job submitted

```
local country "es lu"

loc c "es"

 clear
 use ${mydata}/extract-`c' , clear
 svyset [pw=ppopwgt] , psu(hid) strata(year)

 tab tersex period [aw=ppopwgt] , col

 svy , subpop(if period==0) : mean capearn , over(tersex)
 svy , subpop(if period==1) : mean capearn , over(tersex)

 // Inequality decomposition by group
 ineqdeco capearn if period==0 [aw=ppopwgt], by(tersex)
 ineqdeco capearn if period==1 [aw=ppopwgt], by(tersex)

 // Morduch-Sicular
 ineqrbd capearn fnonter mter fter  if period==0  [aw=ppopwgt]
 ineqrbd capearn fnonter mter fter  if period==1  [aw=ppopwgt]

 // Inequality decomposition by group -- counterfactuals
 ineqdeco capearn if period==0 [aw=ppopwgt], by(tersex)
 di r(between_ge0) + r(v_1)*r(ge0_1) + r(v_2)*r(ge0_2) + r(v_12)*r(ge0_12) + r(v_11)*r(ge0_11)
 foreach i in 1 2 11 12 {
 local ge0_`i'_0    r(ge0_`i')
 }
 ineqdeco capearn if period==1 [aw=ppopwgt], by(tersex)
  di r(between_ge0) + r(v_1)*r(ge0_1) + r(v_2)*r(ge0_2) + r(v_12)*r(ge0_12) + r(v_11)*r(ge0_11)
  di "What if within group inequality had not changed?"
  di r(between_ge0) + r(v_1)*`ge0_1_0' + r(v_2)*`ge0_2_0' + r(v_12)*`ge0_12_0' + r(v_11)*`ge0_11_0'

 // Bootstrap inference? Simplest form
 cap pr drop bootineq
 pr def bootineq , rclass
 // calculation
 ineqdeco capearn if period==0 [aw=ppopwgt], by(tersex)
 loc ge0_0   = r(ge0)
 foreach i in 1 2 11 12 {
 local ge0_`i'_0  =   r(ge0_`i')
 }
 ineqdeco capearn if period==1 [aw=ppopwgt], by(tersex)
 loc ge0_1   = r(ge0)
 loc ge0_01  = r(between_ge0) + r(v_1)*`ge0_1_0' + r(v_2)*`ge0_2_0' + r(v_12)*`ge0_12_0' + r(v_11)*`ge0_11_0'
 // return results
 return scalar ge0_0 = `ge0_0'
 return scalar ge0_1 = `ge0_1'
 return scalar ge0_01= `ge0_01'
 return scalar diff = `ge0_1' - `ge0_0'
 return scalar exdiff = `ge0_01' - `ge0_0'
 end
 bootstrap   ge0_0 = r(ge0_0)  ///
 ge0_1 = r(ge0_1)  ///
 ge0_01 = r(ge0_01) ///
```

```
diff = r(diff) ///
exdiff=r(exdiff) ///
, reps(50) strata(year) cluster(hid) ///
:  bootineq

// Kdensities
qui su capearn , detail
range xgrid `=r(p1)/2' `=r(p99)*1.1' 199
kdens capearn if period==0 & tersex==1 [aw=ppopwgt] , at(xgrid) gen(f01)
kdens capearn if period==0 & tersex==2 [aw=ppopwgt] , at(xgrid) gen(f02)
kdens capearn if period==0 & tersex==11 [aw=ppopwgt] , at(xgrid) gen(f011)
kdens capearn if period==0 & tersex==12 [aw=ppopwgt] , at(xgrid) gen(f012)
svy , subpop(if period==0) :  proportion tersex
gen f0 = 0
foreach i in 1 2 11 12 {
gen scf0`i' = _b[`i'.tersex] * f0`i'
replace f0 = f0 + scf0`i'
}

kdens capearn if period==1 & tersex==1 [aw=ppopwgt] , at(xgrid) gen(f11)
kdens capearn if period==1 & tersex==2 [aw=ppopwgt] , at(xgrid) gen(f12)
kdens capearn if period==1 & tersex==11 [aw=ppopwgt] , at(xgrid) gen(f111)
kdens capearn if period==1 & tersex==12 [aw=ppopwgt] , at(xgrid) gen(f112)
svy , subpop(if period==1) :  proportion tersex
gen f1 = 0
foreach i in 1 2 11 12 {
gen scf1`i' = _b[`i'.tersex] * f1`i'
replace f1 = f1 + scf1`i'
}
// counterfactual
gen f10 = 0
foreach i in 1 2 11 12 {
gen scf10`i' = _b[`i'.tersex] * f0`i'
replace f10 = f10 + scf10`i'
}


// check to display on same scale:
qui su f0  , meanonly
loc max = r(max)
qui su f1  , meanonly
loc max = max(`max',r(max))
qui su f10  , meanonly
loc max = max(`max',r(max))

tw line f0 scf01 scf02 scf011 scf012 xgrid , yscale(range(0 `max'))
graphexportpdf $mypdf/kdens0
tw line f1 scf11 scf12 scf111 scf112 xgrid , yscale(range(0 `max'))
graphexportpdf $mypdf/kdens1
tw line f0 f1 f10  xgrid , yscale(range(0 `max'))
graphexportpdf $mypdf/kdens10

// log scale gives better sense of relative inequality
tw line f0 scf01 scf02 scf011 scf012 xgrid , yscale(range(0 `max')) xscale(log)
graphexportpdf $mypdf/kdens0_log
tw line f1 scf11 scf12 scf111 scf112 xgrid , yscale(range(0 `max')) xscale(log)
graphexportpdf $mypdf/kdens1_log
```

```
 tw line f0 f1 f10  xgrid , yscale(range(0 `max')) xscale(log)
 graphexportpdf $mypdf/kdens10_log

 *}

exit
```

listing

```
################################ NOTICE TO USERS ################################

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################################ NOTICE TO USERS ################################


. local country "es lu"

.
. loc c "es"

.
.  clear

.  use ${mydata}/extract-`c' , clear

.  svyset [pw=ppopwgt] , psu(hid) strata(year)

      pweight: ppopwgt
          VCE: linearized
  Single unit: missing
     Strata 1: year
         SU 1: hid
        FPC 1: <zero>

.
.  tab tersex period [aw=ppopwgt] , col

+-------------------+
| Key               |
|-------------------|
|     frequency     |
```

```
| column percentage |
+-------------------+

           |        period
    tersex |         0          1 |     Total
-----------+----------------------+----------
         1 |504.229092  6,632.206 | 7,136.435
           |     48.40      40.35 |     40.83
-----------+----------------------+----------
         2 |320.245513  4,152.368 | 4,472.614
           |     30.74      25.26 |     25.59
-----------+----------------------+----------
        11 | 138.63478  2,945.114 | 3,083.749
           |     13.31      17.92 |     17.64
-----------+----------------------+----------
        12 | 78.602383    2,707.6 | 2,786.202
           |      7.55      16.47 |     15.94
-----------+----------------------+----------
     Total | 1,041.712  16,437.29 |    17,479
           |    100.00     100.00 |    100.00

.
.  svy , subpop(if period==0) : mean capearn , over(tersex)
(running mean on estimation sample)

Survey: Mean estimation

Number of strata =       1            Number of obs    =        466
Number of PSUs   =     439            Population size =  1,006,830
                                      Subpop. no. obs =        466
                                      Subpop. size    =  1,006,830
                                      Design df       =        438

--------------------------------------------------------------------
                 |             Linearized
                 |       Mean   Std. Err.     [95% Conf. Interval]
-----------------+--------------------------------------------------
c.capearn@tersex |
              1  |   8580.366   420.1411      7754.622    9406.109
              2  |   5401.358   461.7499      4493.837    6308.879
             11  |   17546.61   1856.579       13897.7    21195.52
             12  |   10305.65   1052.038      8237.981    12373.32
--------------------------------------------------------------------
Note: 2 strata omitted because they contain no subpopulation
      members.

.  svy , subpop(if period==1) : mean capearn , over(tersex)
(running mean on estimation sample)

Survey: Mean estimation

Number of strata =       2           Number of obs    =      16,297
Number of PSUs   =  12,465           Population size =  20,863,563
                                     Subpop. no. obs =      16,297
                                     Subpop. size    =  20,863,563
                                     Design df       =      12,463
```

```
------------------------------------------------------------------
                 |            Linearized
                 |       Mean   Std. Err.     [95% Conf. Interval]
-----------------+------------------------------------------------
c.capearn@tersex |
              1  |   17874.75     127.19      17625.44    18124.06
              2  |   11834.23   140.6583      11558.52    12109.94
             11  |   26278.93   288.6092      25713.21    26844.65
             12  |   20941.73   244.8143      20461.86    21421.61
------------------------------------------------------------------
Note: 1 stratum omitted because it contains no subpopulation
      members.

.
.  // Inequality decomposition by group
.  ineqdeco capearn if period==0 [aw=ppopwgt], by(tersex)

Percentile ratios

------------------------------------------------------------
  All obs |    p90/p10     p90/p50     p10/p50     p75/p25
----------+-------------------------------------------------
          |      8.147       2.444       0.300       3.010
------------------------------------------------------------

Generalized Entropy indices GE(a), where a = income difference
 sensitivity parameter, and Gini coefficient

------------------------------------------------------------------------
  All obs |     GE(-1)       GE(0)       GE(1)       GE(2)        Gini
----------+-------------------------------------------------------------
          |    0.45573     0.32027     0.30854     0.40419     0.42311
------------------------------------------------------------------------

Atkinson indices, A(e), where e > 0 is the inequality aversion parameter

-----------------------------------------------
  All obs |     A(0.5)        A(1)        A(2)
----------+------------------------------------
          |    0.14555     0.27405     0.47684
-----------------------------------------------

Subgroup summary statistics, for each subgroup k = 1,...,K:


-------------------------------------------------------------------------------------
   tersex |   Popn. share           Mean  Relative mean   Income share      log(mean)
----------+--------------------------------------------------------------------------
        1 |       0.48685     8580.36568        0.93674        0.45605        9.05723
        2 |       0.28686     5401.35767        0.58968        0.16916        8.59441
       11 |       0.15205    17546.60749        1.91560        0.29127        9.77262
       12 |       0.07424    10305.65062        1.12509        0.08352        9.24045
-------------------------------------------------------------------------------------

Subgroup indices: GE_k(a) and Gini_k

------------------------------------------------------------------
```

tersex	GE(-1)	GE(0)	GE(1)	GE(2)	Gini
1	0.31505	0.21880	0.19938	0.23222	0.34250
2	0.31787	0.26448	0.27459	0.36929	0.39797
11	0.45464	0.28928	0.25710	0.28926	0.39653
12	0.38634	0.24443	0.19451	0.18425	0.34410

Within-group inequality, GE_W(a)

All obs	GE(-1)	GE(0)	GE(1)	GE(2)
	0.37995	0.24453	0.22851	0.31475

Between-group inequality, GE_B(a):

All obs	GE(-1)	GE(0)	GE(1)	GE(2)
	0.07578	0.07574	0.08003	0.08944

Subgroup Atkinson indices, A_k(e)

tersex	A(0.5)	A(1)	A(2)
1	0.09866	0.19652	0.38654
2	0.12653	0.23240	0.38865
11	0.12746	0.25120	0.47624
12	0.10350	0.21685	0.43588

Within-group inequality, A_W(e)

All obs	A(0.5)	A(1)	A(2)
	0.11217	0.22021	0.41715

Between-group inequality, A_B(e)

All obs	A(0.5)	A(1)	A(2)
	0.03761	0.06903	0.10242

```
.  ineqdeco capearn if period==1 [aw=ppopwgt], by(tersex)
```

Percentile ratios

All obs	p90/p10	p90/p50	p10/p50	p75/p25

	4.444	1.948	0.438	2.068

Generalized Entropy indices GE(a), where a = income difference sensitivity parameter, and Gini coefficient

All obs	GE(-1)	GE(0)	GE(1)	GE(2)	Gini
	0.24798	0.16778	0.14835	0.15631	0.30117

Atkinson indices, A(e), where e > 0 is the inequality aversion parameter

All obs	A(0.5)	A(1)	A(2)
	0.07539	0.15446	0.33154

Subgroup summary statistics, for each subgroup k = 1,...,K:

tersex	Popn. share	Mean	Relative mean	Income share	log(mean)
1	0.40993	17874.74879	0.97294	0.39884	9.79114
2	0.24761	11834.23285	0.64415	0.15950	9.37875
11	0.17660	26278.93243	1.43039	0.25260	10.17652
12	0.16586	20941.73209	1.13988	0.18906	9.94950

Subgroup indices: GE_k(a) and Gini_k

tersex	GE(-1)	GE(0)	GE(1)	GE(2)	Gini
1	0.13880	0.10531	0.09842	0.10515	0.24338
2	0.26901	0.18747	0.16777	0.18254	0.31808
11	0.15031	0.11151	0.10046	0.10180	0.25066
12	0.20745	0.14035	0.12106	0.12140	0.27321

Within-group inequality, GE_W(a)

All obs	GE(-1)	GE(0)	GE(1)	GE(2)
	0.21063	0.13256	0.11427	0.12250

Between-group inequality, GE_B(a):

All obs	GE(-1)	GE(0)	GE(1)	GE(2)

```
          |    0.03735     0.03522     0.03408     0.03381
----------------------------------------------------------

Subgroup Atkinson indices, A_k(e)

-------------------------------------------
   tersex |     A(0.5)        A(1)        A(2)
----------+--------------------------------
        1 |    0.04929     0.09995     0.21729
        2 |    0.08446     0.17095     0.34982
       11 |    0.05131     0.10552     0.23114
       12 |    0.06269     0.13095     0.29323
-------------------------------------------

Within-group inequality, A_W(e)

-------------------------------------------
  All obs |     A(0.5)        A(1)        A(2)
----------+--------------------------------
          |    0.05794     0.11854     0.25628
-------------------------------------------

Between-group inequality, A_B(e)

-------------------------------------------
  All obs |     A(0.5)        A(1)        A(2)
----------+--------------------------------
          |    0.01852     0.04075     0.10119
-------------------------------------------

.
.  // Morduch-Sicular
.  ineqrbd capearn fnonter mter fter  if period==0  [aw=ppopwgt]

Regression of capearn on RHS variables

(analytic weights assumed)
(sum of wgt is 1,006,830.2860718)

      Source |       SS           df       MS      Number of obs   =       466
-------------+----------------------------------   F(3, 462)       =     43.76
       Model |  6.9938e+09         3  2.3313e+09   Prob > F        =    0.0000
    Residual |  2.4612e+10       462  53273605.9   R-squared       =    0.2213
-------------+----------------------------------   Adj R-squared   =    0.2162
       Total |  3.1606e+10       465  67970241.5   Root MSE        =    7298.9

------------------------------------------------------------------------------
     capearn |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     fnonter |  -3179.008   795.8277    -3.99   0.000    -4742.899   -1615.117
        mter |   8966.242   993.3177     9.03   0.000     7014.261    10918.22
        fter |   1725.285    1332.21     1.30   0.196    -892.6575    4343.227
       _cons |   8580.366    484.578    17.71   0.000     7628.116    9532.616
------------------------------------------------------------------------------

Regression-based decomposition of inequality in  capearn
-------------------------------------------------------------------------------
```

```
Decomp.  |     100*s_f        S_f     100*m_f/m      CV_f   CV_f/CV(total)
---------+------------------------------------------------------------------
residual |     77.8722      0.7009      0.0000    1.03e+16    1.14e+16
fnonter  |      5.0534      0.0455     -9.9557     -1.5784     -1.7537
mter     |     16.8580      0.1517     14.8837      2.3641      2.6266
fter     |      0.2164      0.0019      1.3983      3.5352      3.9277
---------+------------------------------------------------------------------
Total    |    100.0000      0.9001    100.0000      0.9001      1.0000
-------------------------------------------------------------------------------
Note: proportionate contribution of composite var f to inequality of Total,
      s_f = rho_f*sd(f)/sd(Total). S_f = s_f*CV(Total).
      m_f = mean(f). sd(f) = std.dev. of f. CV_f = sd(f)/m_f.
      Total = capearn

.  ineqrbd capearn fnonter mter fter  if period==1  [aw=ppopwgt]

Regression of capearn on RHS variables

(analytic weights assumed)
(sum of wgt is 20,863,563.211568)

      Source |       SS           df       MS      Number of obs   =    16,297
-------------+----------------------------------   F(3, 16293)     =   1498.76
       Model |  3.7191e+11         3  1.2397e+11   Prob > F        =    0.0000
    Residual |  1.3477e+12    16,293  82714657.4   R-squared       =    0.2163
-------------+----------------------------------   Adj R-squared   =    0.2161
       Total |  1.7196e+12    16,296   105521526   Root MSE        =    9094.8

------------------------------------------------------------------------------
     capearn |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     fnonter |  -6040.516   181.3259   -33.31   0.000    -6395.934   -5685.097
        mter |   8404.184   202.7852    41.44   0.000     8006.702    8801.665
        fter |   3066.983   207.3192    14.79   0.000     2660.615    3473.352
       _cons |   17874.75   111.2709   160.64   0.000     17656.65    18092.85
------------------------------------------------------------------------------

Regression-based decomposition of inequality in  capearn
-------------------------------------------------------------------------------
Decomp.  |     100*s_f        S_f     100*m_f/m      CV_f   CV_f/CV(total)
---------+------------------------------------------------------------------
residual |     78.3721      0.4382     -0.0000   -2.21e+15   -3.94e+15
fnonter  |      9.2672      0.0518     -8.1412     -1.7432     -3.1177
mter     |     11.1217      0.0622      8.0783      2.1594      3.8620
fter     |      1.2390      0.0069      2.7689      2.2426      4.0109
---------+------------------------------------------------------------------
Total    |    100.0000      0.5591    100.0000      0.5591      1.0000
-------------------------------------------------------------------------------
Note: proportionate contribution of composite var f to inequality of Total,
      s_f = rho_f*sd(f)/sd(Total). S_f = s_f*CV(Total).
      m_f = mean(f). sd(f) = std.dev. of f. CV_f = sd(f)/m_f.
      Total = capearn

.
.  // Inequality decomposition by group -- counterfactuals
.  ineqdeco capearn if period==0 [aw=ppopwgt], by(tersex)
```

Percentile ratios

All obs	p90/p10	p90/p50	p10/p50	p75/p25
	8.147	2.444	0.300	3.010

Generalized Entropy indices GE(a), where a = income difference sensitivity parameter, and Gini coefficient

All obs	GE(-1)	GE(0)	GE(1)	GE(2)	Gini
	0.45573	0.32027	0.30854	0.40419	0.42311

Atkinson indices, A(e), where e > 0 is the inequality aversion parameter

All obs	A(0.5)	A(1)	A(2)
	0.14555	0.27405	0.47684

Subgroup summary statistics, for each subgroup k = 1,...,K:

tersex	Popn. share	Mean	Relative mean	Income share	log(mean)
1	0.48685	8580.36568	0.93674	0.45605	9.05723
2	0.28686	5401.35767	0.58968	0.16916	8.59441
11	0.15205	17546.60749	1.91560	0.29127	9.77262
12	0.07424	10305.65062	1.12509	0.08352	9.24045

Subgroup indices: GE_k(a) and Gini_k

tersex	GE(-1)	GE(0)	GE(1)	GE(2)	Gini
1	0.31505	0.21880	0.19938	0.23222	0.34250
2	0.31787	0.26448	0.27459	0.36929	0.39797
11	0.45464	0.28928	0.25710	0.28926	0.39653
12	0.38634	0.24443	0.19451	0.18425	0.34410

Within-group inequality, GE_W(a)

All obs	GE(-1)	GE(0)	GE(1)	GE(2)
	0.37995	0.24453	0.22851	0.31475

Between-group inequality, GE_B(a):

```
------------------------------------------------------
  All obs |     GE(-1)       GE(0)       GE(1)       GE(2)
----------+-------------------------------------------
          |    0.07578     0.07574     0.08003     0.08944
------------------------------------------------------

Subgroup Atkinson indices, A_k(e)

-----------------------------------------
   tersex |     A(0.5)        A(1)        A(2)
----------+------------------------------
        1 |    0.09866     0.19652     0.38654
        2 |    0.12653     0.23240     0.38865
       11 |    0.12746     0.25120     0.47624
       12 |    0.10350     0.21685     0.43588
-----------------------------------------

Within-group inequality, A_W(e)

-----------------------------------------
  All obs |     A(0.5)        A(1)        A(2)
----------+------------------------------
          |    0.11217     0.22021     0.41715
-----------------------------------------

Between-group inequality, A_B(e)

-----------------------------------------
  All obs |     A(0.5)        A(1)        A(2)
----------+------------------------------
          |    0.03761     0.06903     0.10242
-----------------------------------------

.  di r(between_ge0) + r(v_1)*r(ge0_1) + r(v_2)*r(ge0_2) + r(v_12)*r(ge0_12) + r(v_11)*r(ge0_11)
.32026895

.  foreach i in 1 2 11 12 {
  2.  local ge0_`i'_0    r(ge0_`i')
  3.  }

.  ineqdeco capearn if period==1 [aw=ppopwgt], by(tersex)

Percentile ratios

------------------------------------------------------
  All obs |    p90/p10     p90/p50     p10/p50     p75/p25
----------+-------------------------------------------
          |      4.444       1.948       0.438       2.068
------------------------------------------------------

Generalized Entropy indices GE(a), where a = income difference
 sensitivity parameter, and Gini coefficient

------------------------------------------------------------------------
  All obs |     GE(-1)       GE(0)       GE(1)       GE(2)        Gini
----------+-------------------------------------------------------------
```

	0.24798	0.16778	0.14835	0.15631	0.30117

Atkinson indices, A(e), where e > 0 is the inequality aversion parameter

All obs	A(0.5)	A(1)	A(2)
	0.07539	0.15446	0.33154

Subgroup summary statistics, for each subgroup k = 1,...,K:

tersex	Popn. share	Mean	Relative mean	Income share	log(mean)
1	0.40993	17874.74879	0.97294	0.39884	9.79114
2	0.24761	11834.23285	0.64415	0.15950	9.37875
11	0.17660	26278.93243	1.43039	0.25260	10.17652
12	0.16586	20941.73209	1.13988	0.18906	9.94950

Subgroup indices: GE_k(a) and Gini_k

tersex	GE(-1)	GE(0)	GE(1)	GE(2)	Gini
1	0.13880	0.10531	0.09842	0.10515	0.24338
2	0.26901	0.18747	0.16777	0.18254	0.31808
11	0.15031	0.11151	0.10046	0.10180	0.25066
12	0.20745	0.14035	0.12106	0.12140	0.27321

Within-group inequality, GE_W(a)

All obs	GE(-1)	GE(0)	GE(1)	GE(2)
	0.21063	0.13256	0.11427	0.12250

Between-group inequality, GE_B(a):

All obs	GE(-1)	GE(0)	GE(1)	GE(2)
	0.03735	0.03522	0.03408	0.03381

Subgroup Atkinson indices, A_k(e)

tersex	A(0.5)	A(1)	A(2)
1	0.04929	0.09995	0.21729
2	0.08446	0.17095	0.34982

```
       11 |    0.05131     0.10552     0.23114
       12 |    0.06269     0.13095     0.29323
-------------------------------------------

Within-group inequality, A_W(e)

-------------------------------------------
  All obs |     A(0.5)        A(1)        A(2)
----------+--------------------------------
          |    0.05794     0.11854     0.25628
-------------------------------------------

Between-group inequality, A_B(e)

-------------------------------------------
  All obs |     A(0.5)        A(1)        A(2)
----------+--------------------------------
          |    0.01852     0.04075     0.10119
-------------------------------------------

.   di r(between_ge0) + r(v_1)*r(ge0_1) + r(v_2)*r(ge0_2) + r(v_12)*r(ge0_12) + r(v_11)*r(ge0_11)
.1677837

.   di "What if within group inequality had not changed?"
What if within group inequality had not changed?

.   di r(between_ge0) + r(v_1)*`ge0_1_0' + r(v_2)*`ge0_2_0' + r(v_12)*`ge0_12_0' + r(v_11)*`ge0_11_0'
.1677837

.
.  // Bootstrap inference? Simplest form
.  cap pr drop bootineq

.  pr def bootineq , rclass
  1.  // calculation
.  ineqdeco capearn if period==0 [aw=ppopwgt], by(tersex)
  2.  loc ge0_0   = r(ge0)
  3.  foreach i in 1 2 11 12 {
  4.  local ge0_`i'_0  =   r(ge0_`i')
  5.  }
  6.  ineqdeco capearn if period==1 [aw=ppopwgt], by(tersex)
  7.  loc ge0_1   = r(ge0)
  8.  loc ge0_01  = r(between_ge0) + r(v_1)*`ge0_1_0' + r(v_2)*`ge0_2_0' + r(v_12)*`ge0_12_0' +
r(v_11)*`ge0_11_0'
  9.  // return results
.  return scalar ge0_0 = `ge0_0'
 10.  return scalar ge0_1 = `ge0_1'
 11.  return scalar ge0_01= `ge0_01'
 12.  return scalar diff = `ge0_1' - `ge0_0'
 13.  return scalar exdiff = `ge0_01' - `ge0_0'
 14.  end

.  bootstrap   ge0_0 = r(ge0_0)  ///
>  ge0_1 = r(ge0_1)  ///
>  ge0_01 = r(ge0_01) ///
>  diff = r(diff) ///
>  exdiff=r(exdiff) ///
```

```
>  , reps(50) strata(year) cluster(hid) ///
>  :  bootineq
(running bootineq on estimation sample)

warning: Because bootineq is not an estimation command or does not set e(sample), bootstrap has no way to
determine which observations are used in calculating the statistics and so assumes that all
         observations are used. This means that no observations will be excluded from the resampling because of
missing values or other reasons.

         If the assumption is not true, press Break, save the data, and drop the observations that are to be
excluded. Be sure that the dataset in memory contains only the relevant data.

Bootstrap replications (50)
----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5
..................................................    50

Bootstrap results

Number of strata   =         3                 Number of obs     =     17,479
                                                Replications      =         50

      command:  bootineq
        ge0_0:  r(ge0_0)
        ge0_1:  r(ge0_1)
       ge0_01:  r(ge0_01)
         diff:  r(diff)
       exdiff:  r(exdiff)

                              (Replications based on 13,352 clusters in hid)
------------------------------------------------------------------------------
             |   Observed   Bootstrap                         Normal-based
             |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
       ge0_0 |   .3202689   .0210381    15.22   0.000     .2790351    .3615028
       ge0_1 |   .1677837   .0023682    70.85   0.000      .163142    .1724254
      ge0_01 |   .2820364   .0192274    14.67   0.000     .2443514    .3197214
        diff |  -.1524853   .0210177    -7.26   0.000    -.1936792   -.1112913
      exdiff |  -.0382326   .0175514    -2.18   0.029    -.0726326   -.0038325
------------------------------------------------------------------------------


.
.  // Kdensities
.  qui su capearn , detail

.  range xgrid `=r(p1)/2' `=r(p99)*1.1' 199
(17,280 missing values generated)

.  kdens capearn if period==0 & tersex==1 [aw=ppopwgt] , at(xgrid) gen(f01)
(bandwidth = 3368.5028)

.  kdens capearn if period==0 & tersex==2 [aw=ppopwgt] , at(xgrid) gen(f02)
(bandwidth = 2916.8068)

.  kdens capearn if period==0 & tersex==11 [aw=ppopwgt] , at(xgrid) gen(f011)
(bandwidth = 9746.045)

.  kdens capearn if period==0 & tersex==12 [aw=ppopwgt] , at(xgrid) gen(f012)
```

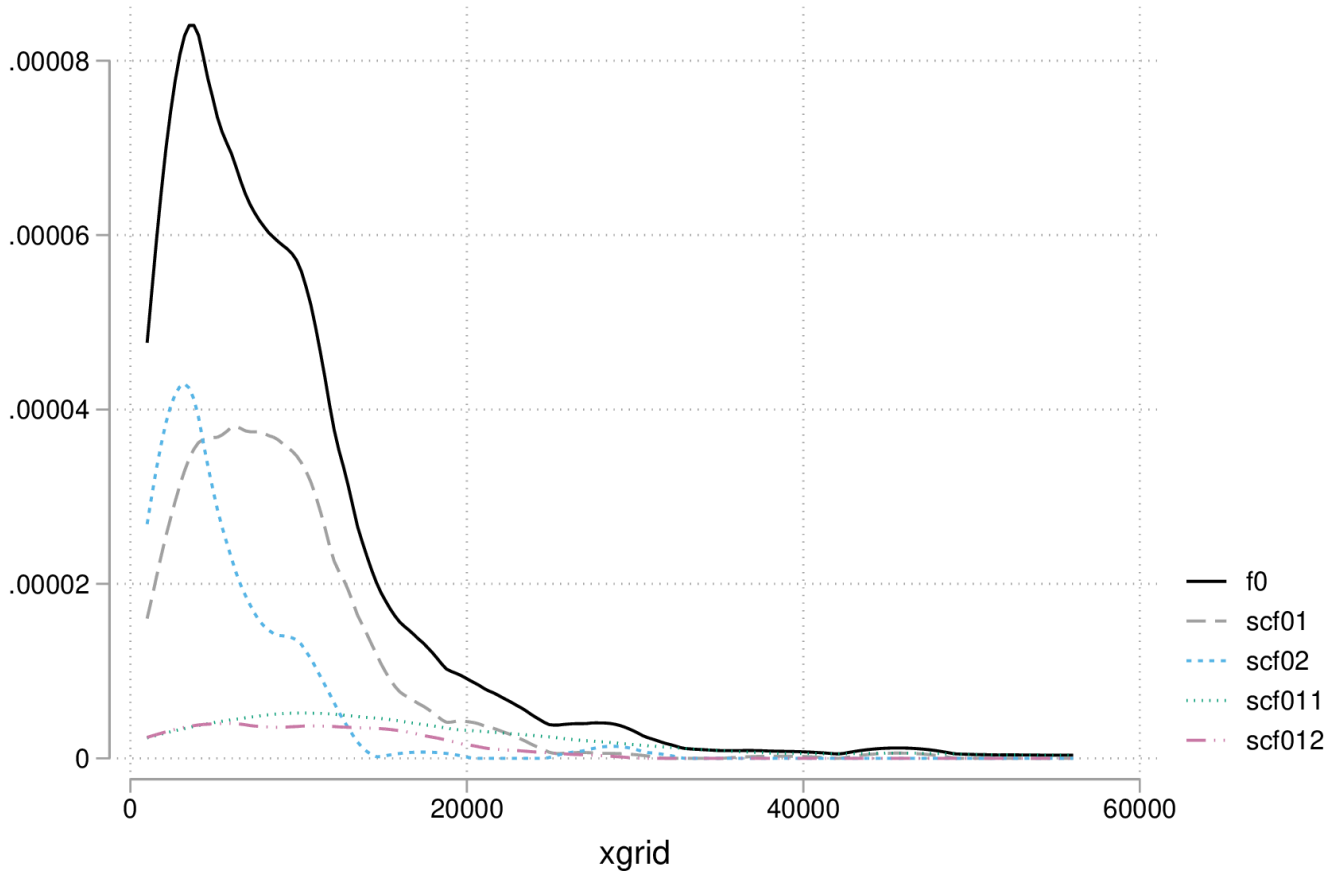
```
(bandwidth = 6173.5837)

.  svy , subpop(if period==0) :  proportion tersex
(running proportion on estimation sample)

Survey: Proportion estimation

Number of strata =       1        Number of obs   =        630
Number of PSUs   =     592        Population size =  1,367,418
                                  Subpop. no. obs =        630
                                  Subpop. size    =  1,367,418
                                  Design df       =        591

--------------------------------------------------------------
             |             Linearized           Logit
             | Proportion   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
      tersex |
           1 |    .484039   .0211946      .4426191    .5256793
           2 |   .3074224   .0190726      .2712817    .3460911
          11 |   .1330836   .0147112      .1067484    .1647178
          12 |    .075455   .0113758      .0559339    .1010597
--------------------------------------------------------------
Note: 2 strata omitted because they contain no subpopulation
      members.

.  gen f0 = 0

.  foreach i in 1 2 11 12 {
  2.  gen scf0`i' = _b[`i'.tersex] * f0`i'
  3.  replace f0 = f0 + scf0`i'
  4.  }
(17,280 missing values generated)
(17,442 real changes made, 17,280 to missing)
(17,280 missing values generated)
(102 real changes made)
(17,280 missing values generated)
(199 real changes made)
(17,280 missing values generated)
(109 real changes made)

.
.  kdens capearn if period==1 & tersex==1 [aw=ppopwgt] , at(xgrid) gen(f11)
(bandwidth = 2355.5675)

.  kdens capearn if period==1 & tersex==2 [aw=ppopwgt] , at(xgrid) gen(f12)
(bandwidth = 2313.1448)

.  kdens capearn if period==1 & tersex==11 [aw=ppopwgt] , at(xgrid) gen(f111)
(bandwidth = 4672.0064)

.  kdens capearn if period==1 & tersex==12 [aw=ppopwgt] , at(xgrid) gen(f112)
(bandwidth = 4068.7881)

.  svy , subpop(if period==1) :  proportion tersex
(running proportion on estimation sample)
```

```
Survey: Proportion estimation

Number of strata =       2       Number of obs   =      16,849
Number of PSUs   =  12,760       Population size =  21,576,640
                                 Subpop. no. obs =      16,849
                                 Subpop. size    =  21,576,640
                                 Design df       =      12,758

--------------------------------------------------------------
             |             Linearized            Logit
             | Proportion   Std. Err.     [95% Conf. Interval]
-------------+------------------------------------------------
      tersex |
           1 |   .4034854   .0044522      .3947898    .4122421
           2 |   .2526188   .0037272      .2453831    .2599944
          11 |   .1791727   .0037094      .1720166    .1865595
          12 |    .164723   .0034714      .1580308    .1716408
--------------------------------------------------------------
Note: 1 stratum omitted because it contains no subpopulation
      members.

.  gen f1 = 0

.  foreach i in 1 2 11 12 {
  2.  gen scf1`i' = _b[`i'.tersex] * f1`i'
  3.  replace f1 = f1 + scf1`i'
  4.  }
(17,280 missing values generated)
(17,479 real changes made, 17,280 to missing)
(17,280 missing values generated)
(191 real changes made)
(17,280 missing values generated)
(199 real changes made)
(17,280 missing values generated)
(199 real changes made)

.  // counterfactual
.  gen f10 = 0

.  foreach i in 1 2 11 12 {
  2.  gen scf10`i' = _b[`i'.tersex] * f0`i'
  3.  replace f10 = f10 + scf10`i'
  4.  }
(17,280 missing values generated)
(17,442 real changes made, 17,280 to missing)
(17,280 missing values generated)
(102 real changes made)
(17,280 missing values generated)
(199 real changes made)
(17,280 missing values generated)
(109 real changes made)

.
.
.  // check to display on same scale:
.  qui su f0  , meanonly
```

```
.  loc max = r(max)

.  qui su f1  , meanonly

.  loc max = max(`max',r(max))

.  qui su f10  , meanonly

.  loc max = max(`max',r(max))

.
.  tw line f0 scf01 scf02 scf011 scf012 xgrid , yscale(range(0 `max'))

.  graphexportpdf $mypdf/kdens0
(note: file /lissy_out/execute//kdens0.eps not found)
(file /lissy_out/execute//kdens0.eps written in EPS format)


.  tw line f1 scf11 scf12 scf111 scf112 xgrid , yscale(range(0 `max'))

.  graphexportpdf $mypdf/kdens1
(note: file /lissy_out/execute//kdens1.eps not found)
(file /lissy_out/execute//kdens1.eps written in EPS format)


.  tw line f0 f1 f10  xgrid , yscale(range(0 `max'))

.  graphexportpdf $mypdf/kdens10
(note: file /lissy_out/execute//kdens10.eps not found)
(file /lissy_out/execute//kdens10.eps written in EPS format)


.
.  // log scale gives better sense of relative inequality
.  tw line f0 scf01 scf02 scf011 scf012 xgrid , yscale(range(0 `max')) xscale(log)

.  graphexportpdf $mypdf/kdens0_log
(note: file /lissy_out/execute//kdens0_log.eps not found)
(file /lissy_out/execute//kdens0_log.eps written in EPS format)


.  tw line f1 scf11 scf12 scf111 scf112 xgrid , yscale(range(0 `max')) xscale(log)

.  graphexportpdf $mypdf/kdens1_log
(note: file /lissy_out/execute//kdens1_log.eps not found)
(file /lissy_out/execute//kdens1_log.eps written in EPS format)


.  tw line f0 f1 f10  xgrid , yscale(range(0 `max')) xscale(log)

.  graphexportpdf $mypdf/kdens10_log
(note: file /lissy_out/execute//kdens10_log.eps not found)
(file /lissy_out/execute//kdens10_log.eps written in EPS format)


.
.  *}
```

```
.
. exit

end of do-file
```

graphs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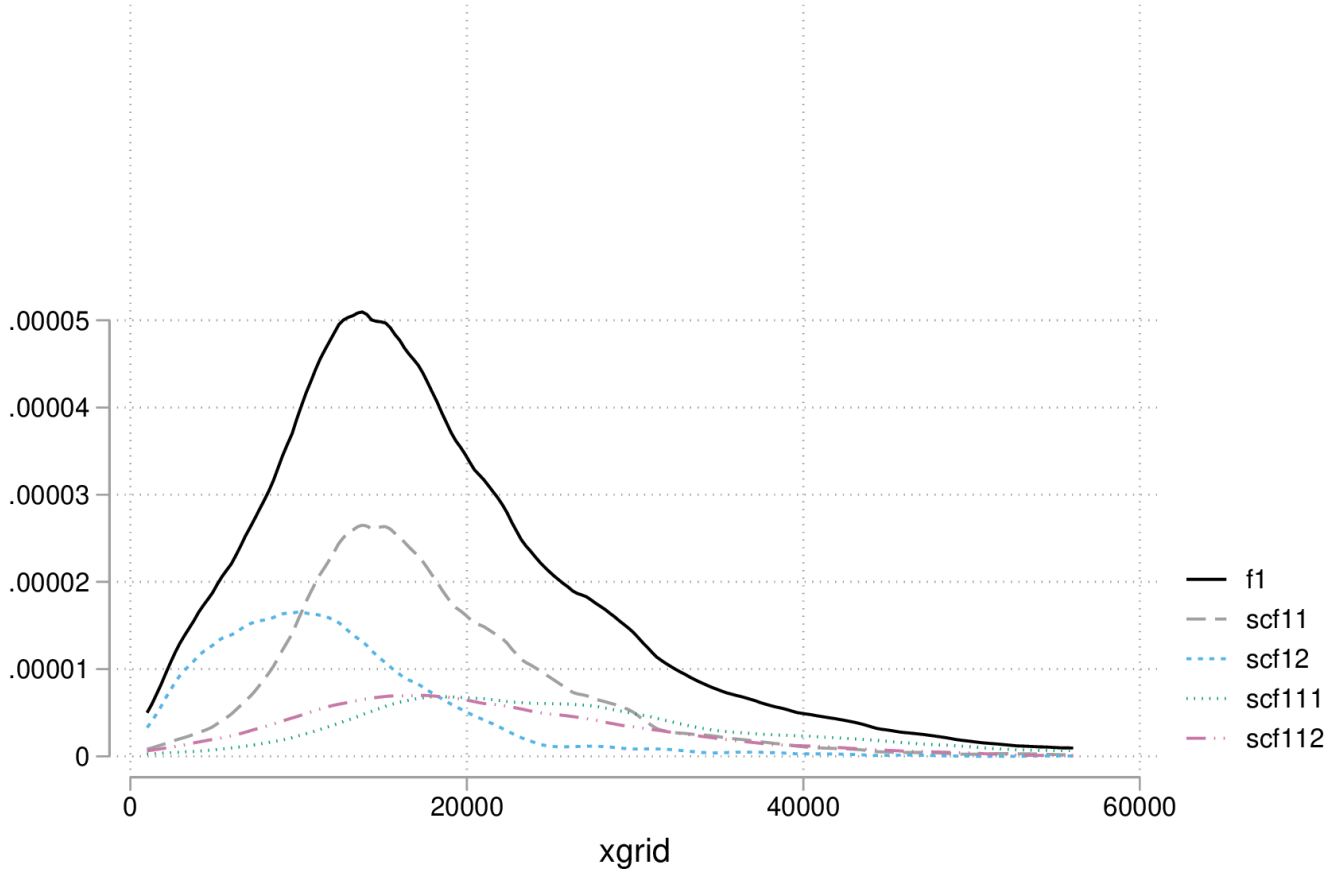
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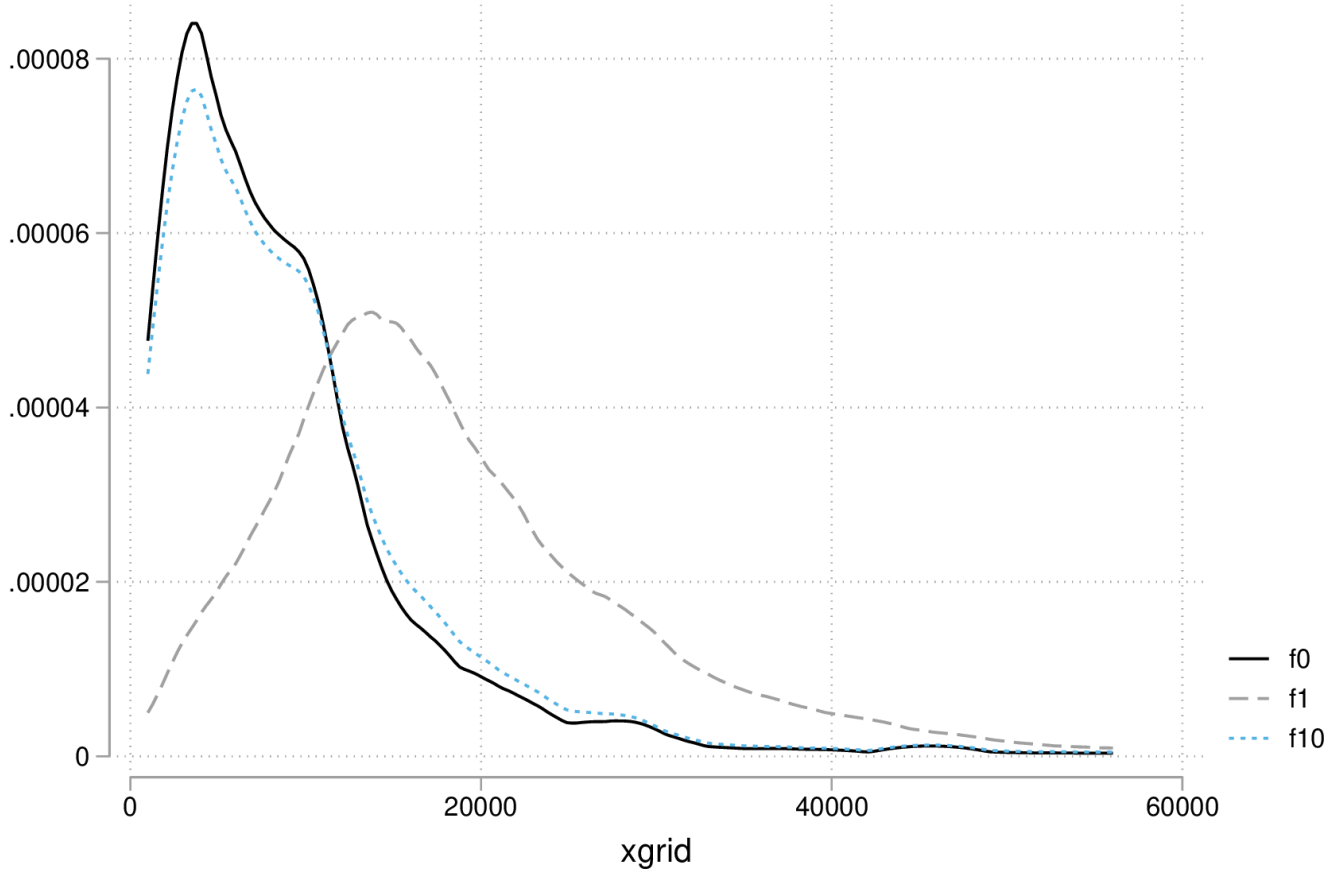
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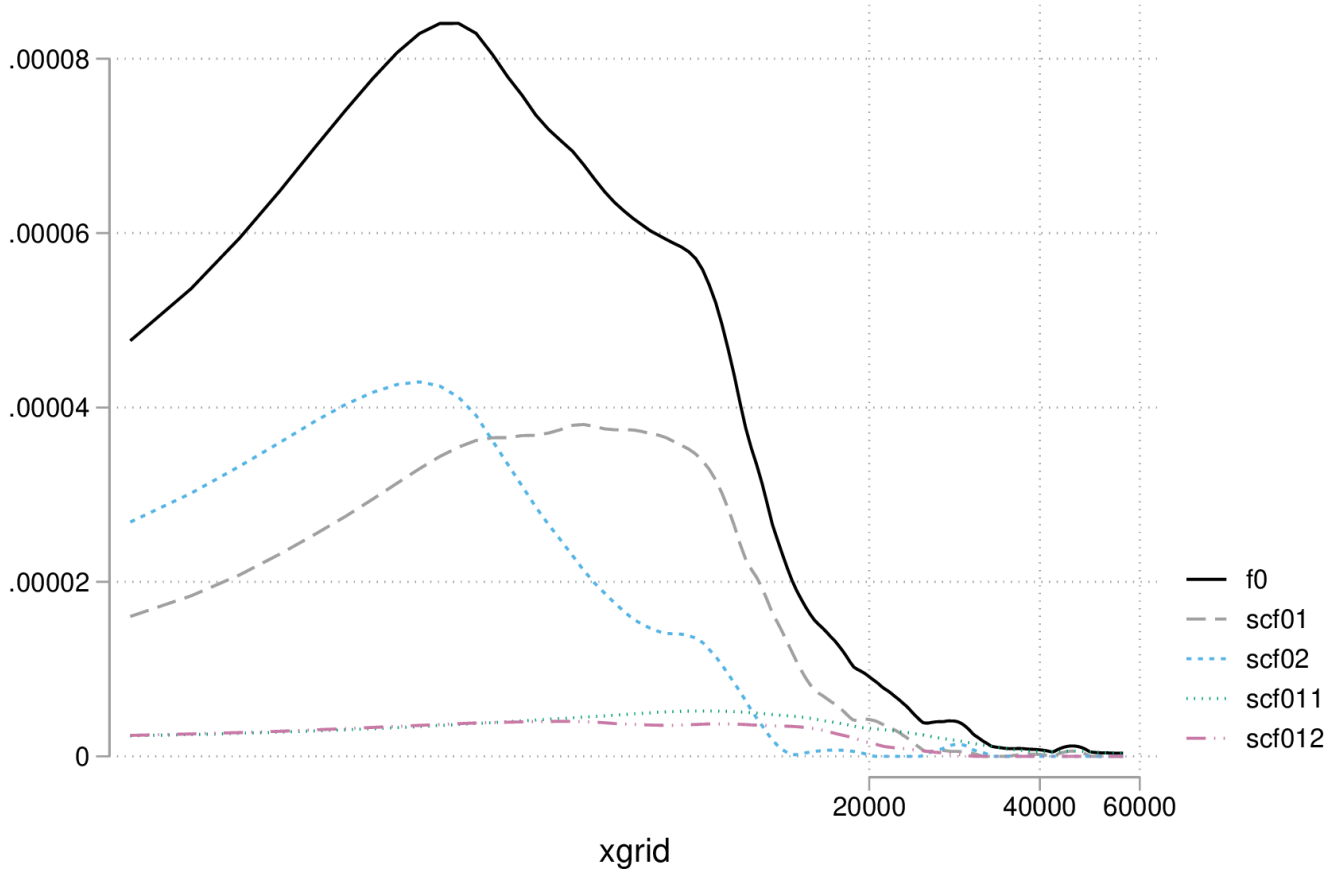
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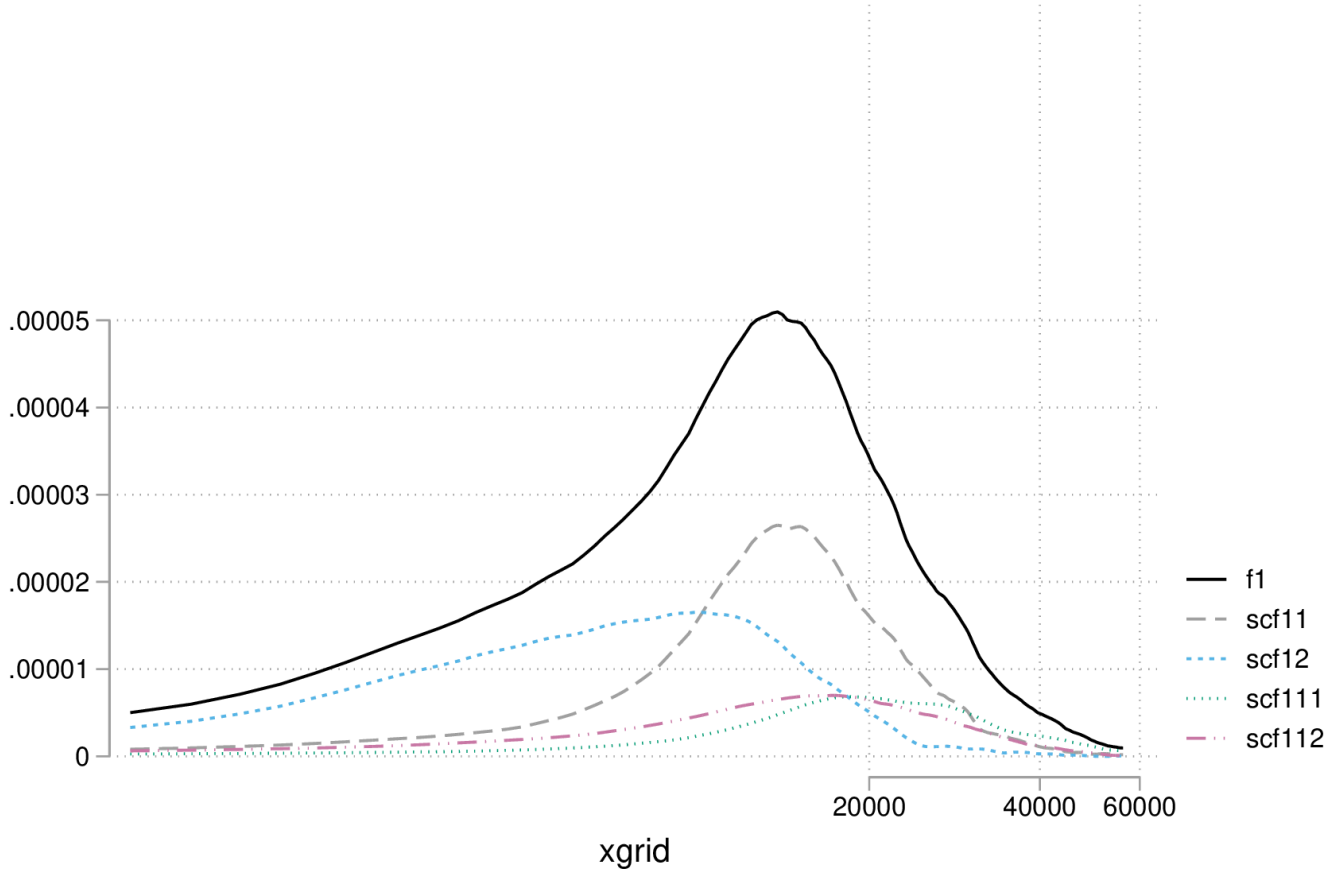
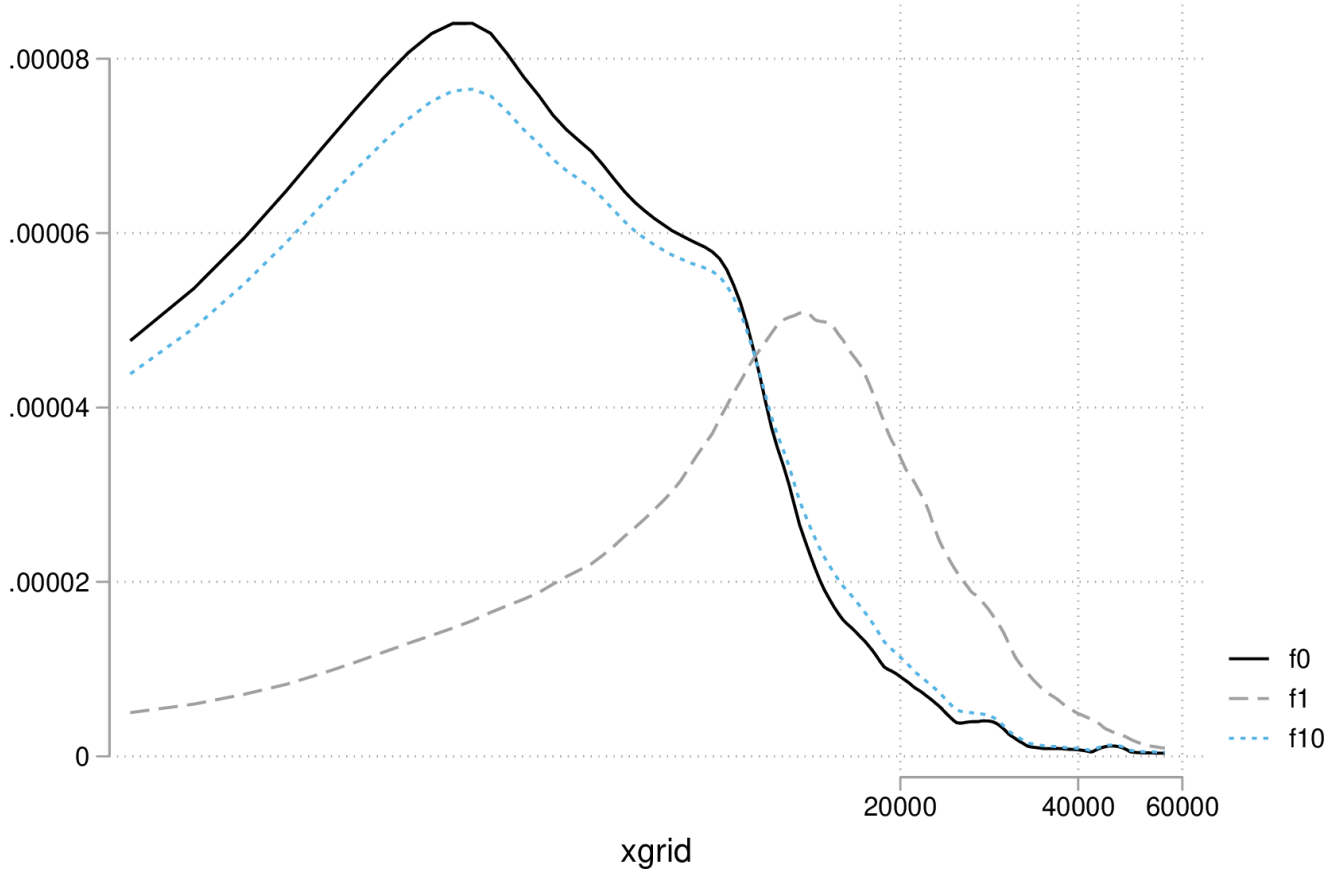


kdens0.png *kdens1.png*

kdens10.png *kdens0_log.png*

kdens1_log.png *kdens10_log.png*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xgrid
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