949	0.3005	0.2752	0.2984	0.3038
N: Agricultural HHs		374			336	
N		612			612	
Mean of treated in 2002		0.6134			0.5978	
Mean of treated in 2006		0.3487			0.3333	
Mean of control in 2002		0.5027			0.5030	
Mean of control in 2006		0.1979			0.1935	

Source: Compiled from IFPRI data.

Notes:

1. Sample of direct offspring of household heads. Agricultural households * year 2002 is an interaction term of agricultural household dummy and year 2002 dummy. All the interaction terms are demeaned. Columns (1), (4) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6) add Thana fixed trends which allow heterogenous trends at Thana level.

2. Impacts of nonexisting exam-Ramadan overlap in 2002. Each specification has two cohort variations, 10-18 in 1999 of all children and direct offsprings in households. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.

2. 10-18 in 1999 are the same cohorts of main estimation who received treatments in 1999. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively. No correction for multiple testing is used (due to complex overlapping structure of data), so each p values are underestimated and the tests are biased toward rejecting the null of zero impacts. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 38: Placebo test results by gender

	Boys			Girls		
			A. 1999 cohort			
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2006	−0.0016 (-0.069, 0.065) [-0.083, 0.080]	0.0093 (-0.071, 0.090) [-0.107, 0.125]	−0.0034 (-0.082, 0.075) [-0.117, 0.111]	−0.0313 (-0.131, 0.069) [-0.166, 0.104]	−0.0422 (-0.141, 0.057) [-0.190, 0.106]	−0.0515 (-0.149, 0.046) [-0.198, 0.095]
___ * Older sisters		0.0089 (-0.096, 0.114) [-0.149, 0.167]	0.0164 (-0.092, 0.125) [-0.145, 0.178]		−0.0867 (-0.234, 0.060) [-0.304, 0.130]	−0.0947 (-0.230, 0.041) [-0.297, 0.107]
___ * Older brothers		0.0389 (-0.089, 0.166) [-0.156, 0.234]	0.0301 (-0.100, 0.160) [-0.162, 0.222]		−0.0016 (-0.108, 0.105) [-0.158, 0.155]	−0.0027 (-0.103, 0.098) [-0.153, 0.147]
$\bar{R}^2$	0.1176	0.1557	0.1653	0.5227	0.5328	0.5430
N: Agricultural HHs		196			183	
N		304			312	
Mean of treated in 2002		0.4722			0.5194	
Mean of treated in 2006		0.2685			0.2868	
Mean of control in 2002		0.2908			0.4863	
Mean of control in 2006		0.1173			0.1694	
			B. 2002 cohort			
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2006	−0.0433 (-0.101, 0.015) [-0.113, 0.027]	−0.0340 (-0.088, 0.020) [-0.103, 0.035]	−0.0324 (-0.086, 0.021) [-0.100, 0.035]	−0.0336 (-0.125, 0.058) [-0.147, 0.080]	−0.0492 (-0.156, 0.057) [-0.189, 0.090]	−0.0445 (-0.165, 0.076) [-0.204, 0.115]
___ * Older sisters		−0.0926 (-0.196, 0.010) [-0.233, 0.048]	−0.0913 (-0.196, 0.014) [-0.235, 0.052]		−0.0478 (-0.115, 0.019) [-0.142, 0.046]	−0.0524 (-0.118, 0.013) [-0.142, 0.037]
___ * Older brothers		0.0784 (-0.004, 0.161) [-0.029, 0.186]	0.0805 (-0.007, 0.168) [-0.032, 0.193]		−0.0337 (-0.109, 0.041) [-0.134, 0.066]	−0.0364 (-0.109, 0.037) [-0.133, 0.060]
$\bar{R}^2$	0.1336	0.1720	0.1724	0.3572	0.3710	0.3839
N: Agricultural HHs		243			249	
N		386			426	
Mean of treated in 2002		0.6573			0.7062	
Mean of treated in 2006		0.3986			0.4746	
Mean of control in 2002		0.5391			0.6506	
Mean of control in 2006		0.2840			0.3133	

Source: Compiled from IFPRI data.

Notes:

1. Sample of direct offspring of household heads. Agricultural households * year 2002 is an interaction term of agricultural household dummy and year 2002 dummy. All the interaction terms are demeaned. Columns (1), (4) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6) add Thana fixed trends which allow heterogenous trends at Thana level.

2. Impacts of nonexisting exam-Ramadan overlap in 2002. Each specification has two cohort variations, 10-18 in 1999 of all children and direct offsprings in households. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.

2. 10-18 in 1999 are the same cohorts of main estimation who received treatments in 1999. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively. No correction for multiple testing is used (due to complex overlapping structure of data), so each p values are underestimated and the tests are biased toward rejecting the null of zero impacts. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 39: Main results by gender and age group

	Boys			Girls			Boys+Girls		
	A. Primary school ages								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Agricultural HHs * year 2002	0.0776	0.0701	0.0831	−0.0807	−0.0916	−0.0864	−0.0088	−0.0148	0.0005
	[-0.13, 0.29]	[-0.13, 0.27]	[-0.09, 0.26]	[-0.20, 0.04]	[-0.22, 0.04]	[-0.23, 0.06]	[-0.13, 0.11]	[-0.13, 0.10]	[-0.10, 0.10]
___ * Older sisters		0.0351	0.0273		0.0597	0.0665		0.0482	0.0471
		[-0.13, 0.20]	[-0.14, 0.20]		[-0.15, 0.27]	[-0.16, 0.29]		[-0.10, 0.20]	[-0.10, 0.20]
___ * Older brothers		−0.0949*	−0.1002*		−0.0089	−0.0127		−0.0510	−0.0545
		[-0.21, 0.02]	[-0.20, 0.00]		[-0.16, 0.14]	[-0.16, 0.13]		[-0.15, 0.05]	[-0.16, 0.05]
Demographic fixed trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other household fixed trends		Yes	Yes		Yes	Yes		Yes	Yes
Thana fixed trends			Yes			Yes			Yes
$\bar{R}^2$	0.4123	0.4439	0.4602	0.3916	0.4060	0.4151	0.4130	0.4239	0.4303
N: Agricultural HHs		154			295			141	
N		253			507			254	
Mean of treated in 1999		0.8586			0.8255			0.7965	
Mean of treated in 2002		0.7778			0.8302			0.8761	
Mean of control in 1999		0.7792			0.8000			0.8227	
Mean of control in 2002		0.7922			0.8000			0.8085	
	B. Secodary school ages								
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.1595***	−0.1388***	−0.1403**	−0.0293	−0.0930	−0.0897	−0.0853**	−0.0873**	−0.0894**
	[-0.23, -0.09]	[-0.22, -0.06]	[-0.23, -0.05]	[-0.19, 0.13]	[-0.23, 0.04]	[-0.23, 0.05]	[-0.15, -0.02]	[-0.16, -0.01]	[-0.16, -0.02]
___ * Older sisters		−0.1265*	−0.1252*		0.0361	0.0385		−0.0271	−0.0282
		[-0.27, 0.02]	[-0.28, 0.03]		[-0.24, 0.32]	[-0.25, 0.33]		[-0.18, 0.12]	[-0.18, 0.13]
___ * Older brothers		0.0164	0.0135		−0.1237	−0.1207		−0.0692	−0.0704
		[-0.13, 0.17]	[-0.15, 0.17]		[-0.31, 0.06]	[-0.32, 0.08]		[-0.22, 0.08]	[-0.22, 0.08]
$\bar{R}^2$	0.4032	0.4586	0.4597	0.5046	0.5215	0.5235	0.6135	0.6434	0.6453
N: Agricultural HHs		148			301			153	
N		228			486			258	
Mean of treated in 1999		0.6750			0.7459			0.8000	
Mean of treated in 2002		0.4625			0.4649			0.4667	
Mean of control in 1999		0.5878			0.6877			0.7843	
Mean of control in 2002		0.2230			0.3455			0.4641	

Source: Compiled from IFPRI data.

Notes:

1. Sample of direct offspring of household heads. Agricultural households * year 2002 is an interaction term of agricultural household dummy and year 2002 dummy. All the interaction terms are demeaned. Columns (1), (4), (7), (10) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5), (8), (11) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6), (9), (12) add Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 40: Flooded areas and non-Muslims

	Flooded areas			Non-Muslims		
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	-0.0618^{*} (-0.108, -0.015) [-0.124, 0.001]	-0.0729^{*} (-0.124, -0.022) [-0.149, 0.003]	-0.0737^{**} (-0.123, -0.025) [-0.147, -0.000]	-0.0676^{**} (-0.114, -0.021) [-0.128, -0.008]	-0.0772^{**} (-0.128, -0.026) [-0.150, -0.004]	-0.0780^{**} (-0.129, -0.027) [-0.148, -0.008]
Agricultural HHs * year 2002 * Flooded	0.0042 (-0.075, 0.083) [-0.111, 0.119]	0.0266 (-0.056, 0.110) [-0.100, 0.153]	0.0241 (-0.064, 0.112) [-0.110, 0.158]			
Agricultural HHs * year 2002 * Non-Muslim				0.0416 (-0.077, 0.160) [-0.196, 0.279]	0.0283 (-0.093, 0.150) [-0.198, 0.255]	0.0250 (-0.100, 0.150) [-0.218, 0.268]
Demographic fixed trends	Yes	Yes	Yes	Yes	Yes	Yes
Other household fixed trends		Yes	Yes		Yes	Yes
Thana fixed trends			Yes			Yes
$\bar{R}^2$	0.4684	0.4832	0.4836	0.4695	0.4849	0.4855
N: Agricultural HHs		384			384	
N_{group}		390			77	
N		626			626	
Mean of treated in 1999		0.7769			0.7769	
Mean of control in 1999		0.4959			0.4959	
Mean of treated in 2002		0.7135			0.7135	
Mean of control in 2002		0.3906			0.3906	

Source: Compiled from IFPRI data.

Notes:

1. Sample of direct offspring of household heads. Columns (1), (4) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6) add Thana fixed trends which allow heterogenous trends at Thana level. Flooded is 1 for thanas Haziganj, Modhupur, Sherpur sadar. Other covariates include interaction terms unflooded/nonmuslim * year 2002.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively. N_{ag} indicates the number of agricultural households, N_{group} indicates the number of observations for flooded areas or non-Muslims.

Table 41: Grade progression and absent days

	Grade progression			Absent days per month		
	A. Initial enrollers					
	(1)	(2)	(3)			
Agricultural HHs * year 2002	−0.4746 (-1.171, 0.222) [-1.390, 0.440]	0.1740 (-0.498, 0.846) [-1.603, 1.951]	0.1882 (-0.654, 1.030) [-1.947, 2.323]			
Demographic fixed trends	Yes	Yes	Yes			
Household fixed trends		Yes	Yes			
Thana fixed trends			Yes			
$\bar{R}^2$	0.1827	0.2885	0.3148			
N		133				
Mean of treated in 1999		4.7021				
Mean of treated in 2002		6.9504				
Mean of control in 1999		5.0504				
Mean of control in 2002		7.4202				
	B. All time enrollers					
	(4)	(5)	(6)	(7)	(8)	(9)
Agricultural HHs * year 2002	−0.3268** (-0.583, -0.071) [-0.636, -0.018]	−0.3463** (-0.561, -0.131) [-0.618, -0.074]	−0.2417* (-0.453, -0.031) [-0.501, 0.017]	1.3110** (0.563, 2.059) [0.405, 2.217]	1.1991** (0.507, 1.891) [0.276, 2.122]	1.1957** (0.566, 1.825) [0.396, 1.995]
Demographic fixed trends	Yes	Yes	Yes	Yes	Yes	Yes
Household fixed trends		Yes	Yes		Yes	Yes
Thana fixed trends			Yes			Yes
$\bar{R}^2$	0.1621	0.1948	0.2347	0.0957	0.1531	0.1615
N		260			263	
Mean of treated in 1999		5.5393			3.3773	
Mean of treated in 2002		6.4494			3.7500	
Mean of control in 1999		5.6136			3.3697	
Mean of control in 2002		6.9318			2.7857	

Source: Compiled from IFPRI data.

Notes:

1. Sample of direct offspring of household heads. Columns (1), (4) use time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and Demographic fixed trends that are interactions of basline individual and demographic characterstics (sex of individual, household head's education, number of older male/female siblings) with year 2002 dummy $\mathbf{x}_i r_t$, and with year 2002 * agricultural household dummy $\mathbf{x}_i r_t D_i$. Columns (2), (5) add other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Columns (3), (6) add Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively. N_{ag} indicates the number of agricultural households, N_{group} indicates the number of observations for flooded areas or non-Muslims.

Table 42: Main results by age lower bound

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
A. 10 - 18						
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0462 (-0.101, 0.008) [-0.119, 0.027]	−0.0673* (-0.122, -0.013) [-0.141, 0.007]	−0.0536* (-0.102, -0.006) [-0.121, 0.013]	−0.0760** (-0.126, -0.026) [-0.147, -0.005]	−0.0514* (-0.099, -0.004) [-0.114, 0.012]	−0.0754** (-0.125, -0.026) [-0.144, -0.007]
___ * Older sisters			−0.0494 (-0.124, 0.025) [-0.158, 0.059]	−0.0278 (-0.087, 0.031) [-0.112, 0.057]	−0.0502 (-0.124, 0.024) [-0.159, 0.058]	−0.0281 (-0.088, 0.032) [-0.114, 0.057]
___ * Older brothers			−0.1095* (-0.205, -0.014) [-0.242, 0.023]	−0.0951 (-0.190, 0.000) [-0.228, 0.038]	−0.1074* (-0.204, -0.011) [-0.242, 0.027]	−0.0957 (-0.191, 0.000) [-0.230, 0.038]
$\bar{R}^2$	0.4572	0.4756	0.4666	0.4830	0.4684	0.4835
N: Agricultural HHs	424	384	424	384	424	384
N	682	626	682	626	682	626
Mean of treated in 1999	0.7597	0.7769	0.7597	0.7769	0.7597	0.7769
Mean of treated in 2002	0.4690	0.4959	0.4690	0.4959	0.4690	0.4959
Mean of control in 1999	0.7123	0.7135	0.7123	0.7135	0.7123	0.7135
Mean of control in 2002	0.3915	0.3906	0.3915	0.3906	0.3915	0.3906
B. 11 - 18						
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0640* (-0.116, -0.012) [-0.134, 0.006]	−0.0730* (-0.132, -0.014) [-0.152, 0.006]	−0.0693* (-0.120, -0.018) [-0.141, 0.002]	−0.0788* (-0.137, -0.021) [-0.159, 0.001]	−0.0712** (-0.121, -0.021) [-0.138, -0.004]	−0.0822** (-0.139, -0.025) [-0.160, -0.005]
___ * Older sisters			−0.0472 (-0.174, 0.080) [-0.230, 0.135]	−0.0327 (-0.141, 0.076) [-0.187, 0.121]	−0.0498 (-0.180, 0.081) [-0.238, 0.138]	−0.0339 (-0.146, 0.078) [-0.194, 0.126]
___ * Older brothers			−0.0865 (-0.179, 0.006) [-0.218, 0.045]	−0.0772 (-0.179, 0.024) [-0.221, 0.067]	−0.0834 (-0.179, 0.012) [-0.219, 0.052]	−0.0781 (-0.182, 0.025) [-0.225, 0.069]
$\bar{R}^2$	0.5115	0.5275	0.5176	0.5326	0.5210	0.5344
N: Agricultural HHs	348	317	348	317	348	317
N	557	513	557	513	557	513
Mean of treated in 1999	0.7225	0.7398	0.7225	0.7398	0.7225	0.7398
Mean of treated in 2002	0.4211	0.4439	0.4211	0.4439	0.4211	0.4439
Mean of control in 1999	0.6667	0.6719	0.6667	0.6719	0.6667	0.6719
Mean of control in 2002	0.3218	0.3281	0.3218	0.3281	0.3218	0.3281
C. 12 - 18						
	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0445 (-0.088, -0.001) [-0.105, 0.016]	−0.0585* (-0.105, -0.012) [-0.125, 0.008]	−0.0556* (-0.097, -0.015) [-0.114, 0.003]	−0.0697** (-0.118, -0.022) [-0.139, -0.001]	−0.0601** (-0.100, -0.020) [-0.112, -0.008]	−0.0776** (-0.124, -0.032) [-0.140, -0.016]
___ * Older sisters			−0.0544 (-0.184, 0.076) [-0.238, 0.129]	−0.0351 (-0.152, 0.082) [-0.195, 0.125]	−0.0530 (-0.184, 0.077) [-0.236, 0.130]	−0.0335 (-0.152, 0.085) [-0.195, 0.128]
___ * Older brothers			−0.1137* (-0.198, -0.030) [-0.237, 0.010]	−0.1044 (-0.204, -0.004) [-0.252, 0.043]	−0.1118* (-0.198, -0.025) [-0.239, 0.015]	−0.1052 (-0.207, -0.003) [-0.255, 0.044]
$\bar{R}^2$	0.5355	0.5534	0.5431	0.5598	0.5472	0.5623
N: Agricultural HHs	288	262	288	262	288	262
N	464	425	464	425	464	425
Mean of treated in 1999	0.6761	0.6933	0.6761	0.6933	0.6761	0.6933
Mean of treated in 2002	0.3523	0.3742	0.3523	0.3742	0.3523	0.3742
Mean of control in 1999	0.6285	0.6374	0.6285	0.6374	0.6285	0.6374
Mean of control in 2002	0.2535	0.2557	0.2535	0.2557	0.2535	0.2557

Source: Compiled from IFPRI data.

Notes:

1. Each specification has two sample variations, All which uses all children in a household and Direct which uses only direct offsprings of household head. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 43: Main results by age lower bound, income ag HH definition

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
			A. 10 - 18			
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0582 (-0.114, -0.002) [-0.132, 0.015]	−0.0793** (-0.133, -0.026) [-0.151, -0.008]	−0.0652* (-0.114, -0.017) [-0.132, 0.001]	−0.0878** (-0.134, -0.042) [-0.153, -0.023]	−0.0650** (-0.111, -0.019) [-0.126, -0.004]	−0.0887** (-0.133, -0.045) [-0.150, -0.028]
___ * Older sisters			−0.0441 (-0.119, 0.031) [-0.151, 0.063]	−0.0224 (-0.085, 0.040) [-0.109, 0.064]	−0.0436 (-0.118, 0.031) [-0.149, 0.062]	−0.0222 (-0.085, 0.041) [-0.109, 0.065]
___ * Older brothers			−0.1034* (-0.190, -0.017) [-0.222, 0.015]	−0.0884 (-0.175, -0.002) [-0.207, 0.030]	−0.1023* (-0.190, -0.015) [-0.223, 0.018]	−0.0899 (-0.177, -0.003) [-0.210, 0.030]
$\bar{R}^2$	0.4597	0.4790	0.4683	0.4859	0.4703	0.4865
N: Agricultural HHs	400	360	400	360	400	360
N	682	626	682	626	682	626
Mean of treated in 1999	0.7589	0.7744	0.7589	0.7744	0.7589	0.7744
Mean of treated in 2002	0.4752	0.5000	0.4752	0.5000	0.4752	0.5000
Mean of control in 1999	0.7100	0.7111	0.7100	0.7111	0.7100	0.7111
Mean of control in 2002	0.3825	0.3806	0.3825	0.3806	0.3825	0.3806
			B. 11 - 18			
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0717* (-0.130, -0.013) [-0.150, 0.006]	−0.0798* (-0.143, -0.016) [-0.165, 0.005]	−0.0771* (-0.134, -0.020) [-0.157, 0.003]	−0.0857** (-0.146, -0.025) [-0.170, -0.001]	−0.0812** (-0.136, -0.026) [-0.154, -0.008]	−0.0908** (-0.150, -0.032) [-0.171, -0.011]
___ * Older sisters			−0.0419 (-0.174, 0.090) [-0.226, 0.142]	−0.0278 (-0.144, 0.088) [-0.188, 0.132]	−0.0444 (-0.180, 0.091) [-0.234, 0.146]	−0.0292 (-0.148, 0.090) [-0.194, 0.136]
___ * Older brothers			−0.0768 (-0.170, 0.017) [-0.209, 0.056]	−0.0672 (-0.170, 0.035) [-0.213, 0.079]	−0.0738 (-0.170, 0.022) [-0.211, 0.063]	−0.0689 (-0.174, 0.036) [-0.218, 0.081]
$\bar{R}^2$	0.5140	0.5309	0.5192	0.5352	0.5232	0.5376
N: Agricultural HHs	331	300	331	300	331	300
N	557	513	557	513	557	513
Mean of treated in 1999	0.7168	0.7324	0.7168	0.7324	0.7168	0.7324
Mean of treated in 2002	0.4204	0.4413	0.4204	0.4413	0.4204	0.4413
Mean of control in 1999	0.6677	0.6733	0.6677	0.6733	0.6677	0.6733
Mean of control in 2002	0.3172	0.3233	0.3172	0.3233	0.3172	0.3233
			C. 12 - 18			
	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0562 (-0.113, 0.001) [-0.132, 0.020]	−0.0711* (-0.128, -0.014) [-0.150, 0.008]	−0.0671* (-0.123, -0.011) [-0.145, 0.011]	−0.0821* (-0.140, -0.025) [-0.165, 0.000]	−0.0744** (-0.127, -0.022) [-0.142, -0.006]	−0.0920** (-0.146, -0.038) [-0.165, -0.019]
___ * Older sisters			−0.0500 (-0.192, 0.092) [-0.241, 0.141]	−0.0301 (-0.162, 0.102) [-0.204, 0.144]	−0.0486 (-0.192, 0.095) [-0.241, 0.143]	−0.0287 (-0.163, 0.106) [-0.205, 0.148]
___ * Older brothers			−0.0967 (-0.186, -0.007) [-0.228, 0.035]	−0.0858 (-0.192, 0.020) [-0.242, 0.070]	−0.0956 (-0.188, -0.003) [-0.231, 0.040]	−0.0884 (-0.197, 0.020) [-0.247, 0.070]
$\bar{R}^2$	0.5373	0.5559	0.5437	0.5609	0.5485	0.5644
N: Agricultural HHs	274	248	274	248	274	248
N	464	425	464	425	464	425
Mean of treated in 1999	0.6684	0.6836	0.6684	0.6836	0.6684	0.6836
Mean of treated in 2002	0.3526	0.3729	0.3526	0.3729	0.3526	0.3729
Mean of control in 1999	0.6314	0.6411	0.6314	0.6411	0.6314	0.6411
Mean of control in 2002	0.2482	0.2500	0.2482	0.2500	0.2482	0.2500

Source: Compiled from IFPRI data.

Notes:

1. Each specification has two sample variations, All which uses all children in a household and Direct which uses only direct offsprings of household head. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.

2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 44: Main results by agricultural household definitions, 10 years and older

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
AgHH def: agHH0	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0462 (-0.101, 0.008) [-0.119, 0.027]	−0.0673* (-0.122, -0.013) [-0.141, 0.007]	−0.0536* (-0.102, -0.006) [-0.121, 0.013]	−0.0760** (-0.126, -0.026) [-0.147, -0.005]	−0.0514* (-0.099, -0.004) [-0.114, 0.012]	−0.0754** (-0.125, -0.026) [-0.144, -0.007]
___ * Older sisters			−0.0494 (-0.124, 0.025) [-0.158, 0.059]	−0.0278 (-0.087, 0.031) [-0.112, 0.057]	−0.0502 (-0.124, 0.024) [-0.159, 0.058]	−0.0281 (-0.088, 0.032) [-0.114, 0.057]
___ * Older brothers			−0.1095* (-0.205, -0.014) [-0.242, 0.023]	−0.0951 (-0.190, 0.000) [-0.228, 0.038]	−0.1074* (-0.204, -0.011) [-0.242, 0.027]	−0.0957 (-0.191, 0.000) [-0.230, 0.038]
$\bar{R}^2$	0.4572	0.4756	0.4666	0.4830	0.4684	0.4835
N: Agricultural HHs	424	384	424	384	424	384
N	682	626	682	626	682	626
Mean of treated in 1999	0.7597	0.7769	0.7597	0.7769	0.7597	0.7769
Mean of treated in 2002	0.4690	0.4959	0.4690	0.4959	0.4690	0.4959
Mean of control in 1999	0.7123	0.7135	0.7123	0.7135	0.7123	0.7135
Mean of control in 2002	0.3915	0.3906	0.3915	0.3906	0.3915	0.3906
AgHH def: isagHH	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0582 (-0.114, -0.002) [-0.132, 0.015]	−0.0793** (-0.133, -0.026) [-0.151, -0.008]	−0.0652* (-0.114, -0.017) [-0.132, 0.001]	−0.0878** (-0.134, -0.042) [-0.153, -0.023]	−0.0650** (-0.111, -0.019) [-0.126, -0.004]	−0.0887** (-0.133, -0.045) [-0.150, -0.028]
___ * Older sisters			−0.0441 (-0.119, 0.031) [-0.151, 0.063]	−0.0224 (-0.085, 0.040) [-0.109, 0.064]	−0.0436 (-0.118, 0.031) [-0.149, 0.062]	−0.0222 (-0.085, 0.041) [-0.109, 0.065]
___ * Older brothers			−0.1034* (-0.190, -0.017) [-0.222, 0.015]	−0.0884 (-0.175, -0.002) [-0.207, 0.030]	−0.1023* (-0.190, -0.015) [-0.223, 0.018]	−0.0899 (-0.177, -0.003) [-0.210, 0.030]
$\bar{R}^2$	0.4597	0.4790	0.4683	0.4859	0.4703	0.4865
N: Agricultural HHs	400	360	400	360	400	360
N	682	626	682	626	682	626
Mean of treated in 1999	0.7589	0.7744	0.7589	0.7744	0.7589	0.7744
Mean of treated in 2002	0.4752	0.5000	0.4752	0.5000	0.4752	0.5000
Mean of control in 1999	0.7100	0.7111	0.7100	0.7111	0.7100	0.7111
Mean of control in 2002	0.3825	0.3806	0.3825	0.3806	0.3825	0.3806
AgHH def: hdagHH	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0572* (-0.108, -0.007) [-0.124, 0.010]	−0.0812** (-0.134, -0.029) [-0.153, -0.009]	−0.0601* (-0.107, -0.013) [-0.124, 0.004]	−0.0842** (-0.135, -0.033) [-0.156, -0.013]	−0.0579* (-0.103, -0.013) [-0.117, 0.001]	−0.0833** (-0.132, -0.034) [-0.151, -0.016]
___ * Older sisters			−0.0505 (-0.124, 0.023) [-0.152, 0.051]	−0.0266 (-0.086, 0.033) [-0.106, 0.053]	−0.0496 (-0.122, 0.023) [-0.149, 0.050]	−0.0267 (-0.086, 0.033) [-0.106, 0.052]
___ * Older brothers			−0.0747 (-0.170, 0.021) [-0.198, 0.049]	−0.0561 (-0.148, 0.036) [-0.177, 0.065]	−0.0733 (-0.170, 0.023) [-0.198, 0.052]	−0.0567 (-0.150, 0.036) [-0.179, 0.066]
$\bar{R}^2$	0.4596	0.4789	0.4658	0.4829	0.4679	0.4835
N: Agricultural HHs	381	346	381	346	381	346
N	682	626	682	626	682	626
Mean of treated in 1999	0.7276	0.7464	0.7276	0.7464	0.7276	0.7464
Mean of treated in 2002	0.4585	0.4893	0.4585	0.4893	0.4585	0.4893
Mean of control in 1999	0.7323	0.7312	0.7323	0.7312	0.7323	0.7312
Mean of control in 2002	0.3911	0.3844	0.3911	0.3844	0.3911	0.3844
AgHH def: ocagHH	(19)	(20)	(21)	(22)	(23)	(24)
Agricultural HHs * year 2002	−0.0248 (-0.066, 0.017) [-0.081, 0.031]	−0.0468 (-0.090, -0.004) [-0.106, 0.013]	−0.0287 (-0.061, 0.004) [-0.075, 0.018]	−0.0523* (-0.089, -0.016) [-0.106, 0.001]	−0.0285 (-0.060, 0.003) [-0.073, 0.016]	−0.0515** (-0.087, -0.016) [-0.103, -0.000]
___ * Older sisters			−0.0339 (-0.102, 0.034) [-0.128, 0.060]	−0.0146 (-0.072, 0.043) [-0.091, 0.062]	−0.0330 (-0.101, 0.035) [-0.126, 0.060]	−0.0152 (-0.073, 0.043) [-0.092, 0.062]
___ * Older brothers			−0.0820 (-0.172, 0.008) [-0.202, 0.038]	−0.0665 (-0.162, 0.029) [-0.195, 0.062]	−0.0801 (-0.172, 0.012) [-0.202, 0.042]	−0.0664 (-0.162, 0.030) [-0.195, 0.062]
$\bar{R}^2$	0.4563	0.4739	0.4620	0.4780	0.4641	0.4786
N: Agricultural HHs	380	340	380	340	380	340
N	682	626	682	626	682	626
Mean of treated in 1999	0.7715	0.7867	0.7715	0.7867	0.7715	0.7867
Mean of treated in 2002	0.4636	0.4860	0.4636	0.4860	0.4636	0.4860
Mean of control in 1999	0.6974	0.6971	0.6974	0.6971	0.6974	0.6971
Mean of control in 2002	0.3868	0.3853	0.3868	0.3853	0.3868	0.3853

Source: Compiled from IFPRI data. Cohort of 10 - 18 year olds in 1999.

- Occupation based definition of agricultural household is associated with agricultural and nonagricultural activities as the main income source (36 households; NGO worker, rickshaw puller, carpenter, cottage industry owner, trader, teacher, fisherman, poultry and cattle raiser; see p.5 of Create2RoundPanel.pdf). This definition may have measurement errors which can explain the weaker impacts.

Correlation between alternative agricultural household definitions

	agHH0	isagHH	hdagHH
isagHH	0.944		
hdagHH	0.937	0.964	
ocagHH	0.824	0.760	0.752

Table 45: Main results by agricultural household definitions, 11 years and older

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
AgHH def: agHH0	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0640*	−0.0730*	−0.0693*	−0.0788*	−0.0712**	−0.0822**
	(-0.116, -0.012)	(-0.132, -0.014)	(-0.120, -0.018)	(-0.137, -0.021)	(-0.121, -0.021)	(-0.139, -0.025)
	[-0.134, 0.006]	[-0.152, 0.006]	[-0.141, 0.002]	[-0.159, 0.001]	[-0.138, -0.004]	[-0.160, -0.005]
___ * Older sisters			−0.0472	−0.0327	−0.0498	−0.0339
			(-0.174, 0.080)	(-0.141, 0.076)	(-0.180, 0.081)	(-0.146, 0.078)
			[-0.230, 0.135]	[-0.187, 0.121]	[-0.238, 0.138]	[-0.194, 0.126]
___ * Older brothers			−0.0865	−0.0772	−0.0834	−0.0781
			(-0.179, 0.006)	(-0.179, 0.024)	(-0.179, 0.012)	(-0.182, 0.025)
			[-0.218, 0.045]	[-0.221, 0.067]	[-0.219, 0.052]	[-0.225, 0.069]
$\bar{R}^2$	0.5115	0.5275	0.5176	0.5326	0.5210	0.5344
N: Agricultural HHs	348	317	348	317	348	317
N	557	513	557	513	557	513
Mean of treated in 1999	0.7225	0.7398	0.7225	0.7398	0.7225	0.7398
Mean of treated in 2002	0.4211	0.4439	0.4211	0.4439	0.4211	0.4439
Mean of control in 1999	0.6667	0.6719	0.6667	0.6719	0.6667	0.6719
Mean of control in 2002	0.3218	0.3281	0.3218	0.3281	0.3218	0.3281
AgHH def: isagHH	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0717*	−0.0798*	−0.0771*	−0.0857**	−0.0812**	−0.0908**
	(-0.130, -0.013)	(-0.143, -0.016)	(-0.134, -0.020)	(-0.146, -0.025)	(-0.136, -0.026)	(-0.150, -0.032)
	[-0.150, 0.006]	[-0.165, 0.005]	[-0.157, 0.003]	[-0.170, -0.001]	[-0.154, -0.008]	[-0.171, -0.011]
___ * Older sisters			−0.0419	−0.0278	−0.0444	−0.0292
			(-0.174, 0.090)	(-0.144, 0.088)	(-0.180, 0.091)	(-0.148, 0.090)
			[-0.226, 0.142]	[-0.188, 0.132]	[-0.234, 0.146]	[-0.194, 0.136]
___ * Older brothers			−0.0768	−0.0672	−0.0738	−0.0689
			(-0.170, 0.017)	(-0.170, 0.035)	(-0.170, 0.022)	(-0.174, 0.036)
			[-0.209, 0.056]	[-0.213, 0.079]	[-0.211, 0.063]	[-0.218, 0.081]
$\bar{R}^2$	0.5140	0.5309	0.5192	0.5352	0.5232	0.5376
N: Agricultural HHs	331	300	331	300	331	300
N	557	513	557	513	557	513
Mean of treated in 1999	0.7168	0.7324	0.7168	0.7324	0.7168	0.7324
Mean of treated in 2002	0.4204	0.4413	0.4204	0.4413	0.4204	0.4413
Mean of control in 1999	0.6677	0.6733	0.6677	0.6733	0.6677	0.6733
Mean of control in 2002	0.3172	0.3233	0.3172	0.3233	0.3172	0.3233
AgHH def: hdagHH	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0724*	−0.0809*	−0.0741**	−0.0825*	−0.0751**	−0.0843**
	(-0.127, -0.018)	(-0.142, -0.020)	(-0.126, -0.022)	(-0.142, -0.023)	(-0.126, -0.024)	(-0.143, -0.026)
	[-0.146, 0.001]	[-0.165, 0.004]	[-0.147, -0.001]	[-0.167, 0.002]	[-0.144, -0.007]	[-0.166, -0.003]
___ * Older sisters			−0.0386	−0.0245	−0.0401	−0.0261
			(-0.164, 0.087)	(-0.136, 0.087)	(-0.167, 0.087)	(-0.139, 0.087)
			[-0.208, 0.131]	[-0.174, 0.125]	[-0.211, 0.130]	[-0.177, 0.125]
___ * Older brothers			−0.0497	−0.0404	−0.0466	−0.0406
			(-0.129, 0.029)	(-0.131, 0.050)	(-0.127, 0.033)	(-0.132, 0.051)
			[-0.157, 0.058]	[-0.165, 0.085]	[-0.155, 0.062]	[-0.167, 0.085]
$\bar{R}^2$	0.5155	0.5321	0.5190	0.5347	0.5226	0.5367
N: Agricultural HHs	314	287	314	287	314	287
N	557	513	557	513	557	513
Mean of treated in 1999	0.6790	0.6991	0.6790	0.6991	0.6790	0.6991
Mean of treated in 2002	0.4074	0.4336	0.4074	0.4336	0.4074	0.4336
Mean of control in 1999	0.6943	0.6969	0.6943	0.6969	0.6943	0.6969
Mean of control in 2002	0.3217	0.3240	0.3217	0.3240	0.3217	0.3240
AgHH def: ocagHH	(19)	(20)	(21)	(22)	(23)	(24)
Agricultural HHs * year 2002	−0.0483*	−0.0612**	−0.0506**	−0.0644**	−0.0540**	−0.0662**
	(-0.085, -0.012)	(-0.103, -0.020)	(-0.079, -0.022)	(-0.097, -0.031)	(-0.083, -0.025)	(-0.100, -0.033)
	[-0.097, 0.000]	[-0.118, -0.005]	[-0.092, -0.009]	[-0.113, -0.016]	[-0.095, -0.013]	[-0.115, -0.018]
___ * Older sisters			−0.0169	−0.0061	−0.0150	−0.0049
			(-0.144, 0.110)	(-0.116, 0.103)	(-0.144, 0.114)	(-0.116, 0.106)
			[-0.190, 0.156]	[-0.154, 0.142]	[-0.190, 0.160]	[-0.154, 0.145]
___ * Older brothers			−0.0562	−0.0455	−0.0542	−0.0461
			(-0.138, 0.026)	(-0.139, 0.048)	(-0.138, 0.029)	(-0.140, 0.048)
			[-0.168, 0.055]	[-0.174, 0.083]	[-0.168, 0.060]	[-0.175, 0.083]
$\bar{R}^2$	0.5102	0.5260	0.5130	0.5280	0.5163	0.5293
N: Agricultural HHs	308	277	308	277	308	277
N	557	513	557	513	557	513
Mean of treated in 1999	0.7390	0.7542	0.7390	0.7542	0.7390	0.7542
Mean of treated in 2002	0.4217	0.4407	0.4217	0.4407	0.4217	0.4407
Mean of control in 1999	0.6461	0.6498	0.6461	0.6498	0.6461	0.6498
Mean of control in 2002	0.3084	0.3141	0.3084	0.3141	0.3084	0.3141

Source: Compiled from IFPRI data. Cohort of 11 - 18 year olds in 1999.

Notes:

1. Each specification has two sample variations, All which uses all children in a household and Direct which uses only direct offsprings of household head. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger

Table 46: Main results by agricultural household definitions, 12 years and older

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
AgHH def: agHH0	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0445 (-0.088, -0.001) [-0.105, 0.016]	−0.0585* (-0.105, -0.012) [-0.125, 0.008]	−0.0556* (-0.097, -0.015) [-0.114, 0.003]	−0.0697** (-0.118, -0.022) [-0.139, -0.001]	−0.0601** (-0.100, -0.020) [-0.112, -0.008]	−0.0776** (-0.124, -0.032) [-0.140, -0.016]
___ * Older sisters			−0.0544 (-0.184, 0.076) [-0.238, 0.129]	−0.0351 (-0.152, 0.082) [-0.195, 0.125]	−0.0530 (-0.184, 0.077) [-0.236, 0.130]	−0.0335 (-0.152, 0.085) [-0.195, 0.128]
___ * Older brothers			−0.1137* (-0.198, -0.030) [-0.237, 0.010]	−0.1044 (-0.204, -0.004) [-0.252, 0.043]	−0.1118* (-0.198, -0.025) [-0.239, 0.015]	−0.1052 (-0.207, -0.003) [-0.255, 0.044]
$\bar{R}^2$	0.5355	0.5534	0.5431	0.5598	0.5472	0.5623
N: Agricultural HHs	288	262	288	262	288	262
N	464	425	464	425	464	425
Mean of treated in 1999	0.6761	0.6933	0.6761	0.6933	0.6761	0.6933
Mean of treated in 2002	0.3523	0.3742	0.3523	0.3742	0.3523	0.3742
Mean of control in 1999	0.6285	0.6374	0.6285	0.6374	0.6285	0.6374
Mean of control in 2002	0.2535	0.2557	0.2535	0.2557	0.2535	0.2557
AgHH def: isagHH	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0562 (-0.113, 0.001) [-0.132, 0.020]	−0.0711* (-0.128, -0.014) [-0.150, 0.008]	−0.0671* (-0.123, -0.011) [-0.145, 0.011]	−0.0821* (-0.140, -0.025) [-0.165, 0.000]	−0.0744** (-0.127, -0.022) [-0.142, -0.006]	−0.0920** (-0.146, -0.038) [-0.165, -0.019]
___ * Older sisters			−0.0500 (-0.192, 0.092) [-0.241, 0.141]	−0.0301 (-0.162, 0.102) [-0.204, 0.144]	−0.0486 (-0.192, 0.095) [-0.241, 0.143]	−0.0287 (-0.163, 0.106) [-0.205, 0.148]
___ * Older brothers			−0.0967 (-0.186, -0.007) [-0.228, 0.035]	−0.0858 (-0.192, 0.020) [-0.242, 0.070]	−0.0956 (-0.188, -0.003) [-0.231, 0.040]	−0.0884 (-0.197, 0.020) [-0.247, 0.070]
$\bar{R}^2$	0.5373	0.5559	0.5437	0.5609	0.5485	0.5644
N: Agricultural HHs	274	248	274	248	274	248
N	464	425	464	425	464	425
Mean of treated in 1999	0.6684	0.6836	0.6684	0.6836	0.6684	0.6836
Mean of treated in 2002	0.3526	0.3729	0.3526	0.3729	0.3526	0.3729
Mean of control in 1999	0.6314	0.6411	0.6314	0.6411	0.6314	0.6411
Mean of control in 2002	0.2482	0.2500	0.2482	0.2500	0.2482	0.2500
AgHH def: hdagHH	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0584* (-0.109, -0.008) [-0.128, 0.011]	−0.0694* (-0.118, -0.021) [-0.140, 0.001]	−0.0627* (-0.110, -0.016) [-0.130, 0.004]	−0.0736** (-0.122, -0.025) [-0.147, -0.001]	−0.0660** (-0.112, -0.021) [-0.126, -0.006]	−0.0789** (-0.126, -0.032) [-0.147, -0.011]
___ * Older sisters			−0.0380 (-0.170, 0.094) [-0.210, 0.134]	−0.0192 (-0.148, 0.109) [-0.184, 0.146]	−0.0369 (-0.169, 0.096) [-0.208, 0.134]	−0.0185 (-0.148, 0.111) [-0.184, 0.147]
___ * Older brothers			−0.0499 (-0.136, 0.036) [-0.172, 0.072]	−0.0415 (-0.143, 0.060) [-0.186, 0.103]	−0.0477 (-0.135, 0.039) [-0.170, 0.074]	−0.0407 (-0.143, 0.062) [-0.186, 0.105]
$\bar{R}^2$	0.5373	0.5555	0.5405	0.5578	0.5450	0.5604
N: Agricultural HHs	260	237	260	237	260	237
N	464	425	464	425	464	425
Mean of treated in 1999	0.6275	0.6489	0.6275	0.6489	0.6275	0.6489
Mean of treated in 2002	0.3333	0.3564	0.3333	0.3564	0.3333	0.3564
Mean of control in 1999	0.6615	0.6667	0.6615	0.6667	0.6615	0.6667
Mean of control in 2002	0.2577	0.2574	0.2577	0.2574	0.2577	0.2574
AgHH def: ocagHH	(19)	(20)	(21)	(22)	(23)	(24)
Agricultural HHs * year 2002	−0.0274 (-0.066, 0.011) [-0.077, 0.022]	−0.0428** (-0.069, -0.017) [-0.080, -0.006]	−0.0355 (-0.070, -0.001) [-0.080, 0.009]	−0.0516** (-0.080, -0.023) [-0.091, -0.012]	−0.0402* (-0.075, -0.006) [-0.084, 0.003]	−0.0557** (-0.084, -0.027) [-0.094, -0.017]
___ * Older sisters			−0.0078 (-0.135, 0.120) [-0.175, 0.160]	0.0110 (-0.107, 0.129) [-0.141, 0.163]	−0.0024 (-0.131, 0.126) [-0.170, 0.165]	0.0152 (-0.104, 0.135) [-0.137, 0.168]
___ * Older brothers			−0.0623 (-0.161, 0.036) [-0.196, 0.071]	−0.0514 (-0.162, 0.059) [-0.203, 0.100]	−0.0624 (-0.161, 0.036) [-0.196, 0.071]	−0.0530 (-0.163, 0.057) [-0.203, 0.097]
$\bar{R}^2$	0.5331	0.5501	0.5363	0.5528	0.5404	0.5547
N: Agricultural HHs	254	228	254	228	254	228
N	464	425	464	425	464	425
Mean of treated in 1999	0.6952	0.7107	0.6952	0.7107	0.6952	0.7107
Mean of treated in 2002	0.3524	0.3706	0.3524	0.3706	0.3524	0.3706
Mean of control in 1999	0.6063	0.6140	0.6063	0.6140	0.6063	0.6140
Mean of control in 2002	0.2402	0.2412	0.2402	0.2412	0.2402	0.2412

Source: Compiled from IFPRI data. Cohort of 12 - 18 year olds in 1999.

Notes:

1. Each specification has two sample variations, All which uses all children in a household and Direct which uses only direct offsprings of household head. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger

Table 47: Main results by age lowerbound, default ag HH definition

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
A. 10 - 18						
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0462 (-0.101, 0.008) [-0.119, 0.027]	−0.0673* (-0.122, -0.013) [-0.141, 0.007]	−0.0536* (-0.102, -0.006) [-0.121, 0.013]	−0.0760** (-0.126, -0.026) [-0.147, -0.005]	−0.0514* (-0.099, -0.004) [-0.114, 0.012]	−0.0754** (-0.125, -0.026) [-0.144, -0.007]
___ * Older sisters			−0.0494 (-0.124, 0.025) [-0.158, 0.059]	−0.0278 (-0.087, 0.031) [-0.112, 0.057]	−0.0502 (-0.124, 0.024) [-0.159, 0.058]	−0.0281 (-0.088, 0.032) [-0.114, 0.057]
___ * Older brothers			−0.1095* (-0.205, -0.014) [-0.242, 0.023]	−0.0951 (-0.190, 0.000) [-0.228, 0.038]	−0.1074* (-0.204, -0.011) [-0.242, 0.027]	−0.0957 (-0.191, 0.000) [-0.230, 0.038]
$\bar{R}^2$	0.4572	0.4756	0.4666	0.4830	0.4684	0.4835
N: Agricultural HHs	424	384	424	384	424	384
N	682	626	682	626	682	626
Mean of treated in 1999	0.7597	0.7769	0.7597	0.7769	0.7597	0.7769
Mean of treated in 2002	0.4690	0.4959	0.4690	0.4959	0.4690	0.4959
Mean of control in 1999	0.7123	0.7135	0.7123	0.7135	0.7123	0.7135
Mean of control in 2002	0.3915	0.3906	0.3915	0.3906	0.3915	0.3906
B. 11 - 18						
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0640* (-0.116, -0.012) [-0.134, 0.006]	−0.0730* (-0.132, -0.014) [-0.152, 0.006]	−0.0693* (-0.120, -0.018) [-0.141, 0.002]	−0.0788* (-0.137, -0.021) [-0.159, 0.001]	−0.0712** (-0.121, -0.021) [-0.138, -0.004]	−0.0822** (-0.139, -0.025) [-0.160, -0.005]
___ * Older sisters			−0.0472 (-0.174, 0.080) [-0.230, 0.135]	−0.0327 (-0.141, 0.076) [-0.187, 0.121]	−0.0498 (-0.180, 0.081) [-0.238, 0.138]	−0.0339 (-0.146, 0.078) [-0.194, 0.126]
___ * Older brothers			−0.0865 (-0.179, 0.006) [-0.218, 0.045]	−0.0772 (-0.179, 0.024) [-0.221, 0.067]	−0.0834 (-0.179, 0.012) [-0.219, 0.052]	−0.0781 (-0.182, 0.025) [-0.225, 0.069]
$\bar{R}^2$	0.5115	0.5275	0.5176	0.5326	0.5210	0.5344
N: Agricultural HHs	348	317	348	317	348	317
N	557	513	557	513	557	513
Mean of treated in 1999	0.7225	0.7398	0.7225	0.7398	0.7225	0.7398
Mean of treated in 2002	0.4211	0.4439	0.4211	0.4439	0.4211	0.4439
Mean of control in 1999	0.6667	0.6719	0.6667	0.6719	0.6667	0.6719
Mean of control in 2002	0.3218	0.3281	0.3218	0.3281	0.3218	0.3281
C. 12 - 18						
	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0445 (-0.088, -0.001) [-0.105, 0.016]	−0.0585* (-0.105, -0.012) [-0.125, 0.008]	−0.0556* (-0.097, -0.015) [-0.114, 0.003]	−0.0697** (-0.118, -0.022) [-0.139, -0.001]	−0.0601** (-0.100, -0.020) [-0.112, -0.008]	−0.0776** (-0.124, -0.032) [-0.140, -0.016]
___ * Older sisters			−0.0544 (-0.184, 0.076) [-0.238, 0.129]	−0.0351 (-0.152, 0.082) [-0.195, 0.125]	−0.0530 (-0.184, 0.077) [-0.236, 0.130]	−0.0335 (-0.152, 0.085) [-0.195, 0.128]
___ * Older brothers			−0.1137* (-0.198, -0.030) [-0.237, 0.010]	−0.1044 (-0.204, -0.004) [-0.252, 0.043]	−0.1118* (-0.198, -0.025) [-0.239, 0.015]	−0.1052 (-0.207, -0.003) [-0.255, 0.044]
$\bar{R}^2$	0.5355	0.5534	0.5431	0.5598	0.5472	0.5623
N: Agricultural HHs	288	262	288	262	288	262
N	464	425	464	425	464	425
Mean of treated in 1999	0.6761	0.6933	0.6761	0.6933	0.6761	0.6933
Mean of treated in 2002	0.3523	0.3742	0.3523	0.3742	0.3523	0.3742
Mean of control in 1999	0.6285	0.6374	0.6285	0.6374	0.6285	0.6374
Mean of control in 2002	0.2535	0.2557	0.2535	0.2557	0.2535	0.2557

Source: Compiled from IFPRI data. Default ag HH def is used. Cohort of 10 - 18 year olds in 1999.

Notes:

1. Each specification has two sample variations, All which uses all children in a household and Direct which uses only direct offsprings of household head. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 48: Main results by age lowerbound, isagHH ag HH definition

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
A. 10 - 18						
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0582 (-0.114, -0.002) [-0.132, 0.015]	−0.0793** (-0.133, -0.026) [-0.151, -0.008]	−0.0652* (-0.114, -0.017) [-0.132, 0.001]	−0.0878** (-0.134, -0.042) [-0.153, -0.023]	−0.0650** (-0.111, -0.019) [-0.126, -0.004]	−0.0887** (-0.133, -0.045) [-0.150, -0.028]
___ * Older sisters			−0.0441 (-0.119, 0.031) [-0.151, 0.063]	−0.0224 (-0.085, 0.040) [-0.109, 0.064]	−0.0436 (-0.118, 0.031) [-0.149, 0.062]	−0.0222 (-0.085, 0.041) [-0.109, 0.065]
___ * Older brothers			−0.1034* (-0.190, -0.017) [-0.222, 0.015]	−0.0884 (-0.175, -0.002) [-0.207, 0.030]	−0.1023* (-0.190, -0.015) [-0.223, 0.018]	−0.0899 (-0.177, -0.003) [-0.210, 0.030]
$\bar{R}^2$	0.4597	0.4790	0.4683	0.4859	0.4703	0.4865
N: Agricultural HHs	400	360	400	360	400	360
N	682	626	682	626	682	626
Mean of treated in 1999	0.7589	0.7744	0.7589	0.7744	0.7589	0.7744
Mean of treated in 2002	0.4752	0.5000	0.4752	0.5000	0.4752	0.5000
Mean of control in 1999	0.7100	0.7111	0.7100	0.7111	0.7100	0.7111
Mean of control in 2002	0.3825	0.3806	0.3825	0.3806	0.3825	0.3806
B. 11 - 18						
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0717* (-0.130, -0.013) [-0.150, 0.006]	−0.0798* (-0.143, -0.016) [-0.165, 0.005]	−0.0771* (-0.134, -0.020) [-0.157, 0.003]	−0.0857** (-0.146, -0.025) [-0.170, -0.001]	−0.0812** (-0.136, -0.026) [-0.154, -0.008]	−0.0908** (-0.150, -0.032) [-0.171, -0.011]
___ * Older sisters			−0.0419 (-0.174, 0.090) [-0.226, 0.142]	−0.0278 (-0.144, 0.088) [-0.188, 0.132]	−0.0444 (-0.180, 0.091) [-0.234, 0.146]	−0.0292 (-0.148, 0.090) [-0.194, 0.136]
___ * Older brothers			−0.0768 (-0.170, 0.017) [-0.209, 0.056]	−0.0672 (-0.170, 0.035) [-0.213, 0.079]	−0.0738 (-0.170, 0.022) [-0.211, 0.063]	−0.0689 (-0.174, 0.036) [-0.218, 0.081]
$\bar{R}^2$	0.5140	0.5309	0.5192	0.5352	0.5232	0.5376
N: Agricultural HHs	331	300	331	300	331	300
N	557	513	557	513	557	513
Mean of treated in 1999	0.7168	0.7324	0.7168	0.7324	0.7168	0.7324
Mean of treated in 2002	0.4204	0.4413	0.4204	0.4413	0.4204	0.4413
Mean of control in 1999	0.6677	0.6733	0.6677	0.6733	0.6677	0.6733
Mean of control in 2002	0.3172	0.3233	0.3172	0.3233	0.3172	0.3233
C. 12 - 18						
	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0562 (-0.113, 0.001) [-0.132, 0.020]	−0.0711* (-0.128, -0.014) [-0.150, 0.008]	−0.0671* (-0.123, -0.011) [-0.145, 0.011]	−0.0821* (-0.140, -0.025) [-0.165, 0.000]	−0.0744** (-0.127, -0.022) [-0.142, -0.006]	−0.0920** (-0.146, -0.038) [-0.165, -0.019]
___ * Older sisters			−0.0500 (-0.192, 0.092) [-0.241, 0.141]	−0.0301 (-0.162, 0.102) [-0.204, 0.144]	−0.0486 (-0.192, 0.095) [-0.241, 0.143]	−0.0287 (-0.163, 0.106) [-0.205, 0.148]
___ * Older brothers			−0.0967 (-0.186, -0.007) [-0.228, 0.035]	−0.0858 (-0.192, 0.020) [-0.242, 0.070]	−0.0956 (-0.188, -0.003) [-0.231, 0.040]	−0.0884 (-0.197, 0.020) [-0.247, 0.070]
$\bar{R}^2$	0.5373	0.5559	0.5437	0.5609	0.5485	0.5644
N: Agricultural HHs	274	248	274	248	274	248
N	464	425	464	425	464	425
Mean of treated in 1999	0.6684	0.6836	0.6684	0.6836	0.6684	0.6836
Mean of treated in 2002	0.3526	0.3729	0.3526	0.3729	0.3526	0.3729
Mean of control in 1999	0.6314	0.6411	0.6314	0.6411	0.6314	0.6411
Mean of control in 2002	0.2482	0.2500	0.2482	0.2500	0.2482	0.2500

Source: Compiled from IFPRI data. isagHH ag HH def is used. Cohort of 10 - 18 year olds in 1999.

Notes:

1. Each specification has two sample variations, All which uses all children in a household and Direct which uses only direct offsprings of household head. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 49: Main results by age lowerbound, hdagHH ag HH definition

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
A. 10 - 18						
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	-0.0572^{*} (-0.108, -0.007) [-0.124, 0.010]	-0.0812^{**} (-0.134, -0.029) [-0.153, -0.009]	-0.0601^{*} (-0.107, -0.013) [-0.124, 0.004]	-0.0842^{**} (-0.135, -0.033) [-0.156, -0.013]	-0.0579^{*} (-0.103, -0.013) [-0.117, 0.001]	-0.0833^{**} (-0.132, -0.034) [-0.151, -0.016]
___ * Older sisters			-0.0505 (-0.124, 0.023) [-0.152, 0.051]	-0.0266 (-0.086, 0.033) [-0.106, 0.053]	-0.0496 (-0.122, 0.023) [-0.149, 0.050]	-0.0267 (-0.086, 0.033) [-0.106, 0.052]
___ * Older brothers			-0.0747 (-0.170, 0.021) [-0.198, 0.049]	-0.0561 (-0.148, 0.036) [-0.177, 0.065]	-0.0733 (-0.170, 0.023) [-0.198, 0.052]	-0.0567 (-0.150, 0.036) [-0.179, 0.066]
$\bar{R}^2$	0.4596	0.4789	0.4658	0.4829	0.4679	0.4835
N: Agricultural HHs	381	346	381	346	381	346
N	682	626	682	626	682	626
Mean of treated in 1999	0.7276	0.7464	0.7276	0.7464	0.7276	0.7464
Mean of treated in 2002	0.4585	0.4893	0.4585	0.4893	0.4585	0.4893
Mean of control in 1999	0.7323	0.7312	0.7323	0.7312	0.7323	0.7312
Mean of control in 2002	0.3911	0.3844	0.3911	0.3844	0.3911	0.3844
B. 11 - 18						
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	-0.0724^{*} (-0.127, -0.018) [-0.146, 0.001]	-0.0809^{*} (-0.142, -0.020) [-0.165, 0.004]	-0.0741^{**} (-0.126, -0.022) [-0.147, -0.001]	-0.0825^{*} (-0.142, -0.023) [-0.167, 0.002]	-0.0751^{**} (-0.126, -0.024) [-0.144, -0.007]	-0.0843^{**} (-0.143, -0.026) [-0.166, -0.003]
___ * Older sisters			-0.0386 (-0.164, 0.087) [-0.208, 0.131]	-0.0245 (-0.136, 0.087) [-0.174, 0.125]	-0.0401 (-0.167, 0.087) [-0.211, 0.130]	-0.0261 (-0.139, 0.087) [-0.177, 0.125]
___ * Older brothers			-0.0497 (-0.129, 0.029) [-0.157, 0.058]	-0.0404 (-0.131, 0.050) [-0.165, 0.085]	-0.0466 (-0.127, 0.033) [-0.155, 0.062]	-0.0406 (-0.132, 0.051) [-0.167, 0.085]
$\bar{R}^2$	0.5155	0.5321	0.5190	0.5347	0.5226	0.5367
N: Agricultural HHs	314	287	314	287	314	287
N	557	513	557	513	557	513
Mean of treated in 1999	0.6790	0.6991	0.6790	0.6991	0.6790	0.6991
Mean of treated in 2002	0.4074	0.4336	0.4074	0.4336	0.4074	0.4336
Mean of control in 1999	0.6943	0.6969	0.6943	0.6969	0.6943	0.6969
Mean of control in 2002	0.3217	0.3240	0.3217	0.3240	0.3217	0.3240
C. 12 - 18						
	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	-0.0584^{*} (-0.109, -0.008) [-0.128, 0.011]	-0.0694^{*} (-0.118, -0.021) [-0.140, 0.001]	-0.0627^{*} (-0.110, -0.016) [-0.130, 0.004]	-0.0736^{**} (-0.122, -0.025) [-0.147, -0.001]	-0.0660^{**} (-0.112, -0.021) [-0.126, -0.006]	-0.0789^{**} (-0.126, -0.032) [-0.147, -0.011]
___ * Older sisters			-0.0380 (-0.170, 0.094) [-0.210, 0.134]	-0.0192 (-0.148, 0.109) [-0.184, 0.146]	-0.0369 (-0.169, 0.096) [-0.208, 0.134]	-0.0185 (-0.148, 0.111) [-0.184, 0.147]
___ * Older brothers			-0.0499 (-0.136, 0.036) [-0.172, 0.072]	-0.0415 (-0.143, 0.060) [-0.186, 0.103]	-0.0477 (-0.135, 0.039) [-0.170, 0.074]	-0.0407 (-0.143, 0.062) [-0.186, 0.105]
$\bar{R}^2$	0.5373	0.5555	0.5405	0.5578	0.5450	0.5604
N: Agricultural HHs	260	237	260	237	260	237
N	464	425	464	425	464	425
Mean of treated in 1999	0.6275	0.6489	0.6275	0.6489	0.6275	0.6489
Mean of treated in 2002	0.3333	0.3564	0.3333	0.3564	0.3333	0.3564
Mean of control in 1999	0.6615	0.6667	0.6615	0.6667	0.6615	0.6667
Mean of control in 2002	0.2577	0.2574	0.2577	0.2574	0.2577	0.2574

Source: Compiled from IFPRI data. hdagHH ag HH def is used. Cohort of 10 - 18 year olds in 1999.

Notes:

1. Each specification has two sample variations, All which uses all children in a household and Direct which uses only direct offsprings of household head. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*, **, ***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 50: Main results by age lowerbound, ocagHH ag HH definition

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
A. 10 - 18						
	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0248 (-0.066, 0.017) [-0.081, 0.031]	−0.0468 (-0.090, -0.004) [-0.106, 0.013]	−0.0287 (-0.061, 0.004) [-0.075, 0.018]	-0.0523^{*} (-0.089, -0.016) [-0.106, 0.001]	−0.0285 (-0.060, 0.003) [-0.073, 0.016]	-0.0515^{**} (-0.087, -0.016) [-0.103, -0.000]
___ * Older sisters			−0.0339 (-0.102, 0.034) [-0.128, 0.060]	−0.0146 (-0.072, 0.043) [-0.091, 0.062]	−0.0330 (-0.101, 0.035) [-0.126, 0.060]	−0.0152 (-0.073, 0.043) [-0.092, 0.062]
___ * Older brothers			−0.0820 (-0.172, 0.008) [-0.202, 0.038]	−0.0665 (-0.162, 0.029) [-0.195, 0.062]	−0.0801 (-0.172, 0.012) [-0.202, 0.042]	−0.0664 (-0.162, 0.030) [-0.195, 0.062]
$\bar{R}^2$	0.4563	0.4739	0.4620	0.4780	0.4641	0.4786
N: Agricultural HHs	380	340	380	340	380	340
N	682	626	682	626	682	626
Mean of treated in 1999	0.7715	0.7867	0.7715	0.7867	0.7715	0.7867
Mean of treated in 2002	0.4636	0.4860	0.4636	0.4860	0.4636	0.4860
Mean of control in 1999	0.6974	0.6971	0.6974	0.6971	0.6974	0.6971
Mean of control in 2002	0.3868	0.3853	0.3868	0.3853	0.3868	0.3853
B. 11 - 18						
	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	-0.0483^{*} (-0.085, -0.012) [-0.097, 0.000]	-0.0612^{**} (-0.103, -0.020) [-0.118, -0.005]	-0.0506^{**} (-0.079, -0.022) [-0.092, -0.009]	-0.0644^{**} (-0.097, -0.031) [-0.113, -0.016]	-0.0540^{**} (-0.083, -0.025) [-0.095, -0.013]	-0.0662^{**} (-0.100, -0.033) [-0.115, -0.018]
___ * Older sisters			−0.0169 (-0.144, 0.110) [-0.190, 0.156]	−0.0061 (-0.116, 0.103) [-0.154, 0.142]	−0.0150 (-0.144, 0.114) [-0.190, 0.160]	−0.0049 (-0.116, 0.106) [-0.154, 0.145]
___ * Older brothers			−0.0562 (-0.138, 0.026) [-0.168, 0.055]	−0.0455 (-0.139, 0.048) [-0.174, 0.083]	−0.0542 (-0.138, 0.029) [-0.168, 0.060]	−0.0461 (-0.140, 0.048) [-0.175, 0.083]
$\bar{R}^2$	0.5102	0.5260	0.5130	0.5280	0.5163	0.5293
N: Agricultural HHs	308	277	308	277	308	277
N	557	513	557	513	557	513
Mean of treated in 1999	0.7390	0.7542	0.7390	0.7542	0.7390	0.7542
Mean of treated in 2002	0.4217	0.4407	0.4217	0.4407	0.4217	0.4407
Mean of control in 1999	0.6461	0.6498	0.6461	0.6498	0.6461	0.6498
Mean of control in 2002	0.3084	0.3141	0.3084	0.3141	0.3084	0.3141
C. 12 - 18						
	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0274 (-0.066, 0.011) [-0.077, 0.022]	-0.0428^{**} (-0.069, -0.017) [-0.080, -0.006]	−0.0355 (-0.070, -0.001) [-0.080, 0.009]	-0.0516^{**} (-0.080, -0.023) [-0.091, -0.012]	-0.0402^{*} (-0.075, -0.006) [-0.084, 0.003]	-0.0557^{**} (-0.084, -0.027) [-0.094, -0.017]
___ * Older sisters			−0.0078 (-0.135, 0.120) [-0.175, 0.160]	0.0110 (-0.107, 0.129) [-0.141, 0.163]	−0.0024 (-0.131, 0.126) [-0.170, 0.165]	0.0152 (-0.104, 0.135) [-0.137, 0.168]
___ * Older brothers			−0.0623 (-0.161, 0.036) [-0.196, 0.071]	−0.0514 (-0.162, 0.059) [-0.203, 0.100]	−0.0624 (-0.161, 0.036) [-0.196, 0.071]	−0.0530 (-0.163, 0.057) [-0.203, 0.097]
$\bar{R}^2$	0.5331	0.5501	0.5363	0.5528	0.5404	0.5547
N: Agricultural HHs	254	228	254	228	254	228
N	464	425	464	425	464	425
Mean of treated in 1999	0.6952	0.7107	0.6952	0.7107	0.6952	0.7107
Mean of treated in 2002	0.3524	0.3706	0.3524	0.3706	0.3524	0.3706
Mean of control in 1999	0.6063	0.6140	0.6063	0.6140	0.6063	0.6140
Mean of control in 2002	0.2402	0.2412	0.2402	0.2412	0.2402	0.2412

Source: Compiled from IFPRI data. ocagHH ag HH def is used. Cohort of 10 - 18 year olds in 1999.

Notes:

1. Each specification has two sample variations, All which uses all children in a household and Direct which uses only direct offsprings of household head. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Table 51: Main results by age lower bound, by gender

	Specification 1			Specification 2			Specification 3		
	Boys	Girls	Boys+girls	Boys	Girls	Boys+girls	Boys	Girls	Boys+girls
AgHH def: agHH0	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Agricultural HHs * year 2002	−0.1169** (-0.200, -0.034) [-0.225, -0.009]	−0.0310 (-0.168, 0.106) [-0.212, 0.150]	−0.0673** (-0.114, -0.021) [-0.127, -0.008]	−0.1143** (-0.185, -0.044) [-0.213, -0.016]	−0.0505 (-0.187, 0.086) [-0.245, 0.144]	−0.0760** (-0.126, -0.026) [-0.147, -0.005]	−0.1161** (-0.189, -0.043) [-0.215, -0.017]	−0.0494 (-0.187, 0.088) [-0.243, 0.144]	−0.0754** (-0.125, -0.026) [-0.144, -0.007]
___ * Older sisters				−0.1106** (-0.183, -0.038) [-0.211, -0.010]	0.0287 (-0.139, 0.196) [-0.221, 0.278]	−0.0278 (-0.087, 0.031) [-0.112, 0.057]	−0.1093** (-0.184, -0.034) [-0.209, -0.009]	0.0268 (-0.142, 0.196) [-0.226, 0.280]	−0.0281 (-0.088, 0.032) [-0.114, 0.057]
___ * Older brothers				−0.0599 (-0.159, 0.040) [-0.220, 0.100]	−0.0982 (-0.198, 0.001) [-0.235, 0.038]	−0.0951 (-0.190, 0.000) [-0.228, 0.038]	−0.0536 (-0.156, 0.049) [-0.220, 0.113]	−0.0932 (-0.196, 0.009) [-0.235, 0.049]	−0.0957 (-0.191, 0.000) [-0.230, 0.038]
$\bar{R}^2$	0.3685	0.5911	0.4676	0.4078	0.6061	0.4830	0.4096	0.6101	0.4835
N: Agricultural HHs	197	187	384	197	187	384	197	187	384
N	306	320	626	306	320	626	306	320	626
Mean of treated in 1999	0.7156	0.5188	0.7135	0.7156	0.5188	0.7135	0.7156	0.5188	0.7135
Mean of treated in 2002	0.8271	0.4959	0.2944	0.8271	0.4959	0.2944	0.8271	0.4959	0.2944
Mean of control in 1999	0.7769	0.6396	0.4920	0.7769	0.6396	0.4920	0.7769	0.6396	0.4920
Mean of control in 2002	0.4679	0.7914	0.3906	0.4679	0.7914	0.3906	0.4679	0.7914	0.3906
AgHH def: isagHH	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.1448** (-0.229, -0.061) [-0.252, -0.038]	−0.0293 (-0.160, 0.102) [-0.198, 0.139]	−0.0801** (-0.131, -0.029) [-0.144, -0.016]	−0.1390*** (-0.194, -0.084) [-0.217, -0.061]	−0.0498 (-0.184, 0.085) [-0.238, 0.139]	−0.0878** (-0.134, -0.042) [-0.153, -0.023]	−0.1418*** (-0.199, -0.084) [-0.224, -0.060]	−0.0524 (-0.187, 0.082) [-0.239, 0.134]	−0.0887** (-0.133, -0.045) [-0.150, -0.028]
___ * Older sisters				−0.0830* (-0.158, -0.008) [-0.188, 0.022]	0.0077 (-0.165, 0.181) [-0.245, 0.261]	−0.0224 (-0.085, 0.040) [-0.109, 0.064]	−0.0827* (-0.157, -0.009) [-0.184, 0.018]	0.0059 (-0.168, 0.180) [-0.248, 0.260]	−0.0222 (-0.085, 0.041) [-0.109, 0.065]
___ * Older brothers				−0.0334 (-0.137, 0.070) [-0.195, 0.128]	−0.1082** (-0.174, -0.043) [-0.197, -0.020]	−0.0884 (-0.175, -0.002) [-0.207, 0.030]	−0.0289 (-0.136, 0.079) [-0.200, 0.142]	−0.1054** (-0.170, -0.040) [-0.192, -0.019]	−0.0899 (-0.177, -0.003) [-0.210, 0.030]
$\bar{R}^2$	0.3755	0.5910	0.4707	0.4119	0.6073	0.4859	0.4139	0.6121	0.4865
N: Agricultural HHs	189	171	360	189	171	360	189	171	360
N	306	320	626	306	320	626	306	320	626
Mean of treated in 1999	0.7094	0.5168	0.7111	0.7094	0.5168	0.7111	0.7094	0.5168	0.7111
Mean of treated in 2002	0.8255	0.5000	0.2804	0.8255	0.5000	0.2804	0.8255	0.5000	0.2804
Mean of control in 1999	0.7744	0.6402	0.4912	0.7744	0.6402	0.4912	0.7744	0.6402	0.4912
Mean of control in 2002	0.4786	0.7895	0.3806	0.4786	0.7895	0.3806	0.4786	0.7895	0.3806
AgHH def: hdagHH	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Agricultural HHs * year 2002	−0.1454** (-0.225, -0.066) [-0.245, -0.046]	−0.0329 (-0.156, 0.090) [-0.192, 0.126]	−0.0827** (-0.126, -0.039) [-0.139, -0.027]	−0.1381*** (-0.194, -0.082) [-0.210, -0.066]	−0.0444 (-0.174, 0.085) [-0.225, 0.136]	−0.0842** (-0.135, -0.033) [-0.156, -0.013]	−0.1412*** (-0.194, -0.088) [-0.208, -0.075]	−0.0448 (-0.176, 0.087) [-0.226, 0.137]	−0.0833** (-0.132, -0.034) [-0.151, -0.016]
___ * Older sisters				−0.0806 (-0.162, 0.001) [-0.193, 0.031]	0.0061 (-0.170, 0.182) [-0.250, 0.262]	−0.0266 (-0.086, 0.033) [-0.106, 0.053]	−0.0805 (-0.160, -0.001) [-0.188, 0.027]	0.0052 (-0.172, 0.183) [-0.254, 0.264]	−0.0267 (-0.086, 0.033) [-0.106, 0.052]
___ * Older brothers				−0.0079 (-0.096, 0.081) [-0.133, 0.118]	−0.0773 (-0.170, 0.016) [-0.204, 0.050]	−0.0561 (-0.148, 0.036) [-0.177, 0.065]	−0.0030 (-0.091, 0.085) [-0.129, 0.123]	−0.0738 (-0.172, 0.024) [-0.206, 0.059]	−0.0567 (-0.150, 0.036) [-0.179, 0.066]
$\bar{R}^2$	0.3767	0.5912	0.4712	0.4126	0.6032	0.4829	0.4150	0.6079	0.4835
N: Agricultural HHs	177	169	346	177	169	346	177	169	346
N	306	320	626	306	320	626	306	320	626
Mean of treated in 1999	0.6512	0.5298	0.7312	0.6512	0.5298	0.7312	0.6512	0.5298	0.7312
Mean of treated in 2002	0.8278	0.4893	0.2938	0.8278	0.4893	0.2938	0.8278	0.4893	0.2938
Mean of control in 1999	0.7464	0.6780	0.4793	0.7464	0.6780	0.4793	0.7464	0.6780	0.4793
Mean of control in 2002	0.4419	0.7870	0.3844	0.4419	0.7870	0.3844	0.4419	0.7870	0.3844
AgHH def: ocagHH	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
Agricultural HHs * year 2002	−0.1019** (-0.183, -0.020) [-0.204, -0.000]	−0.0047 (-0.128, 0.118) [-0.163, 0.153]	−0.0485* (-0.087, -0.010) [-0.097, 0.000]	−0.0974* (-0.183, -0.012) [-0.211, 0.016]	−0.0180 (-0.134, 0.098) [-0.181, 0.145]	−0.0523* (-0.089, -0.016) [-0.106, 0.001]	−0.0951* (-0.182, -0.008) [-0.208, 0.018]	−0.0197 (-0.135, 0.096) [-0.181, 0.142]	−0.0515** (-0.087, -0.016) [-0.103, -0.000]
___ * Older sisters				−0.0682 (-0.148, 0.011) [-0.179, 0.042]	0.0249 (-0.117, 0.166) [-0.184, 0.234]	−0.0146 (-0.072, 0.043) [-0.091, 0.062]	−0.0699 (-0.151, 0.011) [-0.181, 0.041]	0.0249 (-0.118, 0.168) [-0.186, 0.235]	−0.0152 (-0.073, 0.043) [-0.092, 0.062]
___ * Older brothers				−0.0413 (-0.147, 0.064) [-0.195, 0.112]	−0.0656 (-0.168, 0.037) [-0.204, 0.073]	−0.0665 (-0.162, 0.029) [-0.195, 0.062]	−0.0329 (-0.141, 0.076) [-0.191, 0.125]	−0.0586 (-0.168, 0.051) [-0.205, 0.088]	−0.0664 (-0.162, 0.030) [-0.195, 0.062]
$\bar{R}^2$	0.3662	0.5902	0.4665	0.3961	0.6018	0.4780	0.3980	0.6060	0.4786
N: Agricultural HHs	180	160	340	180	160	340	180	160	340
N	306	320	626	306	320	626	306	320	626
Mean of treated in 1999	0.7222	0.5188	0.6971	0.7222	0.5188	0.6971	0.7222	0.5188	0.6971
Mean of treated in 2002	0.8375	0.4860	0.2944	0.8375	0.4860	0.2944	0.8375	0.4860	0.2944
Mean of control in 1999	0.7867	0.6278	0.4875	0.7867	0.6278	0.4875	0.7867	0.6278	0.4875
Mean of control in 2002	0.4444	0.7750	0.3853	0.4444	0.7750	0.3853	0.4444	0.7750	0.3853

Source: Compiled from IFPRI data.

Notes:

1. Each specification has two sample variations, All which uses all children in a household and Direct which uses only direct offsprings of household head. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger

Table 52: Placebo results, 1999 cohorts

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
AgHH def: agHH0	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0404** (-0.069, -0.012) [-0.080, -0.001]	−0.0181 (-0.049, 0.013) [-0.062, 0.026]	−0.0411 (-0.084, 0.002) [-0.106, 0.024]	−0.0202 (-0.072, 0.031) [-0.099, 0.058]	−0.0465 (-0.091, -0.002) [-0.116, 0.023]	−0.0290 (-0.082, 0.024) [-0.113, 0.055]
___ * Older sisters			−0.0160 (-0.100, 0.068) [-0.145, 0.114]	−0.0404 (-0.122, 0.042) [-0.167, 0.086]	−0.0199 (-0.102, 0.062) [-0.146, 0.106]	−0.0441 (-0.124, 0.036) [-0.166, 0.078]
___ * Older brothers			0.0296 (-0.089, 0.148) [-0.131, 0.191]	0.0157 (-0.095, 0.127) [-0.138, 0.169]	0.0303 (-0.087, 0.148) [-0.129, 0.189]	0.0165 (-0.093, 0.126) [-0.134, 0.167]
$\bar{R}^2$	0.2819	0.3073	0.2889	0.3193	0.2947	0.3262
N: Agricultural HHs	418	379	418	379	418	379
N	670	616	670	616	670	616
Mean of treated in 1999	0.4722	0.4979	0.4722	0.4979	0.4722	0.4979
Mean of treated in 2002	0.2659	0.2785	0.2659	0.2785	0.2659	0.2785
Mean of control in 1999	0.3876	0.3852	0.3876	0.3852	0.3876	0.3852
Mean of control in 2002	0.1388	0.1425	0.1388	0.1425	0.1388	0.1425
AgHH def: isagHH	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0190 (-0.061, 0.023) [-0.073, 0.035]	0.0039 (-0.047, 0.055) [-0.062, 0.070]	−0.0210 (-0.071, 0.030) [-0.094, 0.052]	−0.0002 (-0.059, 0.059) [-0.087, 0.086]	−0.0269 (-0.076, 0.022) [-0.100, 0.046]	−0.0097 (-0.068, 0.049) [-0.098, 0.079]
___ * Older sisters			−0.0176 (-0.114, 0.078) [-0.162, 0.127]	−0.0412 (-0.133, 0.050) [-0.180, 0.097]	−0.0199 (-0.114, 0.074) [-0.161, 0.122]	−0.0423 (-0.132, 0.047) [-0.178, 0.093]
___ * Older brothers			0.0158 (-0.094, 0.126) [-0.132, 0.164]	0.0015 (-0.103, 0.106) [-0.141, 0.144]	0.0177 (-0.090, 0.125) [-0.126, 0.161]	0.0029 (-0.098, 0.104) [-0.134, 0.140]
$\bar{R}^2$	0.2811	0.3076	0.2888	0.3203	0.2944	0.3269
N: Agricultural HHs	394	355	394	355	394	355
N	670	616	670	616	670	616
Mean of treated in 1999	0.4783	0.5019	0.4783	0.5019	0.4783	0.5019
Mean of treated in 2002	0.2609	0.2720	0.2609	0.2720	0.2609	0.2720
Mean of control in 1999	0.3782	0.3746	0.3782	0.3746	0.3782	0.3746
Mean of control in 2002	0.1345	0.1380	0.1345	0.1380	0.1345	0.1380
AgHH def: hdagHH	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0385 (-0.087, 0.010) [-0.102, 0.025]	−0.0122 (-0.070, 0.045) [-0.087, 0.063]	−0.0432 (-0.093, 0.007) [-0.111, 0.025]	−0.0198 (-0.076, 0.036) [-0.097, 0.057]	−0.0509* (-0.096, -0.005) [-0.114, 0.012]	−0.0308 (-0.082, 0.020) [-0.104, 0.043]
___ * Older sisters			−0.0338 (-0.121, 0.053) [-0.155, 0.088]	−0.0601 (-0.139, 0.018) [-0.171, 0.051]	−0.0375 (-0.120, 0.045) [-0.154, 0.079]	−0.0628 (-0.138, 0.012) [-0.169, 0.043]
___ * Older brothers			0.0186 (-0.107, 0.145) [-0.145, 0.182]	−0.0002 (-0.114, 0.114) [-0.149, 0.149]	0.0198 (-0.105, 0.145) [-0.141, 0.181]	0.0004 (-0.112, 0.112) [-0.145, 0.146]
$\bar{R}^2$	0.2809	0.3062	0.2890	0.3196	0.2947	0.3262
N: Agricultural HHs	375	341	375	341	375	341
N	670	616	670	616	670	616
Mean of treated in 1999	0.4610	0.4909	0.4610	0.4909	0.4610	0.4909
Mean of treated in 2002	0.2542	0.2691	0.2542	0.2691	0.2542	0.2691
Mean of control in 1999	0.3867	0.3783	0.3867	0.3783	0.3867	0.3783
Mean of control in 2002	0.1333	0.1349	0.1333	0.1349	0.1333	0.1349
AgHH def: ocagHH	(19)	(20)	(21)	(22)	(23)	(24)
Agricultural HHs * year 2002	−0.0202 (-0.058, 0.017) [-0.069, 0.028]	0.0026 (-0.044, 0.050) [-0.057, 0.062]	−0.0228 (-0.071, 0.026) [-0.092, 0.046]	−0.0019 (-0.064, 0.060) [-0.089, 0.086]	−0.0242 (-0.074, 0.025) [-0.097, 0.048]	−0.0029 (-0.068, 0.063) [-0.098, 0.092]
___ * Older sisters			−0.0177 (-0.106, 0.070) [-0.151, 0.115]	−0.0376 (-0.118, 0.043) [-0.161, 0.086]	−0.0233 (-0.109, 0.062) [-0.152, 0.106]	−0.0428 (-0.121, 0.035) [-0.163, 0.077]
___ * Older brothers			0.0201 (-0.092, 0.132) [-0.126, 0.167]	0.0038 (-0.100, 0.107) [-0.134, 0.141]	0.0196 (-0.091, 0.130) [-0.124, 0.164]	0.0024 (-0.099, 0.104) [-0.131, 0.136]
$\bar{R}^2$	0.2801	0.3064	0.2870	0.3177	0.2921	0.3236
N: Agricultural HHs	374	335	374	335	374	335
N	670	616	670	616	670	616
Mean of treated in 1999	0.4662	0.4875	0.4662	0.4875	0.4662	0.4875
Mean of treated in 2002	0.2399	0.2491	0.2399	0.2491	0.2399	0.2491
Mean of control in 1999	0.3824	0.3791	0.3824	0.3791	0.3824	0.3791
Mean of control in 2002	0.1444	0.1493	0.1444	0.1493	0.1444	0.1493

Source: Compiled from IFPRI data. Various cohorts.

Notes:

1. Impacts of nonexisting exam-Ramadan overlap in 2002. Each specification has two cohort variations, 10-18 in 1999 of all children and direct offsprings in households. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. 10-18 in 1999 are the same cohorts of main estimation who received treatments in 1999. Standard errors are clusterd at

Table 53: Placebo results, 2002 cohorts

	Specification 1		Specification 2		Specification 3	
	All	Direct	All	Direct	All	Direct
AgHH def: agHH0	(1)	(2)	(3)	(4)	(5)	(6)
Agricultural HHs * year 2002	−0.0531* (-0.108, 0.002) [-0.119, 0.013]	−0.0293 (-0.098, 0.039) [-0.112, 0.053]	−0.0599 (-0.128, 0.009) [-0.146, 0.026]	−0.0363 (-0.116, 0.044) [-0.137, 0.065]	−0.0630 (-0.136, 0.010) [-0.156, 0.030]	−0.0411 (-0.127, 0.045) [-0.151, 0.069]
___ * Older sisters			−0.0449 (-0.114, 0.024) [-0.137, 0.048]	−0.0685* (-0.131, -0.006) [-0.152, 0.015]	−0.0477 (-0.116, 0.021) [-0.139, 0.043]	−0.0717* (-0.133, -0.011) [-0.153, 0.009]
___ * Older brothers			0.0356 (-0.049, 0.121) [-0.079, 0.150]	0.0177 (-0.053, 0.089) [-0.079, 0.114]	0.0362 (-0.048, 0.121) [-0.077, 0.150]	0.0187 (-0.052, 0.089) [-0.076, 0.114]
$\bar{R}^2$	0.1997	0.2158	0.2120	0.2312	0.2156	0.2352
N: Agricultural HHs	537	492	537	492	537	492
N	870	812	870	812	870	812
Mean of treated in 1999	0.6667	0.6844	0.6667	0.6844	0.6667	0.6844
Mean of treated in 2002	0.4324	0.4406	0.4324	0.4406	0.4324	0.4406
Mean of control in 1999	0.5978	0.5955	0.5978	0.5955	0.5978	0.5955
Mean of control in 2002	0.2924	0.2988	0.2924	0.2988	0.2924	0.2988
AgHH def: isagHH	(7)	(8)	(9)	(10)	(11)	(12)
Agricultural HHs * year 2002	−0.0451 (-0.098, 0.008) [-0.109, 0.019]	−0.0220 (-0.088, 0.044) [-0.101, 0.057]	−0.0536 (-0.114, 0.007) [-0.131, 0.024]	−0.0314 (-0.102, 0.039) [-0.122, 0.059]	−0.0571 (-0.121, 0.007) [-0.139, 0.025]	−0.0367 (-0.112, 0.038) [-0.133, 0.060]
___ * Older sisters			−0.0453 (-0.124, 0.034) [-0.149, 0.058]	−0.0693 (-0.141, 0.002) [-0.163, 0.025]	−0.0488 (-0.127, 0.030) [-0.151, 0.054]	−0.0728 (-0.144, -0.002) [-0.165, 0.020]
___ * Older brothers			0.0129 (-0.077, 0.103) [-0.108, 0.134]	−0.0054 (-0.085, 0.074) [-0.113, 0.103]	0.0151 (-0.073, 0.103) [-0.103, 0.133]	−0.0029 (-0.080, 0.075) [-0.107, 0.101]
$\bar{R}^2$	0.1995	0.2158	0.2070	0.2271	0.2105	0.2308
N: Agricultural HHs	501	456	501	456	501	456
N	870	812	870	812	870	812
Mean of treated in 1999	0.6667	0.6826	0.6667	0.6826	0.6667	0.6826
Mean of treated in 2002	0.4255	0.4326	0.4255	0.4326	0.4255	0.4326
Mean of control in 1999	0.5928	0.5899	0.5928	0.5899	0.5928	0.5899
Mean of control in 2002	0.2874	0.2939	0.2874	0.2939	0.2874	0.2939
AgHH def: hdagHH	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0476 (-0.106, 0.011) [-0.118, 0.023]	−0.0208 (-0.094, 0.053) [-0.110, 0.068]	−0.0556 (-0.118, 0.007) [-0.134, 0.023]	−0.0299 (-0.103, 0.043) [-0.122, 0.062]	−0.0601 (-0.124, 0.004) [-0.141, 0.021]	−0.0363 (-0.112, 0.039) [-0.132, 0.059]
___ * Older sisters			−0.0456 (-0.121, 0.030) [-0.145, 0.054]	−0.0737* (-0.144, -0.003) [-0.167, 0.020]	−0.0502 (-0.125, 0.025) [-0.149, 0.049]	−0.0781* (-0.147, -0.009) [-0.170, 0.014]
___ * Older brothers			0.0250 (-0.068, 0.118) [-0.096, 0.146]	0.0053 (-0.074, 0.085) [-0.100, 0.110]	0.0266 (-0.065, 0.118) [-0.092, 0.146]	0.0073 (-0.071, 0.086) [-0.095, 0.110]
$\bar{R}^2$	0.1987	0.2148	0.2067	0.2264	0.2103	0.2301
N: Agricultural HHs	482	440	482	440	482	440
N	870	812	870	812	870	812
Mean of treated in 1999	0.6546	0.6747	0.6546	0.6747	0.6546	0.6747
Mean of treated in 2002	0.4149	0.4247	0.4149	0.4247	0.4149	0.4247
Mean of control in 1999	0.5996	0.5932	0.5996	0.5932	0.5996	0.5932
Mean of control in 2002	0.2905	0.2955	0.2905	0.2955	0.2905	0.2955
AgHH def: ocagHH	(19)	(20)	(21)	(22)	(23)	(24)
Agricultural HHs * year 2002	−0.0594 (-0.121, 0.002) [-0.134, 0.015]	−0.0368 (-0.111, 0.038) [-0.127, 0.053]	−0.0678 (-0.136, 0.001) [-0.154, 0.019]	−0.0462 (-0.124, 0.032) [-0.144, 0.052]	−0.0705* (-0.139, -0.002) [-0.157, 0.017]	−0.0490 (-0.129, 0.031) [-0.150, 0.052]
___ * Older sisters			−0.0498 (-0.127, 0.027) [-0.152, 0.053]	−0.0741* (-0.136, -0.013) [-0.156, 0.007]	−0.0531 (-0.129, 0.023) [-0.154, 0.048]	−0.0775* (-0.138, -0.017) [-0.157, 0.002]
___ * Older brothers			0.0178 (-0.058, 0.094) [-0.082, 0.117]	−0.0002 (-0.069, 0.069) [-0.091, 0.091]	0.0176 (-0.058, 0.093) [-0.082, 0.117]	−0.0005 (-0.070, 0.069) [-0.092, 0.091]
$\bar{R}^2$	0.2004	0.2162	0.2114	0.2318	0.2152	0.2357
N: Agricultural HHs	481	436	481	436	481	436
N	870	812	870	812	870	812
Mean of treated in 1999	0.6581	0.6729	0.6581	0.6729	0.6581	0.6729
Mean of treated in 2002	0.4113	0.4176	0.4113	0.4176	0.4113	0.4176
Mean of control in 1999	0.5967	0.5940	0.5967	0.5940	0.5967	0.5940
Mean of control in 2002	0.2931	0.3005	0.2931	0.3005	0.2931	0.3005

Source: Compiled from IFPRI data. Various cohorts.

Notes:

1. Impacts of nonexisting exam-Ramadan overlap in 2002. 10-18 in 2002 are all children and direct offsprings in households. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member non-land assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. 10-18 in 2002 are same age range as in main estimation but include cohorts 7-9 in 1999 who did not receive treatments

Table 54: Placebo results by gender, direct offspring, 1999 cohorts

	Specification 1			Specification 2			Specification 3		
	boys	girls	boys+girls	boys	girls	boys+girls	boys	girls	boys+girls
AgHH def: agHH0	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Agricultural HHs * year 2002	−0.0016 (-0.069, 0.065) [-0.083, 0.080]	−0.0313 (-0.131, 0.069) [-0.166, 0.104]	−0.0181 (-0.049, 0.013) [-0.062, 0.026]	0.0093 (-0.071, 0.090) [-0.107, 0.125]	−0.0422 (-0.141, 0.057) [-0.190, 0.106]	−0.0202 (-0.072, 0.031) [-0.099, 0.058]	−0.0034 (-0.082, 0.075) [-0.117, 0.111]	−0.0515 (-0.149, 0.046) [-0.198, 0.095]	−0.0290 (-0.082, 0.024) [-0.113, 0.055]
___ * Older sisters				0.0089 (-0.096, 0.114) [-0.149, 0.167]	−0.0867 (-0.234, 0.060) [-0.304, 0.130]	−0.0404 (-0.122, 0.042) [-0.167, 0.086]	0.0164 (-0.092, 0.125) [-0.145, 0.178]	−0.0947 (-0.230, 0.041) [-0.297, 0.107]	−0.0441 (-0.124, 0.036) [-0.166, 0.078]
___ * Older brothers				0.0389 (-0.089, 0.166) [-0.156, 0.234]	−0.0016 (-0.108, 0.105) [-0.158, 0.155]	0.0157 (-0.095, 0.127) [-0.138, 0.169]	0.0301 (-0.100, 0.160) [-0.162, 0.222]	−0.0027 (-0.103, 0.098) [-0.153, 0.147]	0.0165 (-0.093, 0.126) [-0.134, 0.167]
$\bar{R}^2$	0.1176	0.5227	0.3073	0.1557	0.5328	0.3193	0.1653	0.5430	0.3262
N: Agricultural HHs	196	183	379	196	183	379	196	183	379
N	304	312	616	304	312	616	304	312	616
Mean of treated in 1999	0.4722	0.2868	0.3852	0.4722	0.2868	0.3852	0.4722	0.2868	0.3852
Mean of treated in 2002	0.5194	0.2785	0.1173	0.5194	0.2785	0.1173	0.5194	0.2785	0.1173
Mean of control in 1999	0.4979	0.2908	0.1694	0.4979	0.2908	0.1694	0.4979	0.2908	0.1694
Mean of control in 2002	0.2685	0.4863	0.1425	0.2685	0.4863	0.1425	0.2685	0.4863	0.1425
AgHH def: isagHH	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	0.0329 (-0.057, 0.123) [-0.077, 0.143]	−0.0248 (-0.120, 0.070) [-0.152, 0.102]	0.0039 (-0.047, 0.055) [-0.062, 0.070]	0.0400 (-0.049, 0.129) [-0.089, 0.169]	−0.0379 (-0.141, 0.065) [-0.187, 0.111]	−0.0002 (-0.059, 0.059) [-0.087, 0.086]	0.0272 (-0.059, 0.114) [-0.098, 0.152]	−0.0488 (-0.149, 0.051) [-0.196, 0.099]	−0.0097 (-0.068, 0.049) [-0.098, 0.079]
___ * Older sisters				−0.0092 (-0.119, 0.101) [-0.178, 0.160]	−0.0694 (-0.229, 0.090) [-0.304, 0.166]	−0.0412 (-0.133, 0.050) [-0.180, 0.097]	0.0001 (-0.114, 0.114) [-0.174, 0.174]	−0.0729 (-0.224, 0.078) [-0.296, 0.150]	−0.0423 (-0.132, 0.047) [-0.178, 0.093]
___ * Older brothers				0.0113 (-0.115, 0.138) [-0.180, 0.203]	−0.0084 (-0.118, 0.102) [-0.166, 0.149]	0.0015 (-0.103, 0.106) [-0.141, 0.144]	−0.0003 (-0.129, 0.128) [-0.189, 0.189]	−0.0051 (-0.106, 0.096) [-0.150, 0.139]	0.0029 (-0.098, 0.104) [-0.134, 0.140]
$\bar{R}^2$	0.1187	0.5224	0.3076	0.1553	0.5317	0.3203	0.1646	0.5419	0.3269
N: Agricultural HHs	188	167	355	188	167	355	188	167	355
N	304	312	616	304	312	616	304	312	616
Mean of treated in 1999	0.4828	0.2759	0.3746	0.4828	0.2759	0.3746	0.4828	0.2759	0.3746
Mean of treated in 2002	0.5172	0.2720	0.1117	0.5172	0.2720	0.1117	0.5172	0.2720	0.1117
Mean of control in 1999	0.5019	0.2766	0.1677	0.5019	0.2766	0.1677	0.5019	0.2766	0.1677
Mean of control in 2002	0.2672	0.4850	0.1380	0.2672	0.4850	0.1380	0.2672	0.4850	0.1380
AgHH def: hdagHH	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Agricultural HHs * year 2002	−0.0078 (-0.090, 0.075) [-0.110, 0.095]	−0.0229 (-0.114, 0.069) [-0.146, 0.100]	−0.0122 (-0.070, 0.045) [-0.087, 0.063]	−0.0071 (-0.085, 0.071) [-0.114, 0.100]	−0.0373 (-0.123, 0.048) [-0.158, 0.083]	−0.0198 (-0.076, 0.036) [-0.097, 0.057]	−0.0194 (-0.095, 0.056) [-0.123, 0.084]	−0.0540 (-0.133, 0.025) [-0.170, 0.062]	−0.0308 (-0.082, 0.020) [-0.104, 0.043]
___ * Older sisters				−0.0115 (-0.088, 0.065) [-0.121, 0.098]	−0.0881 (-0.243, 0.066) [-0.310, 0.134]	−0.0601 (-0.139, 0.018) [-0.171, 0.051]	−0.0016 (-0.083, 0.080) [-0.117, 0.114]	−0.0923 (-0.237, 0.053) [-0.301, 0.117]	−0.0628 (-0.138, 0.012) [-0.169, 0.043]
___ * Older brothers				0.0057 (-0.138, 0.149) [-0.193, 0.204]	−0.0209 (-0.138, 0.096) [-0.177, 0.135]	−0.0002 (-0.114, 0.114) [-0.149, 0.149]	−0.0013 (-0.145, 0.142) [-0.192, 0.189]	−0.0240 (-0.134, 0.086) [-0.173, 0.125]	0.0004 (-0.112, 0.112) [-0.145, 0.146]
$\bar{R}^2$	0.1176	0.5223	0.3062	0.1442	0.5365	0.3196	0.1540	0.5468	0.3262
N: Agricultural HHs	176	165	341	176	165	341	176	165	341
N	304	312	616	304	312	616	304	312	616
Mean of treated in 1999	0.4453	0.2857	0.3783	0.4453	0.2857	0.3783	0.4453	0.2857	0.3783
Mean of treated in 2002	0.5306	0.2691	0.1136	0.5306	0.2691	0.1136	0.5306	0.2691	0.1136
Mean of control in 1999	0.4909	0.2898	0.1576	0.4909	0.2898	0.1576	0.4909	0.2898	0.1576
Mean of control in 2002	0.2500	0.4727	0.1349	0.2500	0.4727	0.1349	0.2500	0.4727	0.1349
AgHH def: ocagHH	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
Agricultural HHs * year 2002	0.0194 (-0.070, 0.108) [-0.086, 0.125]	−0.0083 (-0.107, 0.090) [-0.140, 0.124]	0.0026 (-0.044, 0.050) [-0.057, 0.062]	0.0188 (-0.082, 0.120) [-0.116, 0.154]	−0.0119 (-0.121, 0.097) [-0.168, 0.144]	−0.0019 (-0.064, 0.060) [-0.089, 0.086]	0.0159 (-0.085, 0.117) [-0.119, 0.151]	−0.0144 (-0.121, 0.093) [-0.167, 0.138]	−0.0029 (-0.068, 0.063) [-0.098, 0.092]
___ * Older sisters				−0.0191 (-0.114, 0.076) [-0.158, 0.120]	−0.0545 (-0.208, 0.099) [-0.285, 0.176]	−0.0376 (-0.118, 0.043) [-0.161, 0.086]	−0.0151 (-0.113, 0.083) [-0.159, 0.129]	−0.0632 (-0.205, 0.079) [-0.277, 0.151]	−0.0428 (-0.121, 0.035) [-0.163, 0.077]
___ * Older brothers				0.0120 (-0.108, 0.132) [-0.163, 0.187]	−0.0125 (-0.109, 0.084) [-0.147, 0.122]	0.0038 (-0.100, 0.107) [-0.134, 0.141]	−0.0012 (-0.124, 0.121) [-0.171, 0.169]	−0.0152 (-0.106, 0.076) [-0.143, 0.113]	0.0024 (-0.099, 0.104) [-0.131, 0.136]
$\bar{R}^2$	0.1180	0.5219	0.3064	0.1617	0.5301	0.3177	0.1706	0.5387	0.3236
N: Agricultural HHs	179	156	335	179	156	335	179	156	335
N	304	312	616	304	312	616	304	312	616
Mean of treated in 1999	0.4480	0.2500	0.3791	0.4480	0.2500	0.3791	0.4480	0.2500	0.3791
Mean of treated in 2002	0.5192	0.2491	0.1173	0.5192	0.2491	0.1173	0.5192	0.2491	0.1173
Mean of control in 1999	0.4875	0.2905	0.1859	0.4875	0.2905	0.1859	0.4875	0.2905	0.1859
Mean of control in 2002	0.2480	0.4808	0.1493	0.2480	0.4808	0.1493	0.2480	0.4808	0.1493

Source: Compiled from IFPRI data. Various cohorts.

Notes:

1. Impacts of nonexisting exam-Ramadan overlap in 2002. Each specification has two cohort variations, 10-18 in 1999 of all children and direct offsprings in households. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member nonland assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.
2. 10-18 in 1999 are the same cohorts of main estimation who received treatments in 1999. Standard errors are clusterd at

Table 55: Placebo results by gender, direct offspring, 2002 cohorts

	Specification 1			Specification 2			Specification 3		
	boys	girls	boys+girls	boys	girls	boys+girls	boys	girls	boys+girls
AgHH def: agHH0	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Agricultural HHs * year 2002	−0.0433 (-0.101, 0.015) [-0.113, 0.027]	−0.0336 (-0.125, 0.058) [-0.147, 0.080]	−0.0293 (-0.098, 0.039) [-0.112, 0.053]	−0.0340 (-0.088, 0.020) [-0.103, 0.035]	−0.0492 (-0.156, 0.057) [-0.189, 0.090]	−0.0363 (-0.116, 0.044) [-0.137, 0.065]	−0.0324 (-0.086, 0.021) [-0.100, 0.035]	−0.0445 (-0.165, 0.076) [-0.204, 0.115]	−0.0411 (-0.127, 0.045) [-0.151, 0.069]
___ * Older sisters				−0.0926 (-0.196, 0.010) [-0.233, 0.048]	−0.0478 (-0.115, 0.019) [-0.142, 0.046]	−0.0685* (-0.131, -0.006) [-0.152, 0.015]	−0.0913 (-0.196, 0.014) [-0.235, 0.052]	−0.0524 (-0.118, 0.013) [-0.142, 0.037]	−0.0717* (-0.133, -0.011) [-0.153, 0.009]
___ * Older brothers				0.0784 (-0.004, 0.161) [-0.029, 0.186]	−0.0337 (-0.109, 0.041) [-0.134, 0.066]	0.0177 (-0.053, 0.089) [-0.079, 0.114]	0.0805 (-0.007, 0.168) [-0.032, 0.193]	−0.0364 (-0.109, 0.037) [-0.133, 0.060]	0.0187 (-0.052, 0.089) [-0.076, 0.114]
$\bar{R}^2$	0.1336	0.3572	0.2158	0.1720	0.3710	0.2312	0.1724	0.3839	0.2352
N: Agricultural HHs	243	249	492	243	249	492	243	249	492
N	386	426	812	386	426	812	386	426	812
Mean of treated in 1999	0.6573	0.4746	0.5955	0.6573	0.4746	0.5955	0.6573	0.4746	0.5955
Mean of treated in 2002	0.7062	0.4406	0.2840	0.7062	0.4406	0.2840	0.7062	0.4406	0.2840
Mean of control in 1999	0.6844	0.5391	0.3133	0.6844	0.5391	0.3133	0.6844	0.5391	0.3133
Mean of control in 2002	0.3986	0.6506	0.2988	0.3986	0.6506	0.2988	0.3986	0.6506	0.2988
AgHH def: isagHH	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural HHs * year 2002	−0.0228 (-0.113, 0.068) [-0.133, 0.088]	−0.0387 (-0.107, 0.030) [-0.123, 0.045]	−0.0220 (-0.088, 0.044) [-0.101, 0.057]	−0.0199 (-0.088, 0.048) [-0.109, 0.070]	−0.0600 (-0.143, 0.023) [-0.171, 0.051]	−0.0314 (-0.102, 0.039) [-0.122, 0.059]	−0.0173 (-0.087, 0.053) [-0.110, 0.075]	−0.0606 (-0.154, 0.033) [-0.188, 0.066]	−0.0367 (-0.112, 0.038) [-0.133, 0.060]
___ * Older sisters				−0.1178* (-0.224, -0.011) [-0.261, 0.025]	−0.0328 (-0.105, 0.039) [-0.133, 0.068]	−0.0693 (-0.141, 0.002) [-0.163, 0.025]	−0.1169* (-0.225, -0.009) [-0.261, 0.028]	−0.0378 (-0.108, 0.032) [-0.134, 0.059]	−0.0728 (-0.144, -0.002) [-0.165, 0.020]
___ * Older brothers				0.0490 (-0.029, 0.127) [-0.054, 0.152]	−0.0469 (-0.140, 0.046) [-0.172, 0.079]	−0.0054 (-0.085, 0.074) [-0.113, 0.103]	0.0487 (-0.033, 0.131) [-0.058, 0.156]	−0.0447 (-0.133, 0.043) [-0.160, 0.070]	−0.0029 (-0.080, 0.075) [-0.107, 0.101]
$\bar{R}^2$	0.1324	0.3576	0.2158	0.1676	0.3734	0.2271	0.1680	0.3861	0.2308
N: Agricultural HHs	227	229	456	227	229	456	227	229	456
N	386	426	812	386	426	812	386	426	812
Mean of treated in 1999	0.6604	0.4619	0.5899	0.6604	0.4619	0.5899	0.6604	0.4619	0.5899
Mean of treated in 2002	0.7005	0.4326	0.2775	0.7005	0.4326	0.2775	0.7005	0.4326	0.2775
Mean of control in 1999	0.6826	0.5286	0.3100	0.6826	0.5286	0.3100	0.6826	0.5286	0.3100
Mean of control in 2002	0.3962	0.6507	0.2939	0.3962	0.6507	0.2939	0.3962	0.6507	0.2939
AgHH def: hdagHH	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Agricultural HHs * year 2002	−0.0441 (-0.128, 0.040) [-0.146, 0.058]	−0.0219 (-0.108, 0.064) [-0.127, 0.083]	−0.0208 (-0.094, 0.053) [-0.110, 0.068]	−0.0505 (-0.122, 0.021) [-0.141, 0.040]	−0.0428 (-0.120, 0.034) [-0.145, 0.060]	−0.0299 (-0.103, 0.043) [-0.122, 0.062]	−0.0485 (-0.123, 0.026) [-0.143, 0.046]	−0.0458 (-0.127, 0.035) [-0.155, 0.064]	−0.0363 (-0.112, 0.039) [-0.132, 0.059]
___ * Older sisters				−0.0989 (-0.203, 0.005) [-0.237, 0.039]	−0.0543 (-0.120, 0.011) [-0.146, 0.038]	−0.0737* (-0.144, -0.003) [-0.167, 0.020]	−0.0981 (-0.200, 0.004) [-0.233, 0.037]	−0.0589 (-0.121, 0.003) [-0.145, 0.027]	−0.0781* (-0.147, -0.009) [-0.170, 0.014]
___ * Older brothers				0.0465 (-0.053, 0.146) [-0.078, 0.171]	−0.0341 (-0.126, 0.058) [-0.154, 0.086]	0.0053 (-0.074, 0.085) [-0.100, 0.110]	0.0470 (-0.057, 0.151) [-0.084, 0.178]	−0.0360 (-0.123, 0.051) [-0.149, 0.077]	0.0073 (-0.071, 0.086) [-0.095, 0.110]
$\bar{R}^2$	0.1339	0.3566	0.2148	0.1624	0.3774	0.2264	0.1628	0.3906	0.2301
N: Agricultural HHs	217	223	440	217	223	440	217	223	440
N	386	426	812	386	426	812	386	426	812
Mean of treated in 1999	0.6331	0.4631	0.5932	0.6331	0.4631	0.5932	0.6331	0.4631	0.5932
Mean of treated in 2002	0.7094	0.4247	0.2857	0.7094	0.4247	0.2857	0.7094	0.4247	0.2857
Mean of control in 1999	0.6747	0.5438	0.3049	0.6747	0.5438	0.3049	0.6747	0.5438	0.3049
Mean of control in 2002	0.3787	0.6413	0.2955	0.3787	0.6413	0.2955	0.3787	0.6413	0.2955
AgHH def: ocagHH	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
Agricultural HHs * year 2002	−0.0392 (-0.112, 0.033) [-0.127, 0.049]	−0.0367 (-0.138, 0.065) [-0.163, 0.090]	−0.0368 (-0.111, 0.038) [-0.127, 0.053]	−0.0418 (-0.100, 0.017) [-0.119, 0.035]	−0.0395 (-0.147, 0.068) [-0.183, 0.104]	−0.0462 (-0.124, 0.032) [-0.144, 0.052]	−0.0409 (-0.099, 0.017) [-0.116, 0.034]	−0.0348 (-0.141, 0.071) [-0.175, 0.105]	−0.0490 (-0.129, 0.031) [-0.150, 0.052]
___ * Older sisters				−0.1069* (-0.200, -0.014) [-0.234, 0.020]	−0.0450 (-0.127, 0.037) [-0.157, 0.067]	−0.0741* (-0.136, -0.013) [-0.156, 0.007]	−0.1058* (-0.201, -0.011) [-0.235, 0.023]	−0.0520 (-0.133, 0.029) [-0.158, 0.054]	−0.0775* (-0.138, -0.017) [-0.157, 0.002]
___ * Older brothers				0.0399 (-0.030, 0.110) [-0.055, 0.135]	−0.0529 (-0.123, 0.018) [-0.142, 0.036]	−0.0002 (-0.069, 0.069) [-0.091, 0.091]	0.0424 (-0.034, 0.119) [-0.061, 0.146]	−0.0591 (-0.129, 0.011) [-0.147, 0.029]	−0.0005 (-0.070, 0.069) [-0.092, 0.091]
$\bar{R}^2$	0.1335	0.3574	0.2162	0.1738	0.3708	0.2318	0.1741	0.3839	0.2357
N: Agricultural HHs	227	209	436	227	209	436	227	209	436
N	386	426	812	386	426	812	386	426	812
Mean of treated in 1999	0.6415	0.4378	0.5940	0.6415	0.4378	0.5940	0.6415	0.4378	0.5940
Mean of treated in 2002	0.6959	0.4176	0.2819	0.6959	0.4176	0.2819	0.6959	0.4176	0.2819
Mean of control in 1999	0.6729	0.5419	0.3206	0.6729	0.5419	0.3206	0.6729	0.5419	0.3206
Mean of control in 2002	0.3899	0.6507	0.3005	0.3899	0.6507	0.3005	0.3899	0.6507	0.3005

Source: Compiled from IFPRI data. Various cohorts.

Notes:

1. Impacts of nonexisting exam-Ramadan overlap in 2002. 10-18 in 2002 are all children and direct offsprings in households. Specification 1 uses time-varying thana level characteristics (yield, mean rainfall, mean high temperature, mean low temperature), individual level characteristics (age squared, recipient of a poverty program), and interaction terms of Demographic fixed trends that are interactions of baseline individual and demographic characterstics (sex of individual, household head's and spouse's education, number of older male/female siblings). Specification 2 adds Other household fixed trends that are interactions of other baseline household characteristics (per member land holding, per member non-land assets, own piped water, structured toilet). Specification 3 adds Thana fixed trends which allow heterogenous trends at Thana level.

2. 10-18 in 2002 are same age range as in main estimation but include cohorts 7-9 in 1999 who did not receive treatments

V.2.1 Unflooded and non-Muslims

```
library(ggplot2)
Res ← qread(paste0(pathsaveThisVer, "TabulatedFloodMuslimResults.qs"))
re ← Res[grepl("Em", data) & grepl("^agHH", Coef) & grepl("4|5|6|7", reg) & grepl("B", ir
  & grepl(0, agdef) & agelb == 10, ]
re[, hr := paste0(HHtype, "−", reg)]
re[, yintercept := 0]
g ← ggplot(data = re,
    aes(x = demean, y = beta, group = hr, fill = hr, shape = hr, colour = hr)) +
  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
    stat = "identity", fatten = 1.75,
    position = position_dodge(width = .5)) +
  scale_shape_manual(values = rep(c(0:6, 8), 2))+
  facet_grid(file ~ gender, scales = "free_y")+
  ThisThemeEnd+
  #scale_y_continuous(limits = c(-1, 1)*3)+
  xlab("interaction terms") +
  labs(color = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 2),
    fill = guide_legend(title = "regression specifications", nrow = 2),
    shape = guide_legend(title = "regression specifications", nrow = 2)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "FloodedNonMuslimsImpactsByGenderByDemeaning.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever ← dev.off()
```

Table 56: Flooded and non-Muslims results by gender

	specification 1			specification 2			specification 3		
	Flooded areas								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Boys	Girls	Boys+Girls	Boys	Girls	Boys+Girls	Boys	Girls	Boys+Girls
Agricultural households * year 2002	−0.1194**	−0.0223	−0.0618*	−0.1226**	−0.0425	−0.0729*	−0.1202**	−0.0431	−0.0737**
	(-0.189, -0.050)	(-0.147, 0.102)	(-0.108, -0.015)	(-0.191, -0.054)	(-0.161, 0.076)	(-0.124, -0.022)	(-0.192, -0.048)	(-0.160, 0.074)	(-0.123, -0.025)
	[-0.221, -0.018]	[-0.203, 0.158]	[-0.124, 0.001]	[-0.226, -0.019]	[-0.228, 0.143]	[-0.149, 0.003]	[-0.228, -0.012]	[-0.226, 0.140]	[-0.147, -0.000]
Agricultural households * year 2002 * Flooded	−0.1094	0.1132	0.0042	−0.0567	0.1175	0.0266	−0.0478	0.1142	0.0241
	(-0.276, 0.058)	(-0.097, 0.324)	(-0.075, 0.083)	(-0.219, 0.106)	(-0.066, 0.301)	(-0.056, 0.110)	(-0.227, 0.131)	(-0.074, 0.302)	(-0.064, 0.112)
	[-0.359, 0.140]	[-0.223, 0.450]	[-0.111, 0.119]	[-0.296, 0.182]	[-0.186, 0.421]	[-0.100, 0.153]	[-0.316, 0.221]	[-0.195, 0.424]	[-0.110, 0.158]
Demographic fixed trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other household fixed trends				Yes	Yes	Yes	Yes	Yes	Yes
Thana fixed trends							Yes	Yes	Yes
$\bar{R}^2$	0.3716	0.5947	0.4684	0.4087	0.6094	0.4832	0.4101	0.6127	0.4836
N_{ag}	197	187	384	197	187	384	197	187	384
N_{group}	186	204	390	186	204	390	186	204	390
N	306	320	626	306	320	626	306	320	626
mean of treated in 2002	0.7156	0.8271	0.7769	0.7156	0.8271	0.7769	0.7156	0.8271	0.7769
mean of control in 2002	0.4679	0.5188	0.4959	0.4679	0.5188	0.4959	0.4679	0.5188	0.4959
mean of treated in 2006	0.6396	0.7914	0.7135	0.6396	0.7914	0.7135	0.6396	0.7914	0.7135
mean of control in 2006	0.2944	0.4920	0.3906	0.2944	0.4920	0.3906	0.2944	0.4920	0.3906
	Non-Muslims								
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
	Boys	Girls	Boys+Girls	Boys	Girls	Boys+Girls	Boys	Girls	Boys+Girls
Agricultural households * year 2002	−0.1272**	−0.0291	−0.0676**	−0.1246**	−0.0473	−0.0772**	−0.1324***	−0.0462	−0.0780**
	(-0.212, -0.043)	(-0.167, 0.109)	(-0.114, -0.021)	(-0.187, -0.062)	(-0.184, 0.090)	(-0.128, -0.026)	(-0.193, -0.072)	(-0.184, 0.091)	(-0.129, -0.027)
	[-0.242, -0.012]	[-0.211, 0.153]	[-0.128, -0.008]	[-0.211, -0.038]	[-0.244, 0.150]	[-0.150, -0.004]	[-0.213, -0.051]	[-0.240, 0.148]	[-0.148, -0.008]
Agricultural households * year 2002 * Non-Muslim	−0.2679	0.1370	0.0416	−0.2665	0.1321	0.0283	−0.2805	0.1377	0.0250
	(-0.463, -0.073)	(0.009, 0.265)	(-0.077, 0.160)	(-0.415, -0.118)	(-0.026, 0.290)	(-0.093, 0.150)	(-0.440, -0.121)	(-0.024, 0.299)	(-0.100, 0.150)
	[-0.868, 0.333]	[-0.079, 0.352]	[-0.196, 0.279]	[-0.708, 0.175]	[-0.126, 0.390]	[-0.198, 0.255]	[-0.775, 0.214]	[-0.141, 0.416]	[-0.218, 0.268]
Demographic fixed trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other household fixed trends				Yes	Yes	Yes	Yes	Yes	Yes
Thana fixed trends							Yes	Yes	Yes
$\bar{R}^2$	0.3778	0.5944	0.4695	0.4147	0.6105	0.4849	0.4168	0.6148	0.4855
N_{ag}	197	187	384	197	187	384	197	187	384
N_{group}	36	41	77	36	41	77	36	41	77
N	306	320	626	306	320	626	306	320	626
mean of treated in 2002	0.7156	0.8271	0.7769	0.7156	0.8271	0.7769	0.7156	0.8271	0.7769
mean of control in 2002	0.4679	0.5188	0.4959	0.4679	0.5188	0.4959	0.4679	0.5188	0.4959
mean of treated in 2006	0.6396	0.7914	0.7135	0.6396	0.7914	0.7135	0.6396	0.7914	0.7135
mean of control in 2006	0.2944	0.4920	0.3906	0.2944	0.4920	0.3906	0.2944	0.4920	0.3906

Source: Compiled from IFPRI data. All individuals aged 10-18 in households. Unflooded is 1 for thanas Aailjhar, Chokoria, Kalia, Nilphamary Sadar, Mohadebpur.

Notes: Other covariates include interaction terms unflooded/nonmuslim * year 2002. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively. N_{ag} indicates the number of agricultural households, N_{group} indicates the number of observations for unflooded areas or non-Muslims.

Table ?? assess effects of flood and non-Muslims on the impacts of exam-harvest nonoverlap in 1999. Left panel shows results using flood and its interaction with year 2002, and year 2002 * agricultural household. It shows impacts do not change substantially after inclusion of flood related terms. Right panel shows results using non-Muslims and its interaction with year 2002, and year 2002 * agricultural household. It shows impacts do not differ from main results given that the estmates are imprecisely estimated.

For non-Muslims, point estimates suggest that Ramadan prior to exam in 2002, or fasting during post-Ramadan festivity which coincide with final exams, did not lead to lower enrollment rates. However, estimates have large standard errors and nothing conclusive can be stated from the results. This is not direct evidence against our main finding that exam-harvest overlap negatively affects schooling. In Table ??, we see that smaller impacts among non Muslims than Muslims mostly reflect the larger drop in enrollment among the non-agricultural households of non Muslims. Enrollment rates of agricultural households reduce by almost the same amount between Muslims (-.3210) and non Muslims (-.3220). If the impacts we observe are due to fasting and festivity, we should observe impacts on both agricultural and non-agricultural households of Muslims, so their estimated impacts should be near zero. While it is unclear why enrollment rates of non-agricultural households reduce more among non Muslims, the results here are inconsistent with the fasting and festivity mechanism that only affects Muslim households.

V.2.2 Grade progression and days absent

```
ga ← qread(paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulated.qs"))
NR ← qread(paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulatedNR.qs"))
Enr ← qread(paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulatedEnr.qs"))
ga[, reg := as.numeric(as.character(reg))]
ga2 ← ga[grepl("^agHH.yr.$", Coef) & grepl(0, agdef) & reg > 3 & reg != 5 &
  agelb == 10 & grepl("di", HHtype), ]
ga2[, spec := factor(reg-3)]
ga2[, spec := factor(spec, labels = 1:3)]
ga2[, gender := factor(gender, levels = genderitems)]
ga2[, Estimate := formatC(beta, digits = 4, format = "f")]
ga2[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
ga2[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), ")}")]
setnames(ga2, "p_val", "p")
setkey(ga2, file, spec, gender)
AddStar ← T
if (AddStar) {
  ga2[, est := Estimate]
  ga2[, Estimate := paste0(est, "^{\\phantom{***}}")]
  ga2[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  ga2[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  ga2[p < .01, Estimate := paste0(est, "^{***}")]
  ga2[, est := NULL]
}
# tabulate by specification
setorder(ga2, spec, file)
ga2tab ← rbind(
    ga2[grepl("ini", file) & grepl("B", inference), Estimate],
    ga2[grepl("ini", file) & grepl("^L", inference), ci],
    ga2[grepl("ini", file) & grepl("B", inference), ci],
    ga2[grepl("de e", file) & grepl("B", inference), Estimate],
    ga2[grepl("de e", file) & grepl("^L", inference), ci],
    ga2[grepl("de e", file) & grepl("B", inference), ci],
    ga2[grepl("abs", file) & grepl("B", inference), Estimate],
    ga2[grepl("abs", file) & grepl("^L", inference), ci],
    ga2[grepl("abs", file) & grepl("B", inference), ci]
  )
nr ← unique(NR[grepl(0, agdef) & reg > 3 & reg != 5 &
  agelb == 10 & grepl("di", HHtype), ])
nr[, gender := factor(gender, levels = genderitems)]
nr[, file := factor(file, levels = c("grade initial enr", "grade enr", "absent enr"))]
setkey(nr, file, reg, gender)
nr ← t(nr[, .(R, n)])
```

```
nr ← rbind(nr[, 1:9], nr[, 10:18], nr[, 19:27])
Enr[, gender := factor(gender, levels = genderitems)]
enr ← unique(Enr[agelb == 10 & grepl(0, agdef) & grepl("di", HHtype), ])
enr[, file := factor(file, levels = c("grade initial enr", "grade enr", "absent enr"))]
setkey(enr, file, gender, agHH, tee)
enrW ← reshape(enr, direction = "wide", idvar = c("agHH", "tee", "gender"),
  timevar = "file", v.names = grepout("En|Nu", colnames(enr)))
enrW2 ← reshape(enrW, direction = "wide", idvar = c("agHH", "tee"),
  timevar = "gender", v.names = grepout("En|Nu", colnames(enrW)))
enrW3 = copy(enrW2[, grepout("boys|gir", colnames(enrW2)), with = F])
enrW4 = copy(enrW2[, grepout("boys|gir", colnames(enrW2)), with = F])
enrW3[, grepout("Num", colnames(enrW3)) := NULL]
enrW4[, grepout("En", colnames(enrW4)) := NULL]
enrW3 ← data.table(as.matrix(rbind(enrW3, enrW3[2, ] - enrW3[1, ] - (enrW3[4, ] - enrW3[3
Engi ← enrW3[, grepout("gra.*ini", colnames(enrW3)), with = F]
Enge ← enrW3[, grepout("g.*de e", colnames(enrW3)), with = F]
Ena ← enrW3[, grepout("ab", colnames(enrW3)), with = F]
Engi ← data.table(formatC(as.matrix(Engi), digits = 4, format = "f"))
Enge ← data.table(formatC(as.matrix(Enge), digits = 4, format = "f"))
Ena ← data.table(formatC(as.matrix(Ena), digits = 4, format = "f"))
ng ← enrW4[, grepout("gra", colnames(enrW4)), with = F][c(1, 3), ]
na ← enrW4[, grepout("ab", colnames(enrW4)), with = F][c(1, 3), ]
estnr ← data.table(rbind(ga2tab[1:3, ], nr[1:2, ], ga2tab[4:6, ], nr[3:4, ], ga2tab[7:9,
estnr ← rbindlist(list(
  estnr[1:5, ], Engi[, rep(1:3, 3), with = F],
  estnr[6:10, ], Enge[, rep(1:3, 3), with = F],
  estnr[11:15, ], Ena[, rep(1:3, 3), with = F]),
  use.names = F)
ii ← 1
hdr ← c(paste0("Mean of ", rep(c("treated", "control"), each = 2), " in ",
   list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[ii]]), "Raw DID")
estnr ← cbind(
  Covariates = rep(c("Agricultural households * year 2002",
      "\\hspace{1em} CI (LZ)",
      "\\hspace{1em} CI (BRL)",
      "$\\bar{R}^{2}$", "N", hdr), 3)
  , estnr)
SepCols ← c(3, 6)
ltb ← latextab(as.matrix(estnr), delimiterline = NULL,
    hcenter = c(4, rep(1.25, ncol(estnr)-1)),
    hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(estnr)-1)),
    hright = c("\\hfill", rep("$", ncol(estnr)-1)),
    headercolor = NULL,
    addseparatingcols = SepCols, separatingcolwidth = rep(.1, length(SepCols)),
    separatingcoltitle = c("\\textsf{Specification 1}", "\\textsf{Specfication 2}", "\\te
  )
controlsexplained ← c("Demographic fixed trends & \\multicolumn{3}{c}{\\scriptsize Yes} &
    ,
    "Household fixed trends & \\multicolumn{3}{c}{\\scriptsize } && \\multicolumn{3}{c}{\
    ,
    "Thana fixed trends & \\multicolumn{3}{c}{\\scriptsize } && \\multicolumn{3}{c}{\\scri
ltb ← c(
  ltb[1, ], "\\hline",
  ltb[2:grep("cline", ltb), ],
  "&\\multicolumn{11}{c}{\\footnotesize A. Grade progression, initial erollers}\\\\",
    paste0(
```

```
      "&\\textsf{boys} & \\textsf{girls} & \\textsf{boys+girls}",
      paste(rep("&&\\textsf{boys} & \\textsf{girls} & \\textsf{boys+girls}", 2), collapse
      , "\\\\"),
    "&(1) & (2) &(3) && (4) & (5) & (6) && (7) & (8) & (9)\\\\",
  ltb[(grep("cline", ltb)+2):(grep("Raw", ltb)[1]), ],
  controlsexplained,
  "&\\multicolumn{11}{c}{\\footnotesize B. Grade progression, all time enrollers}\\\\",
    paste0(
      "&\\textsf{boys} & \\textsf{girls} & \\textsf{boys+girls}",
      paste(rep("&&\\textsf{boys} & \\textsf{girls} & \\textsf{boys+girls}", 2), collapse
      , "\\\\"),
    "&(10) & (11) &(12) && (13) & (14) & (15) && (16) & (17) & (18)\\\\",
  ltb[(grep("Raw", ltb)[1]+1):(grep("Raw", ltb)[2]), ],
  controlsexplained,
  "&\\multicolumn{11}{c}{\\footnotesize C. Absent days, all time enrollers}\\\\",
    paste0(
      "&\\textsf{boys} & \\textsf{girls} & \\textsf{boys+girls}",
      paste(rep("&&\\textsf{boys} & \\textsf{girls} & \\textsf{boys+girls}", 2), collapse
      , "\\\\"),
    "&(19) & (20) &(21) && (22) & (23) & (24) && (25) & (26) & (27)\\\\",
  ltb[(grep("Raw", ltb)[2]+1):(grep("Raw", ltb)[3]), ],
  controlsexplained,
  "\\hline",
  ltb[(nrow(ltb)), ]
  )
ltb ← ltb[!grepl("Raw", ltb)]
ltb ← gsub("CI \\(.*?\\)", "", ltb)
write.tablev(ltb
  , paste0(pathsaveThisVer, "NumGradesDaysAbsentGenderResults_Table.tex")
  , colnamestrue = F)
```

```
library(ggplot2)
egd ← qread(paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulated.qs"))
egd2 ← egd[grepl("ab|de$", file) & grepl("Em", data) & grepl("^agHH", Coef) &
  grepl("4|5|6|7", reg) & grepl("B", inference) & grepl(0, agdef), ]
egd2[, gender := factor(gender, levels = genderitems)]
egd2[, hr := paste0(HHtype, "-", reg)]
egd2[, fa := paste0(file, ", ", agelb)]
egd2[, yintercept := 0]
g ← ggplot(data = egd2,
    aes(x = agelb, y = beta, group = hr, fill = hr, shape = hr, colour = hr)) +
  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
    stat = "identity", fatten = 1.75,
    position = position_dodge(width = .5)) +
  scale_shape_manual(values = rep(c(0:6, 8), 2))+
  facet_grid( ~ gender, scales = "free_y")+
  ThisThemeEnd+
  #scale_y_continuous(limits = c(-1, 1)*3)+
  xlab("interaction terms") +
  labs(color  = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 2),
    fill = guide_legend(title = "regression specifications", nrow = 2),
    shape = guide_legend(title = "regression specifications", nrow = 2)
    ) +
```

```
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "NumGradeDaysAbsentImpactsByGenderByDemeaningByAgelb.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever ← dev.off()

CIs ← qread(paste0(pathsaveThisVer, "FD_DaysAbsentCrossSection_CIs.qs"))
DA ← qread(paste0(pathsaveThisVer, "DaysAbsentCrossSection.qs"))
ab1 ← CIs[grepl("^agHH", Coef) & grepl(0, agdef) & grepl("4|6|7", reg) & agelb == 10, ]
ab1[, spec := factor(as.numeric(reg)-3)]
ab1[, spec := factor(spec, labels = 1:3)]
ab1[, gender := factor(gender, levels = genderitems)]
ab1[, Estimate := formatC(beta, digits = 4, format = "f")]
ab1[, ci := paste0("\\mbox{\\tiny [",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), "]}")]
ab1[grepl("^L", inference), ci := paste0("\\mbox{\\tiny (",
  formatC(CI_L, digits = 3, format = "f"), ", ",
  formatC(CI_U, digits = 3, format = "f"), ")}")]
setnames(ab1, "p_val", "p")
AddStar ← T
if (AddStar) {
  ab1[, est := Estimate]
  ab1[, Estimate := paste0(est, "^{\\phantom{***}}")]
  ab1[p < .1, Estimate := paste0(est, "^{*\\phantom{**}}")]
  ab1[p < .05, Estimate := paste0(est, "^{**\\phantom{*}}")]
  ab1[p < .01, Estimate := paste0(est, "^{***}")]
  ab1[, est := NULL]
}
# tabulate by specification
setorder(ab1, year, sample, gender, spec) # order in sample: all time, contemp
setorder(DA, year, sample, gender, agHH)
for (ii in 1:2) {
  sampleyears ← list(c(1999, 2002), c(2002, 2006))[[ii]]
  if (ii == 1) {
    yymax ← 2
    ppmin ← 1
  } else {
    yymax ← 1
    ppmin ← 2
  }
  for (yy in 1:yymax) {
    ab2 ← ab1[year == sampleyears[yy] & grepl(c("m", "p")[ii], data), ]
    ab2tab ← rbind(
        ab2[grepl("B", inference), Estimate],
        ab2[grepl("^L", inference), ci],
        ab2[grepl("B", inference), ci],
        ab2[grepl("B", inference), formatC(R2, digits = 4, format = "f")],
        ab2[grepl("B", inference), n]
      )
    da ← DA[grepl(c("m", "p")[ii], data) & is.na(agHHdef) & agelb == 10 & year == sample
    if (nrow(da) == 0) next
    damatrix ← matrix(da[, formatC(rate, digits = 3, format = "f")], byrow = F, nrow = 2
    if (ii == 1)
      damatrix ← damatrix[, rep(1:6, each = 3)] else
```

```
      damatrix ← damatrix[, rep(1:3, each = 3)]
    ab3 ← data.table(rbind(
      ab2tab[1:4, ], rep(da[agHH == 1, Obs], each=3),
      ab2tab[5, ], damatrix
     ))
    hdr ← c(paste0("Mean of ", rep(c("control", "treated"), each = 2), " in ",
       list(rep(c(1999, 2002), 2), rep(c(2002, 2006), 2))[[ii]]), "Raw DID")[list(c(1, 3)
    for (pp in ppmin:2) {
      ab4 ← ab3[, list(list(c(1:9), c(10:18)), list(c(1), c(1:9)))[[ii]][[pp]], with = F]
      ab5 ← cbind(
        Covariates = rep(c("Agricultural household",
            "\\hspace{1em} CI (LZ)",
            "\\hspace{1em} CI (BRL)",
            "$\\bar{R}^{2}$", "N: Agricultural households", "N", hdr), 1)
        , ab4)
      SepCols ← c(3, 6)
      ltb ← latextab(as.matrix(ab5), delimiterline = NULL,
          hcenter = c(4, rep(1.15, ncol(ab5)-1)),
          hleft = c("\\scriptsize", rep("\\hfil\\scriptsize$", ncol(ab5)-1)),
          hright = c("\\hfill", rep("$", ncol(ab5)-1)),
          headercolor = NULL,
          adjustlineskip = "-.75ex", adjlskiprows = grep("CI", unlist(ab5[, 1]))-1,
          addseparatingcols = SepCols, separatingcolwidth = rep(.1, length(SepCols)),
          separatingcoltitle = c("\\textsf{Boys}", "\\textsf{Girls}", "\\textsf{Boys+Girls
        )
      controlsexplained ← c(
        paste("Demographic fixed trends &",
          paste(rep(paste(rep("\\mbox{\\scriptsize Yes}", 3), collapse = "&"),
3), collapse = "&&"), "\\\\")
          ,
        paste("Household fixed trends &",
          paste(rep(paste(c(" ", rep("\\mbox{\\scriptsize Yes}", 2)), collapse = "&"),
3), collapse = "&&"), "\\\\")
          ,
        paste("Thana fixed trends &",
          paste(rep(paste(c(" ", " ", "\\mbox{\\scriptsize Yes}"), collapse = "&"),
3), collapse = "&&"), "\\\\")
        )
      if (yy == 1) nums ← 1:9 else nums ← 19:27
      if (ii == 2) nums ← 37:45
      nums ← nums+9*(pp-1)
      ltb ← c(
        ltb[1, ], "\\hline",
        ltb[2:grep("cline", ltb), ],
        #  "&(1) & (2) &(3) && (4) & (5) & (6) && (7) & (8) & (9)\\\\",
        paste0("&", paste(c(
            paste(paste0("(", nums[0+1:3], ")"), collapse = "&"),
            paste(paste0("(", nums[3+1:3], ")"), collapse = "&"),
            paste(paste0("(", nums[6+1:3], ")"), collapse = "&")), collapse = "&&"),
          "\\\\"),
        ltb[(grep("cline", ltb)+2):(grep("CI", ltb)[2]), ],
        controlsexplained,
        ltb[(grep("CI", ltb)[2]+1):(grep(" in ", ltb)[2]), ],
        "\\hline",
        ltb[(nrow(ltb)), ]
        )
```

```
      N1 ← gsub("N.*?&", "", ltb[grepl("N: A", ltb)])
      N1 ← gsub("\\\\", "", N1)
      N1 ← gsub(" ", "", N1)
      N1 ← unique(unlist(strsplit(N1, " ?\\& ?")))
      N1 ← N1[nchar(N1)>0]
      for (nn in 1:length(N1))
        ltb ← gsub(paste0(N1[nn], ".*\\& ", N1[nn], collapse = ""),
          paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N1[nn], "}"), ltb)
      N2 ← gsub("N *\\&", "", ltb[grepl("N *\\&", ltb)])
      N2 ← gsub("\\\\", "", N2)
      N2 ← gsub(" ", "", N2)
      N2 ← unique(unlist(strsplit(N2, " ?\\& ?")))
      N2 ← N2[nchar(N2)>0]
      for (nn in 1:length(N2))
        ltb ← gsub(paste0(N2[nn], ".*\\& ", N2[nn], collapse = ""),
          paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N2[nn], "}"), ltb)
      N3 ← gsub("Mean.*?\\&", "", ltb[grepl("Mean", ltb)])
      N3 ← gsub("\\&", "", N3)
      N3 ← gsub("\\\\\\\\", "", N3)
      N3 ← strsplit(N3, " +")
      N3 ← lapply(N3, unique)
      N3 ← lapply(N3, function(x) x[nchar(x)>0])
      for (mm in 1:2)
        for (nn in 1:3)
          ltb ← gsub(paste0(N3[[mm]][nn], ".*", N3[[mm]][nn], collapse = ""),
            paste("\\\\multicolumn{3}{c}{\\\\scriptsize", N3[[mm]][nn], "}"), ltb)
      ltb ← gsub("CI \\(.*?\\)", "", ltb)
      assign(paste0("ltb", c("m", "p")[ii], list(c(9, 2), c(2, 6))[[ii]][yy], c("a", "c")[
    }
  }
}
ltbm9c ← ltbm9c[!grepl("fixed", ltbm9c)]
ltbm2c ← ltbm2c[!grepl("fixed", ltbm2c)]
ltbm2a ← ltbm2a[!grepl("fixed", ltbm2a)]
ltbp2c ← ltbp2c[!grepl("fixed", ltbp2c)]
ltb ← c(
  ltbm9a[1:grep("cline", ltbm9a)],
  "&\\multicolumn{11}{c}{\\small A. 1999, all time enrollers, 1999 cohort}\\\\",
  ltbm9a[(grep("cline", ltbm9a)[1]+1):(grep("Mean", ltbm9a)[2])],
  "&\\multicolumn{11}{c}{\\small B. 1999, contemporaneous enrollers, 1999 cohort}\\\\",
  ltbm9c[(grep("cline", ltbm9c)[1]+1):(grep("Mean", ltbm9c)[2])],
  "&\\multicolumn{11}{c}{\\small C. 2002, all time enrollers, 1999 cohort}\\\\",
  ltbm2a[(grep("cline", ltbm2a)[1]+1):(grep("Mean", ltbm2a)[2])],
  "&\\multicolumn{11}{c}{\\small D. 2002, contemporaneous enrollers, 1999 cohort}\\\\",
  ltbm2c[(grep("cline", ltbm2c)[1]+1):(grep("Mean", ltbm2c)[2])],
  "&\\multicolumn{11}{c}{\\small E. 2002, contemporaneous enrollers, 2002 cohort}\\\\",
  ltbp2c[(grep("cline", ltbp2c)[1]+1):length(ltbp2c)]
)
write.tablev(ltb
  , paste0(pathsaveThisVer, "DaysAbsentCrossSection.tex")
  , colnamestrue = F)

library(ggplot2)
egd ← qread(paste0(pathsaveThisVer, "GenderGradeDaysAbsentTabulated.qs"))
egd2 ← egd[grepl("enr", file) & grepl("Em", data) & grepl("^agHH", Coef) & grepl(10, agel
  grepl("4|5|6|7", reg) & grepl("B", inference) & grepl(0, agdef) & grepl("di", HHtype), 
```

```
egd2[, gender := factor(gender, levels = genderitems)]
egd2[, hr := paste0(HHtype, "-", reg)]
egd2[, fa := paste0(file, ", ", agelb)]
egd2[, yintercept := 0]
g <-
ggplot(data = egd2,
    aes(x = gender, y = beta, group = hr, fill = hr, shape = hr, colour = hr)) +
  geom_pointrange(aes(ymin = CI_L, ymax = CI_U),
    stat = "identity", fatten = 1.75,
    position = position_dodge(width = .5)) +
  scale_shape_manual(values = rep(c(0:6, 8), 2))+
  facet_grid( ~ file, scales = "free_y")+
  ThisThemeEnd+
  #scale_y_continuous(limits = c(-1, 1))+
  xlab("interaction terms") +
  labs(color  = "regression specifications", fill = "regression specifications",
    shape = "regression specifications") +
  guides(
    colour = guide_legend(title = "regression specifications", nrow = 1),
    fill = guide_legend(title = "regression specifications", nrow = 1),
    shape = guide_legend(title = "regression specifications", nrow = 1)
    ) +
  geom_hline(aes(yintercept = yintercept), colour = "lightgreen")
pdf(
  paste0(pathsaveThisVer, "NumGradeImpactsOfInitialEnrollersByGenderByDemeaningByAgelb.pdf")
  , width = 2*12/2.54, height = 2*8/2.54)
print(g)
whatever <- dev.off()
```

V.3 Age wise

- Figure ?? shows age wise impacts, Figure ?? shows impacts by age groups corresponding to school system classification, Figure ?? shows impacts by age groups corresponding to major school classification.
- In Figure ??, we see heterogeneity in impacts by age. 10, 12 are most affected, 15 and 16 are also affected but the estimates are imprecise due to small sample size in these age groups.
- This pattern broadly matches with last years of schooling phases: Primary schools of class 1 - 5 (ages 6-10), junior secondary schools of class 6 - 8 (ages 11-13), secondary schools of class 9 - 10 with SSC (secondary school certificate) exams at the end (age 15), higher secondary schools of class 11 - 12 with HSC (higher secondary school certificate) at the end (age 17). It suggests that children discontinue their schooling after the last years of each schooling phases and the exam-harvest overlap may have made this pattern stronger for ag HHs. Figure ?? and Figure ?? show the same pattern in a summarised way.
- We see almost null impacts on younger cohorts below 10. Given that only few paid work is available for children of younger cohorts, we interpret this evidence as a support to our interpretation that exam-harvest overlap may drive out children, mainly of ages above 10, from school to work.

- Figure ?? shows mean enrollment rates by age. It shows "compulsory schooling" is not enforced strictly.
- Figure ?? shows the mean age of starting class 1. It also shows "compulsory schooling" is not enforced strictly. Ag HHs tend to start school later in age than nonag HHs. This may partly

TABLE 57: GRADE PROGRESSION AND DAYS ABSENT RESULTS BY GENDER

	Specification 1			Specfication 2			Specfication 3		
	A. Grade progression, initial erollers								
	boys	girls	boys+girls	boys	girls	boys+girls	boys	girls	boys+girls
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Agricultural households * year 2002	−0.6888	−0.3827	−0.4746	−0.2127	−0.1827	0.1740	−0.1183	−0.2918	0.1882
	(-1.950, 0.572)	(-1.231, 0.465)	(-1.171, 0.222)	(-1.638, 1.213)	(-0.824, 0.459)	(-0.498, 0.846)	(-1.883, 1.646)	(-1.156, 0.573)	(-0.654, 1.030)
	[-2.403, 1.025]	[-1.647, 0.882]	[-1.390, 0.440]	[-9.404, 8.978]	[-1.290, 0.924]	[-1.603, 1.951]	[-12.501, 12.264]	[-1.838, 1.255]	[-1.947, 2.323]
$\bar{R}^2$	0.2072	0.3837	0.1827	0.5090	0.6465	0.2885	0.5333	0.6759	0.3148
N	77	56	133	77	56	133	77	56	133
Mean of treated in 1999	5.4211	5.7600	5.6136	5.4211	5.7600	5.6136	5.4211	5.7600	5.6136
Mean of treated in 2002	6.8947	6.9600	6.9318	6.8947	6.9600	6.9318	6.8947	6.9600	6.9318
Mean of control in 1999	5.6724	5.2903	5.5393	5.6724	5.2903	5.5393	5.6724	5.2903	5.5393
Mean of control in 2002	6.5517	6.2581	6.4494	6.5517	6.2581	6.4494	6.5517	6.2581	6.4494
Demographic fixed trends		Yes			Yes			Yes	
Household fixed trends					Yes			Yes	
Thana fixed trends								Yes	
	B. Grade progression, all time enrollers								
	boys	girls	boys+girls	boys	girls	boys+girls	boys	girls	boys+girls
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural households * year 2002	−0.2140	−0.3247	−0.3268**	−0.1938	−0.2785	−0.3463**	−0.0787	−0.2122	−0.2417*
	(-0.917, 0.489)	(-0.798, 0.148)	(-0.583, -0.071)	(-0.874, 0.487)	(-0.898, 0.341)	(-0.561, -0.131)	(-0.719, 0.562)	(-0.829, 0.405)	(-0.453, -0.031)
	[-1.125, 0.697]	[-0.897, 0.247]	[-0.636, -0.018]	[-1.173, 0.785]	[-1.106, 0.549]	[-0.618, -0.074]	[-1.001, 0.843]	[-1.049, 0.624]	[-0.501, 0.017]
$\bar{R}^2$	0.1615	0.2800	0.1621	0.2355	0.3238	0.1948	0.3246	0.3880	0.2347
N	104	156	260	104	156	260	104	156	260
Mean of treated in 1999	5.1176	5.0000	5.0504	5.1176	5.0000	5.0504	5.1176	5.0000	5.0504
Mean of treated in 2002	7.3137	7.5000	7.4202	7.3137	7.5000	7.4202	7.3137	7.5000	7.4202
Mean of control in 1999	4.4906	4.8295	4.7021	4.4906	4.8295	4.7021	4.4906	4.8295	4.7021
Mean of control in 2002	6.4906	7.2273	6.9504	6.4906	7.2273	6.9504	6.4906	7.2273	6.9504
Demographic fixed trends		Yes			Yes			Yes	
Household fixed trends					Yes			Yes	
Thana fixed trends								Yes	
	C. Absent days, all time enrollers								
	boys	girls	boys+girls	boys	girls	boys+girls	boys	girls	boys+girls
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Agricultural households * year 2002	2.9002**	0.7927	1.3110**	3.0717***	0.7213	1.1991**	3.0528***	0.7630	1.1957**
	(1.298, 4.502)	(-0.428, 2.013)	(0.563, 2.059)	(1.703, 4.441)	(-0.574, 2.017)	(0.507, 1.891)	(1.721, 4.384)	(-0.524, 2.050)	(0.566, 1.825)
	[0.760, 5.041]	[-0.732, 2.317]	[0.405, 2.217]	[1.205, 4.939]	[-0.826, 2.269]	[0.276, 2.122]	[1.432, 4.673]	[-0.756, 2.282]	[0.396, 1.995]
$\bar{R}^2$	0.2012	0.0811	0.0957	0.3211	0.1227	0.1531	0.3944	0.1314	0.1615
N	107	156	263	107	156	263	107	156	263
Mean of treated in 1999	3.7582	3.0784	3.3697	3.7582	3.0784	3.3697	3.7582	3.0784	3.3697
Mean of treated in 2002	2.5000	3.0000	2.7857	2.5000	3.0000	2.7857	2.5000	3.0000	2.7857
Mean of control in 1999	3.5714	3.2538	3.3773	3.5714	3.2538	3.3773	3.5714	3.2538	3.3773
Mean of control in 2002	4.1339	3.5057	3.7500	4.1339	3.5057	3.7500	4.1339	3.5057	3.7500
Demographic fixed trends		Yes			Yes			Yes	
Household fixed trends					Yes			Yes	
Thana fixed trends								Yes	

Source: Compiled from IFPRI data. All individuals aged 10-18 in households.

Notes: Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

explain ag HH's enrollment rates are higher at some of the later ages.

We examine other schooling outcomes available in data. Impacts on other schooling outcomes are aligned with and give certain validation to our interpretation of the main estimation results.

- Number of progressed grades is fewer for ag HHs by .36 - .38 years in three years, mean annual rate of .12 - .13. This is consistent with a larger enrollment rate reduction for them.
- Days absent in three months prior to survey interviews show an increase in some specifications, yet the estimates are imprecise and do not statistically differ from zero. This is also consistent with the main results because days absent need not to be related to exam failures.

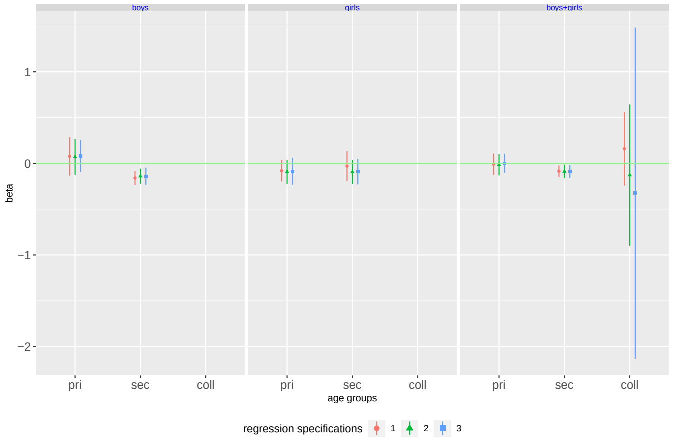
Table 58: Days absent, cross section estimates

	Boys			Girls			Boys+Girls		
	A. 1999, all time enrollers, 1999 cohort								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Agricultural household	0.2430 (-1.367, 1.853) [-1.799, 2.285]	−0.1588 (-1.207, 0.890) [-1.574, 1.256]	−0.2141 (-1.341, 0.913) [-1.843, 1.415]	−0.3651 (-0.958, 0.227) [-1.164, 0.434]	−0.5969 (-1.200, 0.007) [-1.386, 0.192]	−0.5384 (-1.135, 0.058) [-1.326, 0.249]	−0.0337 (-0.722, 0.654) [-0.851, 0.784]	−0.0600 (-0.621, 0.501) [-0.734, 0.614]	−0.1004 (-0.687, 0.486) [-0.845, 0.644]
Demographic fixed trends	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household fixed trends		Yes	Yes		Yes	Yes		Yes	Yes
Thana fixed trends			Yes			Yes			Yes
$\bar{R}^2$	−0.0145	0.0056	0.0598	0.0139	0.0076	−0.0062	0.0189	0.0366	0.0516
N: Agricultural households		56			88			144	
N		107			156			263	
Mean of control in 1999		3.758			3.078			3.370	
Mean of treated in 1999		3.571			3.254			3.377	
	B. 1999, contemporaneous enrollers, 1999 cohort								
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Agricultural household	2.6593 (-1.733, 7.051) [-3.489, 8.807]	3.9728 (-0.199, 8.145) [-4.616, 12.561]	3.9453 (-0.867, 8.758) [-5.547, 13.437]	−0.0799 (-0.624, 0.464) [-0.785, 0.626]	−0.2742 (-0.845, 0.297) [-0.987, 0.439]	−0.2759 (-0.832, 0.280) [-0.968, 0.416]	0.8735 (-0.697, 2.444) [-1.277, 3.024]	0.8274 (-1.209, 2.864) [-2.734, 4.389]	0.7067 (-1.370, 2.784) [-2.739, 4.153]
$\bar{R}^2$	−0.0155	−0.0082	−0.0244	0.0196	0.0451	0.0355	−0.0056	0.0043	−0.0005
N: Agricultural households		126			148			274	
N		204			258			462	
Mean of control in 1999		3.731			3.273			3.463	
Mean of treated in 1999		9.000			3.369			5.959	
	C. 2002, all time enrollers, 1999 cohort								
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
Agricultural household	2.3994* (0.186, 4.613) [-0.398, 5.196]	2.5759** (0.852, 4.300) [0.243, 4.909]	2.6040** (0.869, 4.339) [0.238, 4.970]	0.6751 (-0.474, 1.825) [-0.826, 2.176]	0.4407 (-0.603, 1.484) [-0.903, 1.784]	0.3628 (-0.723, 1.448) [-0.968, 1.694]	1.1393** (0.325, 1.954) [0.117, 2.162]	1.0917** (0.321, 1.862) [0.030, 2.153]	1.0590** (0.315, 1.802) [0.040, 2.078]
$\bar{R}^2$	0.1070	0.1039	0.1113	0.0206	−0.0283	−0.0358	0.0492	0.0525	0.0528
N: Agricultural households		56			88			144	
N		107			156			263	
Mean of control in 2002		2.500			3.000			2.786	
Mean of treated in 2002		4.134			3.506			3.750	
	D. 2002, contemporaneous enrollers, 1999 cohort								
	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
Agricultural household	2.4860* (0.266, 4.706) [-0.301, 5.273]	2.5952** (0.911, 4.279) [0.346, 4.844]	2.5955** (0.904, 4.288) [0.319, 4.872]	0.8319 (-0.472, 2.136) [-0.850, 2.514]	0.5055 (-0.743, 1.754) [-1.089, 2.100]	0.4049 (-0.841, 1.650) [-1.134, 1.944]	1.2029** (0.266, 2.140) [0.020, 2.385]	1.1301 (0.083, 2.177) [-0.313, 2.573]	1.0877 (0.094, 2.081) [-0.287, 2.462]
$\bar{R}^2$	0.1238	0.1333	0.1401	0.0124	−0.0330	−0.0200	0.0364	0.0284	0.0447
N: Agricultural households		58			92			150	
N		109			161			270	
Mean of control in 2002		2.500			3.000			2.788	
Mean of treated in 2002		4.276			3.663			3.900	
	E. 2002, contemporaneous enrollers, 2002 cohort								
	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)
Agricultural household	0.7722** (0.146, 1.399) [0.033, 1.512]	0.8779* (0.044, 1.712) [-0.164, 1.920]	0.8955 (0.014, 1.777) [-0.255, 2.046]	0.4381 (-0.700, 1.576) [-0.960, 1.836]	0.4114 (-0.744, 1.567) [-1.081, 1.904]	0.2961 (-0.862, 1.454) [-1.167, 1.759]	0.5139 (-0.051, 1.079) [-0.195, 1.223]	0.5915 (-0.046, 1.228) [-0.283, 1.466]	0.5544 (-0.099, 1.207) [-0.346, 1.454]
$\bar{R}^2$	0.0729	0.0538	0.1189	0.0442	0.0109	0.0143	0.0498	0.0385	0.0604
N: Agricultural households		131			162			293	
N		225			287			512	
Mean of control in 2002		2.527			3.000			2.797	
Mean of treated in 2002		3.427							

Source: Compiled from IFPRI data. Individuals aged 10-18 in households. Contemporaneous enroller sample is all enrollers in respective years. All time enroller sample is enrollers in both rounds.

Notes: Cross sectional estimates of being in agricultural households. Standard errors are clusterd at thana level. 95% confidence intervals of cluster robust standard errors using Liang and Zeger are shown in parenthesis, bias-reduced linearization (Satterthwaite correction) for a correction of small number of clusters are shown in square brackets. $*$, $**$, $***$ indicate significance levels at 10%, 5%, 1% under BRL cluster robust standard errors, respectively.

Figure 1: Impacts by age group, 1999-2002, 6 - 17 years old



Source: Compiled from IFPRI data. pri: 6-10, sec: 11-17 in 1999.

Notes: 1. Coefficients on agricultural HH dummy × year 2002 dummy.'

2. Error bars use cluster robust standard errors at thana level with Satterthwaite correction for degree of freedom.

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