Statistics/Data Analysis

```
      name:  <unnamed>
       log:  F:\WB\Poverty Map\Fay_Herriot_estimation\Results\Tables\extreme_poverty_l
> og.smcl
  log type:  smcl
 opened on:  14 Feb 2021, 09:00:47

1 . do "C:\Users\Rude\AppData\Local\Temp\8\STD7018_000000.tmp"

2 . global directestimators ipcf_munid ipcf_var_munid pobre_extremo_munid pobre_extremo_
  > var_munid samplesize simple_mean_ipcf //
  > simple_mean_pobre_extremo simple_var_ipcf simple_var_pobre_extremo

3 . global vivvars ownviv auto heladera dormi banio lavsec tvradio calentac nhogviv tech
  > o pared piso acue freqagua poceac elecpub

4 . *global headvars h_age h_fem h_single h_primaria h_secundaria h_educ h_ocupado h_des
  > ocup h_selfemp h_entrepreneur h_publicsect
5 . global headvars h_fem h_primaria

6 . global hhvars miembros shchild shoccadult notsch

7 . global munvars occrate unemprate pobrenbi11 shselfemp shentrepreneur shpublicsect sh
  > schatt regadm2 regadm3 regadm4 regadm5 regadm6 regadm7 regadm8 regadm9

8 .
9 .
10.
11. ************************************************************************
12. *Upload fh census data and merge to fh encovi data
13.
14. use "${dataout}/census_hhlevel_munid_fhmodel.dta", clear
  (Written by R.              )

15.
16. merge 1:1 munid using "${dataout}/survey_hhlevel_fhmodel.dta", keepusing(munid munid
  > _str ${directestimators})

    Result                           # of obs.
    -----------------------------------------
    not matched                           128
        from master                       125  (_merge==1)
        from using                          3  (_merge==2)

    matched                               207  (_merge==3)
    -----------------------------------------

17. drop _merge

18. *Note: Several are not matched (3 from encovi are not in census, 125 from census are
  >  not in encovi)
19.
20.
21.
22. /*=========================================================================
  > Activate this if only for entities that were estimated in ENCOVI 2019/20
  > =========================================================================*/
23.
24. *drop entidades not sampled in encovi
25. drop if entid=="02" | entid=="25" | entid=="10" //12 municipalities
  (12 observations deleted)
```

```
26.
27.
28.
29.
30. ********************************************************************************
31. *A) Extreme poverty rate
32. ********************************************************************************
33.
34. *b) Extreme Poverty Rate
35.
36. *b.1.) Extreme Poverty Rate
37. preserve

38.
39. sum pobre_extremo_var_munid, d

                (first) pobre_extremo_var_munid
-------------------------------------------------------------
      Percentiles      Smallest
 1%            0              0
 5%            0              0
10%            0              0       Obs                 210
25%     1.93e-34              0       Sum of Wgt.         210

50%      .001329                      Mean           .004487
                        Largest       Std. Dev.      .0127642
75%      .0040504       .0347222
90%      .0099313       .0439159      Variance       .0001629
95%      .0152778       .1149178      Skewness       7.426322
99%      .0439159       .1249896      Kurtosis       65.86925

40. fayherriot pobre_extremo_munid ${vivvars} ${headvars} ${hhvars} ${munvars}, variance
  > (pobre_extremo_var_munid) gamma nolog ///
  > initialvalue(`=r(p50)')

Sigma2_u estimation method:     reml            N in sample      =       204
Transformation of depvar:       none            N out of sample  =       112
EBLUP and MSE bias correction:  none            Sigma2_u         =    0.0222
                                                Adj R-squared    =    0.2815
                                                FH R-squared     =    0.3184

------------------------ Gamma ------------------------
  Min       5%       Median       95%       Max
0.1509    0.6041    0.9439    1.0000    1.0000

------------------------------------------------------------------------------
pobr~o_munid |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      ownviv |    1.053991   .3630506     2.90   0.004     .3424247    1.765557
        auto |    .0958535   .3500069     0.27   0.784    -.5901474    .7818545
    heladera |   -1.028671   .6435872    -1.60   0.110    -2.290079    .2327369
       dormi |    .3717022   .2165698     1.72   0.086    -.0527667    .7961711
       banio |   -.0051966   .1519943    -0.03   0.973    -.3031001    .2927068
      lavsec |    .3535999   .3949869     0.90   0.371    -.4205601     1.12776
     tvradio |    -.616445   .9588813    -0.64   0.520    -2.495818    1.262928
    calentac |    .2462034   .1340363     1.84   0.066    -.0165029    .5089097
     nhogviv |    .0658501   .3632012     0.18   0.856    -.6460111    .7777113
       techo |   -.0232332   .1644241    -0.14   0.888    -.3454986    .2990322
       pared |   -.1075457   .2246456    -0.48   0.632     -.547843    .3327515
        piso |   -.0699452   .2485591    -0.28   0.778    -.5571121    .4172218
        acue |    .1791978   .1777062     1.01   0.313    -.1690998    .5274955
    freqagua |   -.0669087   .0756016    -0.89   0.376    -.2150851    .0812678
      poceac |   -.0757178   .0948046    -0.80   0.424    -.2615313    .1100958
     elecpub |    .1061128   .7307773     0.15   0.885    -1.326184     1.53841
       h_fem |    .7758092   .3620975     2.14   0.032     .0661111    1.485507
  h_primaria |    .9901767   .3879868     2.55   0.011     .2297366    1.750617
    miembros |   -.2267198   .1588689    -1.43   0.154    -.5380971    .0846575
     shchild |    1.290289   3.758706     0.34   0.731    -6.076639    8.657216
  shoccadult |    4.833504   1.871374     2.58   0.010     1.165677     8.50133
      notsch |    -1.68397   3.635589    -0.46   0.643    -8.809593    5.441654
     occrate |   -5.906009   2.307945    -2.56   0.010     -10.4295    -1.38252
    unemprate |    .0274831   .4990005     0.06   0.956      -.95054    1.005506
  pobrenbi11 |    .0154049   .0062083     2.48   0.013     .0032368     .027573
```

shselfemp	-.0955835	.3148318	-0.30	0.761	-.7126425	.5214755
shentrepre~r	-.5981735	.8495776	-0.70	0.481	-2.263315	1.066968
shpublicsect	-.0318636	.2573641	-0.12	0.901	-.5362879	.4725607
shschatt	-1.140915	2.203454	-0.52	0.605	-5.459605	3.177776
regadm2	-.0113508	.0805588	-0.14	0.888	-.1692431	.1465414
regadm3	-.0007793	.0616045	-0.01	0.990	-.1215218	.1199632
regadm4	-.026207	.0506179	-0.52	0.605	-.1254163	.0730022
regadm5	-.2088583	.1126976	-1.85	0.064	-.4297414	.0120249
regadm6	-.111892	.0944318	-1.18	0.236	-.296975	.073191
regadm7	-.3963279	.0862603	-4.59	0.000	-.565395	-.2272607
regadm8	-.1577292	.0615333	-2.56	0.010	-.2783323	-.0371261
regadm9	-.1210251	.102031	-1.19	0.236	-.3210022	.0789519
_cons	1.347509	1.480192	0.91	0.363	-1.553614	4.248632

Shapiro-Wilk test for normality:

Residuals e (standardized)	V =	20.041	p-value = 0.000
Random effects u	V =	8.487	p-value = 0.000

```
41.
42.
43. predict eblupROR, eblup //obtain the EBLUPs
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

44. label var eblupROR "EBLUP estimator"

45. predict mseROR, mse //level of precision (MSE)
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

46. label var mseROR "MSE EBLUP"

47. predict cvROR_FH, cvfh //CV for the direct estimate
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

48. label var cvROR_FH "CV (FH Model)"

49. predict cvROR_direct, cvdirect //CV for FH estimate

50. label var cvROR_direct "CV (Direct estimator)"

51. label var pobre_extremo_munid "Direct estimator"

52.
53. save "$dataout/fh_pobreextremo.dta", replace
  file F:\WB\Poverty Map\Fay_Herriot_estimation\dataout/fh_pobreextremo.dta saved

54.
55. asdoc sum pobre_extremo_munid cvROR_direct eblupROR cvROR_FH mseROR, save($tables\EB
  > LUP_ExtremePovertyRate.doc) ///
  > title(FH Model - Extreme Poverty Rate (2019/20)) fhc(\b) fs(11) dec(2) label replace
```

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	210	.7797755	.1846755	0	1
cvROR_direct	209	6.839279	9.495658	0	70.25448
eblupROR	316	.7758605	.1734651	0	1.271657
cvROR_FH	315	12.65592	11.81235	0	63.18882
mseROR	316	.0140912	.0188384	0	.1962145

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	210	.7797755	.1846755	0	1

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_direct	209	6.839279	9.495658	0	70.25448

Variable	Obs	Mean	Std. Dev.	Min	Max
eblupROR	**316**	**.7758605**	**.1734651**	**0**	**1.271657**

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_FH	**315**	**12.65592**	**11.81235**	**0**	**63.18882**

Variable	Obs	Mean	Std. Dev.	Min	Max
mseROR	**316**	**.0140912**	**.0188384**	**0**	**.1962145**

Click to Open File: F:\WB\Poverty Map\Fay_Herriot_estimation\Results\Tables\EBLUP_Ext > remePovertyRate.doc

```
56.
57. restore

58.
59. *b.2.) Extreme Poverty Rate with ampl estimation for variance
60. preserve

61.
62. sum pobre_extremo_var_munid, d
```

(first) pobre_extremo_var_munid

Percentiles		Smallest		
1%	**0**	**0**		
5%	**0**	**0**		
10%	**0**	**0**	Obs	**210**
25%	**1.93e-34**	**0**	Sum of Wgt.	**210**
50%	**.001329**		Mean	**.004487**
	Largest		Std. Dev.	**.0127642**
75%	**.0040504**	**.0347222**		
90%	**.0099313**	**.0439159**	Variance	**.0001629**
95%	**.0152778**	**.1149178**	Skewness	**7.426322**
99%	**.0439159**	**.1249896**	Kurtosis	**65.86925**

```
63. fayherriot pobre_extremo_munid ${vivvars} ${headvars} ${hhvars} ${munvars}, variance
  > (pobre_extremo_var_munid) gamma nolog ///
  > initialvalue(`=r(p50)') sigmamethod(ampl)
```

Sigma2_u estimation method: **ampl**
Transformation of depvar: **none**
EBLUP and MSE bias correction: **none**

N in sample = **204**
N out of sample = **112**
Sigma2_u = **0.0180**
Adj R-squared = **0.2815**
FH R-squared = **0.3184**

Gamma

Min	5%	Median	95%	Max
0.1258	**0.5526**	**0.9316**	**1.0000**	**1.0000**

pobr~o_munid	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ownviv	**1.046286**	**.3298328**	**3.17**	**0.002**	**.3998259**	**1.692747**
auto	**.0995417**	**.3176859**	**0.31**	**0.754**	**-.5231111**	**.7221946**
heladera	**-1.024805**	**.5832887**	**-1.76**	**0.079**	**-2.168029**	**.1184203**
dormi	**.3779834**	**.1965715**	**1.92**	**0.054**	**-.0072897**	**.7632565**
banio	**-.0080907**	**.1382198**	**-0.06**	**0.953**	**-.2789965**	**.262815**
lavsec	**.3688278**	**.3582638**	**1.03**	**0.303**	**-.3333563**	**1.071012**
tvradio	**-.602863**	**.8696831**	**-0.69**	**0.488**	**-2.307411**	**1.101685**
calentac	**.2464491**	**.1217637**	**2.02**	**0.043**	**.0077967**	**.4851015**
nhogviv	**.0624613**	**.3293536**	**0.19**	**0.850**	**-.5830599**	**.7079826**
techo	**-.0158739**	**.1493456**	**-0.11**	**0.915**	**-.3085859**	**.276838**
pared	**-.111853**	**.2042052**	**-0.55**	**0.584**	**-.5120878**	**.2883818**
piso	**-.0774775**	**.2257725**	**-0.34**	**0.731**	**-.5199835**	**.3650286**
acue	**.1800091**	**.1618978**	**1.11**	**0.266**	**-.1373047**	**.4973228**
freqagua	**-.0685306**	**.0687901**	**-1.00**	**0.319**	**-.2033567**	**.0662955**
poceac	**-.0791775**	**.0860594**	**-0.92**	**0.358**	**-.2478508**	**.0894959**
elecpub	**.0967761**	**.6627388**	**0.15**	**0.884**	**-1.202168**	**1.39572**
h_fem	**.7550136**	**.3289686**	**2.30**	**0.022**	**.110247**	**1.39978**

h_primaria	.9943496	.3522336	2.82	0.005	.3039845	1.684715
miembros	-.2243503	.1439694	-1.56	0.119	-.5065252	.0578246
shchild	1.222955	3.413428	0.36	0.720	-5.467242	7.913152
shoccadult	4.947996	1.704016	2.90	0.004	1.608186	8.287807
notsch	-1.677515	3.299331	-0.51	0.611	-8.144085	4.789055
occrate	-6.042454	2.101032	-2.88	0.004	-10.1604	-1.924506
unemprate	.0456126	.4539436	0.10	0.920	-.8441005	.9353257
pobrenbi11	.015455	.0056203	2.75	0.006	.0044395	.0264705
shselfemp	-.0904277	.2859966	-0.32	0.752	-.6509707	.4701152
shentrepre~r	-.617995	.7699517	-0.80	0.422	-2.127073	.8910825
shpublicsect	-.0281842	.2343729	-0.12	0.904	-.4875466	.4311781
shschatt	-1.143555	1.999696	-0.57	0.567	-5.062887	2.775776
regadm2	-.0111664	.0731335	-0.15	0.879	-.1545054	.1321725
regadm3	-.0002381	.0560195	-0.00	0.997	-.1100343	.109558
regadm4	-.0258176	.0459113	-0.56	0.574	-.1158022	.0641669
regadm5	-.2112066	.1028989	-2.05	0.040	-.4128846	-.0095285
regadm6	-.111049	.0861469	-1.29	0.197	-.2798938	.0577957
regadm7	-.3988568	.0786256	-5.07	0.000	-.5529602	-.2447534
regadm8	-.1595948	.0557728	-2.86	0.004	-.2689075	-.0502821
regadm9	-.1232275	.0924632	-1.33	0.183	-.3044519	.057997
_cons	1.341235	1.344379	1.00	0.318	-1.293699	3.976169

Shapiro-Wilk test for normality:
Residuals e (standardized) V = **17.607** p-value = **0.000**
Random effects u V = **8.708** p-value = **0.000**

```
64.
65. predict eblupROR, eblup //obtain the EBLUPs
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

66. label var eblupROR "EBLUP estimator"

67. predict mseROR, mse //level of precision (MSE)
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

68. label var mseROR "MSE EBLUP"

69. predict cvROR_FH, cvfh //CV for the direct estimate
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

70. label var cvROR_FH "CV (FH Model)"

71. predict cvROR_direct, cvdirect //CV for FH estimate

72. label var cvROR_direct "CV (Direct estimator)"

73. label var pobre_extremo_munid "Direct estimator"

74.
75. save "$dataout/fh_pobreextremo_ampl.dta", replace
  file F:\WB\Poverty Map\Fay_Herriot_estimation\dataout/fh_pobreextremo_ampl.dta saved

76.
77. asdoc sum pobre_extremo_munid cvROR_direct eblupROR cvROR_FH mseROR, save($tables\EB
  > LUP_ExtremePovertyRate.doc) ///
  > title(FH Model with ampl estimation - Extreme Poverty Rate (2019/20)) fhc(\b) fs(11)
  >  dec(2) label append
```

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	210	.7797755	.1846755	0	1
cvROR_direct	209	6.839279	9.495658	0	70.25448
eblupROR	316	.7766131	.1729619	0	1.277347
cvROR_FH	315	11.7375	10.60837	0	57.60159
mseROR	316	.0117905	.0153122	0	.1612463

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	**210**	**.7797755**	**.1846755**	**0**	**1**

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_direct	**209**	**6.839279**	**9.495658**	**0**	**70.25448**

Variable	Obs	Mean	Std. Dev.	Min	Max
eblupROR	**316**	**.7766131**	**.1729619**	**0**	**1.277347**

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_FH	**315**	**11.7375**	**10.60837**	**0**	**57.60159**

Variable	Obs	Mean	Std. Dev.	Min	Max
mseROR	**316**	**.0117905**	**.0153122**	**0**	**.1612463**

Click to Open File: F:\WB\Poverty Map\Fay_Herriot_estimation\Results\Tables\EBLUP_Ext > remePovertyRate.doc

```
78.
79. restore

80.
81.
82. *b.3.) Extreme Poverty Rate with aryl estimation for variance
83. preserve

84.
85. sum pobre_extremo_var_munid, d
```

(first) pobre_extremo_var_munid

Percentiles		Smallest		
1%	**0**	**0**		
5%	**0**	**0**		
10%	**0**	**0**	Obs	**210**
25%	**1.93e-34**	**0**	Sum of Wgt.	**210**
50%	**.001329**		Mean	**.004487**
		Largest	Std. Dev.	**.0127642**
75%	**.0040504**	**.0347222**		
90%	**.0099313**	**.0439159**	Variance	**.0001629**
95%	**.0152778**	**.1149178**	Skewness	**7.426322**
99%	**.0439159**	**.1249896**	Kurtosis	**65.86925**

```
86. fayherriot pobre_extremo_munid ${vivvars} ${headvars} ${hhvars} ${munvars}, variance
  > (pobre_extremo_var_munid) gamma nolog ///
  > initialvalue(`=r(p50)') sigmamethod(aryl)
```

Sigma2_u estimation method: **aryl**
Transformation of depvar: **none**
EBLUP and MSE bias correction: **none**

N in sample = **204**
N out of sample = **112**
Sigma2_u = **0.0222**
Adj R-squared = **0.2815**
FH R-squared = **0.3184**

Gamma

Min	5%	Median	95%	Max
0.1509	**0.6041**	**0.9439**	**1.0000**	**1.0000**

pobr~o_munid	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ownviv	1.05399	.3630488	2.90	0.004	.3424278	1.765553
auto	.0958537	.3500052	0.27	0.784	-.5901438	.7818512
heladera	-1.028671	.6435839	-1.60	0.110	-2.290072	.2327305
dormi	.3717025	.2165687	1.72	0.086	-.0527643	.7961693
banio	-.0051968	.1519936	-0.03	0.973	-.3030987	.2927052
lavsec	.3536006	.3949848	0.90	0.371	-.4205554	1.127757
tvradio	-.6164442	.9588764	-0.64	0.520	-2.495808	1.262919
calentac	.2462034	.1340356	1.84	0.066	-.0165016	.5089084
nhogviv	.0658499	.3631993	0.18	0.856	-.6460077	.7777075
techo	-.0232328	.1644233	-0.14	0.888	-.3454966	.299031
pared	-.1075459	.2246445	-0.48	0.632	-.547841	.3327491
piso	-.0699456	.2485579	-0.28	0.778	-.5571101	.417219
acue	.1791979	.1777053	1.01	0.313	-.1690981	.5274938
freqagua	-.0669088	.0756012	-0.89	0.376	-.2150845	.081267
poceac	-.075718	.0948041	-0.80	0.424	-.2615306	.1100947
elecpub	.1061123	.7307735	0.15	0.885	-1.326178	1.538402
h_fem	.7758081	.3620957	2.14	0.032	.0661135	1.485503
h_primaria	.990177	.3879848	2.55	0.011	.2297407	1.750613
miembros	-.2267197	.1588681	-1.43	0.154	-.5380954	.084656
shchild	1.290285	3.758687	0.34	0.731	-6.076606	8.657176
shoccadult	4.83351	1.871365	2.58	0.010	1.165701	8.501318
notsch	-1.683969	3.635571	-0.46	0.643	-8.809557	5.441619
occrate	-5.906016	2.307934	-2.56	0.010	-10.42948	-1.38255
unemprate	.027484	.4989981	0.06	0.956	-.9505342	1.005502
pobrenbi11	.0154049	.0062083	2.48	0.013	.0032369	.0275729
shselfemp	-.0955832	.3148302	-0.30	0.761	-.7126391	.5214727
shentrepre~r	-.5981746	.8495733	-0.70	0.481	-2.263308	1.066958
shpublicsect	-.0318634	.2573628	-0.12	0.901	-.5362852	.4725585
shschatt	-1.140914	2.203443	-0.52	0.605	-5.459583	3.177755
regadm2	-.0113508	.0805583	-0.14	0.888	-.1692423	.1465407
regadm3	-.0007793	.0616041	-0.01	0.990	-.1215212	.1199626
regadm4	-.026207	.0506176	-0.52	0.605	-.1254158	.0730017
regadm5	-.2088584	.112697	-1.85	0.064	-.4297405	.0120237
regadm6	-.111892	.0944314	-1.18	0.236	-.2969741	.0731901
regadm7	-.396328	.0862599	-4.59	0.000	-.5653943	-.2272617
regadm8	-.1577293	.061533	-2.56	0.010	-.2783318	-.0371268
regadm9	-.1210252	.1020305	-1.19	0.236	-.3210012	.0789508
_cons	1.347509	1.480185	0.91	0.363	-1.5536	4.248617

Shapiro-Wilk test for normality:

Residuals e (standardized)	V =	20.040	p-value = 0.000
Random effects u	V =	8.487	p-value = 0.000

```
87.
88. predict eblupROR, eblup //obtain the EBLUPs
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

89. label var eblupROR "EBLUP estimator"

90. predict mseROR, mse //level of precision (MSE)
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

91. label var mseROR "MSE EBLUP"
```

```
92. predict cvROR_FH, cvfh //CV for the direct estimate
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

93. label var cvROR_FH "CV (FH Model)"

94. predict cvROR_direct, cvdirect //CV for FH estimate

95. label var cvROR_direct "CV (Direct estimator)"

96. label var pobre_extremo_munid "Direct estimator"

97.
98. save "$dataout/fh_pobreextremo_aryl.dta", replace
  file F:\WB\Poverty Map\Fay_Herriot_estimation\dataout/fh_pobreextremo_aryl.dta saved

99.
100 asdoc sum pobre_extremo_munid cvROR_direct eblupROR cvROR_FH mseROR, save($tables\EB
  > LUP_ExtremePovertyRate.doc) ///
  > title(FH Model with aryl estimation - Extreme Poverty Rate (2019/20)) fhc(\b) fs(11)
  >  dec(2) label append
```

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	**210**	**.7797755**	**.1846755**	**0**	**1**
cvROR_direct	**209**	**6.839279**	**9.495658**	**0**	**70.25448**
eblupROR	**316**	**.7758606**	**.1734651**	**0**	**1.271657**
cvROR_FH	**315**	**12.65587**	**11.81228**	**0**	**63.18851**
mseROR	**316**	**.014091**	**.0188382**	**0**	**.1962125**

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	**210**	**.7797755**	**.1846755**	**0**	**1**

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_direct	**209**	**6.839279**	**9.495658**	**0**	**70.25448**

Variable	Obs	Mean	Std. Dev.	Min	Max
eblupROR	**316**	**.7758606**	**.1734651**	**0**	**1.271657**

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_FH	**315**	**12.65587**	**11.81228**	**0**	**63.18851**

Variable	Obs	Mean	Std. Dev.	Min	Max
mseROR	**316**	**.014091**	**.0188382**	**0**	**.1962125**

Click to Open File: F:\WB\Poverty Map\Fay_Herriot_estimation\Results\Tables\EBLUP_Ext
> remePovertyRate.doc

```
101
102 restore

103
104 *b.4.) Extreme Poverty Rate with biascorrection (crude)
105 preserve

106
```

```
107 sum pobre_extremo_var_munid, d
```

(first) pobre_extremo_var_munid

Percentiles		Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	210
25%	1.93e-34	0	Sum of Wgt.	210
50%	.001329		Mean	.004487
		Largest	Std. Dev.	.0127642
75%	.0040504	.0347222		
90%	.0099313	.0439159	Variance	.0001629
95%	.0152778	.1149178	Skewness	7.426322
99%	.0439159	.1249896	Kurtosis	65.86925

```
108 fayherriot pobre_extremo_munid ${vivvars} ${headvars} ${hhvars} ${munvars}, variance
  > (pobre_extremo_var_munid) gamma nolog ///
  > initialvalue(`=r(p50)') biascorrection(crude)
```

Sigma2_u estimation method: **reml**
Transformation of depvar: **logarithm**
EBLUP and MSE bias correction: **crude**

N in sample	=	204
N out of sample	=	112
Sigma2_u	=	0.0222
Adj R-squared	=	0.2815
FH R-squared	=	0.3184

Gamma

Min	5%	Median	95%	Max
0.1509	0.6041	0.9439	1.0000	1.0000

pobr~o_munid	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ownviv	1.053991	.3630506	2.90	0.004	.3424247	1.765557
auto	.0958535	.3500069	0.27	0.784	-.5901474	.7818545
heladera	-1.028671	.6435872	-1.60	0.110	-2.290079	.2327369
dormi	.3717022	.2165698	1.72	0.086	-.0527667	.7961711
banio	-.0051966	.1519943	-0.03	0.973	-.3031001	.2927068
lavsec	.3535999	.3949869	0.90	0.371	-.4205601	1.12776
tvradio	-.616445	.9588813	-0.64	0.520	-2.495818	1.262928
calentac	.2462034	.1340363	1.84	0.066	-.0165029	.5089097
nhogviv	.0658501	.3632012	0.18	0.856	-.6460111	.7777113
techo	-.0232332	.1644241	-0.14	0.888	-.3454986	.2990322
pared	-.1075457	.2246456	-0.48	0.632	-.547843	.3327515
piso	-.0699452	.2485591	-0.28	0.778	-.5571121	.4172218
acue	.1791978	.1777062	1.01	0.313	-.1690998	.5274955
freqagua	-.0669087	.0756016	-0.89	0.376	-.2150851	.0812678
poceac	-.0757178	.0948046	-0.80	0.424	-.2615313	.1100958
elecpub	.1061128	.7307773	0.15	0.885	-1.326184	1.53841
h_fem	.7758092	.3620975	2.14	0.032	.0661111	1.485507
h_primaria	.9901767	.3879868	2.55	0.011	.2297366	1.750617
miembros	-.2267198	.1588689	-1.43	0.154	-.5380971	.0846575
shchild	1.290289	3.758706	0.34	0.731	-6.076639	8.657216
shoccadult	4.833504	1.871374	2.58	0.010	1.165677	8.50133
notsch	-1.68397	3.635589	-0.46	0.643	-8.809593	5.441654
occrate	-5.906009	2.307945	-2.56	0.010	-10.4295	-1.38252
unemprate	.0274831	.4990005	0.06	0.956	-.95054	1.005506
pobrenbi11	.0154049	.0062083	2.48	0.013	.0032368	.027573
shselfemp	-.0955835	.3148318	-0.30	0.761	-.7126425	.5214755
shentrepre~r	-.5981735	.8495776	-0.70	0.481	-2.263315	1.066968
shpublicsect	-.0318636	.2573641	-0.12	0.901	-.5362879	.4725607
shschatt	-1.140915	2.203454	-0.52	0.605	-5.459605	3.177776
regadm2	-.0113508	.0805588	-0.14	0.888	-.1692431	.1465414
regadm3	-.0007793	.0616045	-0.01	0.990	-.1215218	.1199632
regadm4	-.026207	.0506179	-0.52	0.605	-.1254163	.0730022
regadm5	-.2088583	.1126976	-1.85	0.064	-.4297414	.0120249
regadm6	-.111892	.0944318	-1.18	0.236	-.296975	.073191
regadm7	-.3963279	.0862603	-4.59	0.000	-.565395	-.2272607
regadm8	-.1577292	.0615333	-2.56	0.010	-.2783323	-.0371261
regadm9	-.1210251	.102031	-1.19	0.236	-.3210022	.0789519
_cons	1.347509	1.480192	0.91	0.363	-1.553614	4.248632

```
  Shapiro-Wilk test for normality:
   Residuals e (standardized)  V =   20.041  p-value = 0.000
   Random effects u            V =    8.487  p-value = 0.000
```

```
109
110 predict eblupROR, eblup //obtain the EBLUPs
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

111 label var eblupROR "EBLUP estimator"

112 predict mseROR, mse //level of precision (MSE)
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

113 label var mseROR "MSE EBLUP"

114 predict cvROR_FH, cvfh //CV for the direct estimate
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

115 label var cvROR_FH "CV (FH Model)"

116 predict cvROR_direct, cvdirect //CV for FH estimate
  pobre_extremo_munid (y_log) and pobre_extremo_var_munid (Var(y_log)) provided on logar
  > ithmic scale. Both were back-transformed before calculating the coefficient of varia
  > tion as follows: y = exp(y_log), and Var(y) = Var(y_log)*y^2

117 label var cvROR_direct "CV (Direct estimator)"

118 label var pobre_extremo_munid "Direct estimator"

119
120 save "$dataout/fh_pobreextremo_biascorr.dta", replace
  file F:\WB\Poverty Map\Fay_Herriot_estimation\dataout/fh_pobreextremo_biascorr.dta sav
  > ed

121
122 asdoc sum pobre_extremo_munid cvROR_direct eblupROR cvROR_FH mseROR, save($tables\EB
  > LUP_ExtremePovertyRate.doc) ///
  > title(FH Model with bias correction (crude) - Extreme Poverty Rate (2019/20)) fhc(\b
  > ) fs(11) dec(2) label append
```

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	210	.7797755	.1846755	0	1
cvROR_direct	210	4.42931	5.037046	0	35.35387
eblupROR	316	2.219355	.3637046	1	3.934423
cvROR_FH	316	5.465174	3.788172	0	15.80371
mseROR	316	.0700425	.1570804	0	2.496194

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	210	.7797755	.1846755	0	1

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_direct	210	4.42931	5.037046	0	35.35387

Variable	Obs	Mean	Std. Dev.	Min	Max
eblupROR	316	2.219355	.3637046	1	3.934423

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_FH	316	5.465174	3.788172	0	15.80371

Variable	Obs	Mean	Std. Dev.	Min	Max
mseROR	**316**	**.0700425**	**.1570804**	**0**	**2.496194**

Click to Open File: F:\WB\Poverty Map\Fay_Herriot_estimation\Results\Tables\EBLUP_Ext > remePovertyRate.doc

```
123
124 restore

125
126
127
128 ********************************************************************************
129 *Run acrsin transformed model
130
131 gen pobre_extremo_asin = asin(sqrt(pobre_extremo_munid))
  (113 missing values generated)

132 replace pobre_extremo_var_munid=0.0000001 if pobre_extremo_var_munid==0 //Correct fo
  > r 0 variance due to comment below
  (39 real changes made)

133 gen designeffect = pobre_extremo_var_munid/simple_var_pobre_extremo //Problem: Those
  >  with variance 0 will be missing
  (145 missing values generated)

134 gen effsample = pobre_extremo_var_munid/designeffect //157 missing
  (145 missing values generated)

135 gen sigma2_e_arcsine = 1/(4*effsample) //157 missing
  (145 missing values generated)

136
137 preserve

138
139 sum sigma2_e_arcsine, d
```

sigma2_e_arcsine

Percentiles	Smallest		
1% **1**	**1**		
5% **7.35**	**1**		
10% **9.000001**	**2.25**	Obs	**178**
25% **20.87912**	**2.25**	Sum of Wgt.	**178**
50% **49.97516**		Mean	**98.41128**
	Largest	Std. Dev.	**131.017**
75% **121.1538**	**576**		
90% **256**	**634.3623**	Variance	**17165.47**
95% **342.5787**	**744.8682**	Skewness	**3.141427**
99% **744.8682**	**927.8269**	Kurtosis	**16.00955**

```
140 fayherriot pobre_extremo_asin ${vivvars} ${headvars} ${hhvars} ${munvars} if sigma2_
  > e_arcsine!=., variance(sigma2_e_arcsine) gamma nolog ///
  > initialvalue(`=r(p50)')
```

Estimated sigma2_u is smaller than 0 (sigma2_u = -121.73324). sigma2_u set to 0.

Sigma2_u estimation method:	**reml**	N in sample	**172**
Transformation of depvar:	**none**	N out of sample	**0**
EBLUP and MSE bias correction:	**none**	Sigma2_u	**0.0000**
		Adj R-squared	**0.3019**
		FH R-squared	**.**

Gamma

Min	5%	Median	95%	Max
0.0000	**0.0000**	**0.0000**	**0.0000**	**0.0000**

pobre_extr~n	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
ownviv	.8682316	16.07691	0.05	0.957	-30.64193	32.3784
auto	-.5134935	13.72854	-0.04	0.970	-27.42094	26.39395
heladera	-1.776047	23.43235	-0.08	0.940	-47.70262	44.15052
dormi	-.2659053	9.533536	-0.03	0.978	-18.95129	18.41948
banio	-.0898745	5.782361	-0.02	0.988	-11.42309	11.24335
lavsec	.7204334	17.84675	0.04	0.968	-34.25856	35.69942
tvradio	.3517021	30.02811	0.01	0.991	-58.50231	59.20571
calentac	.2221844	5.225236	0.04	0.966	-10.01909	10.46346
nhogviv	-.6335503	18.13992	-0.03	0.972	-36.18714	34.92004
techo	-.0434436	5.729162	-0.01	0.994	-11.27239	11.18551
pared	.6254953	8.482486	0.07	0.941	-15.99987	17.25086
piso	.4621264	8.641874	0.05	0.957	-16.47564	17.39989
acue	.3223814	7.340322	0.04	0.965	-14.06439	14.70915
freqagua	-.1757354	3.400854	-0.05	0.959	-6.841288	6.489817
poceac	-.0338051	4.419183	-0.01	0.994	-8.695244	8.627634
elecpub	.5418014	24.06276	0.02	0.982	-46.62035	47.70395
h_fem	1.126955	14.20874	0.08	0.937	-26.72167	28.97558
h_primaria	-.0250112	13.57236	-0.00	0.999	-26.62635	26.57632
miembros	-.2040041	7.096833	-0.03	0.977	-14.11354	13.70553
shchild	1.168716	146.9868	0.01	0.994	-286.9202	289.2576
shoccadult	-1.283388	72.58305	-0.02	0.986	-143.5436	140.9768
notsch	.1054047	149.5668	0.00	0.999	-293.0402	293.251
occrate	1.730782	89.37714	0.02	0.985	-173.4452	176.9068
unemprate	-.0171586	16.91914	-0.00	0.999	-33.17806	33.14374
pobrenbi11	.0180362	.5662678	0.03	0.975	-1.091828	1.127901
shselfemp	.2528913	11.41582	0.02	0.982	-22.1217	22.62749
shentrepre~r	-.3438782	27.22307	-0.01	0.990	-53.70012	53.01236
shpublicsect	.3508461	10.91065	0.03	0.974	-21.03364	21.73533
shschatt	-1.687044	88.44631	-0.02	0.985	-175.0386	171.6645
regadm2	.0117305	3.543237	0.00	0.997	-6.932887	6.956348
regadm3	-.0662294	2.969545	-0.02	0.982	-5.886431	5.753972
regadm4	.0829648	2.488666	0.03	0.973	-4.794731	4.960661
regadm5	.0677831	6.793898	0.01	0.992	-13.24801	13.38358
regadm6	-.2620453	4.004262	-0.07	0.948	-8.110255	7.586164
regadm7	-.3090975	4.365437	-0.07	0.944	-8.865197	8.247002
regadm8	-.0646335	2.966876	-0.02	0.983	-5.879604	5.750336
regadm9	-.1338097	4.43827	-0.03	0.976	-8.83266	8.56504
_cons	2.192697	62.17827	0.04	0.972	-119.6745	124.0599

Shapiro-Wilk test for normality:

Residuals e (standardized)	V =	4.872	p-value = 0.000
Random effects u	V =	.	p-value = .

```
141
142 predict eblupROR, eblup //obtain the EBLUPs
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

143 label var eblupROR "EBLUP estimator"

144 predict mseROR, mse //level of precision (MSE)
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

145 label var mseROR "MSE EBLUP"
```

```
146 predict cvROR_FH, cvfh //CV for the direct estimate
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

147 label var cvROR_FH "CV (FH Model)"

148 predict cvROR_direct, cvdirect //CV for FH estimate

149 label var cvROR_direct "CV (Direct estimator)"

150 label var pobre_extremo_munid "Direct estimator"

151
152 save "$dataout/fh_pobreextremo_arcsin.dta", replace
  file F:\WB\Poverty Map\Fay_Herriot_estimation\dataout/fh_pobreextremo_arcsin.dta saved

153
154 asdoc sum pobre_extremo_munid cvROR_direct eblupROR cvROR_FH mseROR, save($tables\EB
  > LUP_ExtremePovertyRate.doc) ///
  > title(FH Model with acrsin transformation) - Extreme Poverty Rate (2019/20)) fhc(\b)
  >  fs(11) dec(2) label append
```

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	**210**	**.7797755**	**.1846755**	**0**	**1**
cvROR_direct	**178**	**794.5888**	**457.1284**	**112.6675**	**2418.009**
eblupROR	**316**	**1.003594**	**.1614111**	**.6010073**	**1.449213**
cvROR_FH	**316**	**333.4674**	**147.7736**	**153.4435**	**1096.431**
mseROR	**316**	**12.80951**	**15.03188**	**2.182432**	**182.2985**

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	**210**	**.7797755**	**.1846755**	**0**	**1**

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_direct	**178**	**794.5888**	**457.1284**	**112.6675**	**2418.009**

Variable	Obs	Mean	Std. Dev.	Min	Max
eblupROR	**316**	**1.003594**	**.1614111**	**.6010073**	**1.449213**

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_FH	**316**	**333.4674**	**147.7736**	**153.4435**	**1096.431**

Variable	Obs	Mean	Std. Dev.	Min	Max
mseROR	**316**	**12.80951**	**15.03188**	**2.182432**	**182.2985**

Click to Open File: F:\WB\Poverty Map\Fay_Herriot_estimation\Results\Tables\EBLUP_Ext
> remePovertyRate.doc

```
155
156 restore

157
158
159
160 ********************************************************************************
161 *Run Log-Transformed version of FH Model (predict for all out-of-sample municipaliti
  > es
```

```
162
163
164 *b) Extreme poverty rate
165 generate log_pobre_extremo = log(pobre_extremo_munid) //126 missing values generated
  (114 missing values generated)

166 generate directlogvariance = pobre_extremo_var_munid/(pobre_extremo_munid*pobre_extr
  > emo_munid) //126 missing values generated
  (114 missing values generated)

167
168 preserve

169 sum directlogvariance, d

                    directlogvariance
-------------------------------------------------------------
      Percentiles      Smallest
 1%     1.88e-35       3.81e-36
 5%     1.69e-34       4.64e-36
10%     1.20e-33       1.88e-35       Obs                 209
25%     1.00e-07       3.53e-35       Sum of Wgt.         209

50%     .0022694                      Mean           .0136512
                       Largest        Std. Dev.      .0481957
75%     .0089702       .1477672
90%         .022       .2666667       Variance       .0023228
95%     .0331765       .3176685       Skewness       7.009487
99%     .2666667       .4935692       Kurtosis       59.70495

170 fayherriot log_pobre_extremo ${vivvars} ${headvars} ${hhvars} ${munvars}, variance(d
  > irectlogvariance) gamma nolog logarithm ///
  > initialvalue(`=r(p50)') biascorrection(crude)

Sigma2_u estimation method:     reml            N in sample      =       203
Transformation of depvar:       logarithm       N out of sample  =       113
EBLUP and MSE bias correction:  crude           Sigma2_u         =    0.0390
                                                Adj R-squared    =    0.2274
                                                FH R-squared     =    0.2655
                    Gamma
  Min       5%      Median      95%       Max
0.0732    0.5633    0.9456    1.0000    1.0000

------------------------------------------------------------------------------
log_pobre_~o |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
      ownviv |    1.367542     .4854     2.82   0.005     .4161755    2.318908
        auto |     .080075   .4668798     0.17   0.864    -.8349927    .9951426
    heladera |   -.9447924   .8725725    -1.08   0.279    -2.655003    .7654184
       dormi |     .176712   .2974742     0.59   0.552    -.4063267    .7597507
       banio |   -.1019344   .2040217    -0.50   0.617    -.5018096    .2979407
      lavsec |    .5932733   .5393974     1.10   0.271    -.4639262    1.650473
     tvradio |   -2.044387   1.293369    -1.58   0.114    -4.579343     .490569
    calentac |    .2637868   .1812251     1.46   0.146    -.0914079    .6189816
     nhogviv |    .0531236   .4855092     0.11   0.913    -.8984568    1.004704
       techo |   -.0642102   .2208049    -0.29   0.771    -.4969799    .3685595
       pared |   -.1142076   .3046185    -0.37   0.708     -.711249    .4828337
        piso |    .0459687   .3345027     0.14   0.891    -.6096445    .7015819
        acue |    .1790291   .2411044     0.74   0.458    -.2935269     .651585
    freqagua |   -.0741831    .101273    -0.73   0.464    -.2726746    .1243083
      poceac |   -.0719464   .1270888    -0.57   0.571    -.3210359    .1771431
     elecpub |    .4543606   .9791277     0.46   0.643    -1.464694    2.373416
       h_fem |    1.293747   .4874282     2.65   0.008     .3384055    2.249089
   h_primaria |    .9006902   .5288088     1.70   0.089    -.1357561    1.937136
    miembros |   -.2554912   .2159005    -1.18   0.237    -.6786484    .1676659
     shchild |   -.2132692    5.14851    -0.04   0.967    -10.30416    9.877625
  shoccadult |     5.69173    2.52789     2.25   0.024     .7371559     10.6463
      notsch |   -1.295348   4.962532    -0.26   0.794    -11.02173    8.431036
     occrate |   -7.177254   3.114915    -2.30   0.021    -13.28237   -1.072134
    unemprate |   -.2344254    .668324    -0.35   0.726    -1.544316    1.075466
   pobrenbi11 |    .0181134   .0083174     2.18   0.029     .0018117    .0344152
    shselfemp |   -.2525867   .4215824    -0.60   0.549    -1.078873    .5736996
```

shentrepre~r	-.6035426	1.13453	-0.53	0.595	-2.82718	1.620094
shpublicsect	-.039438	.3454055	-0.11	0.909	-.7164204	.6375443
shschatt	-.8826314	2.989872	-0.30	0.768	-6.742674	4.977411
regadm2	-.0327671	.1083359	-0.30	0.762	-.2451016	.1795673
regadm3	-.0081201	.082376	-0.10	0.921	-.169574	.1533339
regadm4	-.0082928	.0673988	-0.12	0.902	-.1403921	.1238065
regadm5	-.2404855	.1496823	-1.61	0.108	-.5338573	.0528863
regadm6	-.2139775	.1305959	-1.64	0.101	-.4699408	.0419859
regadm7	-.5491465	.1172147	-4.68	0.000	-.778883	-.3194099
regadm8	-.2064485	.0820112	-2.52	0.012	-.3671874	-.0457096
regadm9	-.140021	.1354077	-1.03	0.301	-.4054152	.1253732
_cons	1.525867	1.988617	0.77	0.443	-2.371751	5.423485

Shapiro-Wilk test for normality:

Residuals e (standardized)	V =	66.789	p-value = 0.000
Random effects u	V =	12.236	p-value = 0.000

```
171
172 predict eblupROR, eblup //obtain the EBLUPs
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

173 predict mseROR, mse //level of precision (MSE)
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

174 predict cvROR_FH, cvfh //CV for FH estimate
  Some of the selected observations are not in the estimation sample. To these, out-of-s
  > ample formulas are applied.

175 predict cvROR_direct, cvdirect //CV for direct estimate
  log_pobre_extremo (y_log) and directlogvariance (Var(y_log)) provided on logarithmic s
  > cale. Both were back-transformed before calculating the coefficient of variation as
  > follows: y = exp(y_log), and Var(y) = Var(y_log)*y^2

176
177 label var eblupROR "EBLUP estimator"

178 label var mseROR "MSE EBLUP"

179 label var cvROR_FH "CV (FH Model)"

180 label var cvROR_direct "CV (Direct estimator)"

181 label var pobre_extremo_munid "Direct estimator"

182
183 save "$dataout/fh_pobreextremo_log.dta", replace
  file F:\WB\Poverty Map\Fay_Herriot_estimation\dataout/fh_pobreextremo_log.dta saved

184
185 asdoc sum pobre_extremo_munid cvROR_direct eblupROR cvROR_FH mseROR, save($tables\EB
  > LUP_ExtremePovertyRate.doc) ///
  > title(FH Log-Transformed Model - Extreme Poverty Rate (2019/20)) fhc(\b) fs(11) dec(
  > 1) label append
```

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	210	.7797755	.1846755	0	1
cvROR_direct	209	6.845748	9.490986	1.95e-16	70.25448
eblupROR	316	.7925659	.1620012	.2414605	1.262755
cvROR_FH	316	15.14319	14.84301	1.95e-16	62.44699
mseROR	316	.0155554	.0287068	3.01e-36	.3960795

Variable	Obs	Mean	Std. Dev.	Min	Max
pobr~o_munid	210	.7797755	.1846755	0	1

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_direct	**209**	**6.845748**	**9.490986**	**1.95e-16**	**70.25448**

Variable	Obs	Mean	Std. Dev.	Min	Max
eblupROR	**316**	**.7925659**	**.1620012**	**.2414605**	**1.262755**

Variable	Obs	Mean	Std. Dev.	Min	Max
cvROR_FH	**316**	**15.14319**	**14.84301**	**1.95e-16**	**62.44699**

Variable	Obs	Mean	Std. Dev.	Min	Max
mseROR	**316**	**.0155554**	**.0287068**	**3.01e-36**	**.3960795**

Click to Open File: F:\WB\Poverty Map\Fay_Herriot_estimation\Results\Tables\EBLUP_Ext > remePovertyRate.doc

```
186
187 restore

188
189
190
191
192
193 ********************************************************************************
194 *B) Income of extreme poor
195 ********************************************************************************
196
197
198
199 *a) Income
200 preserve

201
202 sum ipcf_var_munid, d
```

(first) ipcf_var_munid

Percentiles		Smallest		
1%	**0**	**0**		
5%	**0**	**0**		
10%	**6.62e-24**	**0**	Obs	**210**
25%	**6.86e+08**	**0**	Sum of Wgt.	**210**
50%	**2.41e+10**		Mean	**1.01e+11**
	Largest		Std. Dev.	**2.18e+11**
75%	**8.80e+10**	**1.09e+12**		
90%	**2.63e+11**	**1.18e+12**	Variance	**4.76e+22**
95%	**5.71e+11**	**1.24e+12**	Skewness	**3.557768**
99%	**1.18e+12**	**1.35e+12**	Kurtosis	**16.59108**

```
203 fayherriot ipcf_munid ${vivvars} ${headvars} ${hhvars} ${munvars}, variance(ipcf_var
> _munid) gamma nolog initialvalue(`=r(p50)')

initial values not feasible
r(1400);

end of do-file

r(1400);

204 log close
      name:  <unnamed>
       log:  F:\WB\Poverty Map\Fay_Herriot_estimation\Results\Tables\extreme_poverty_l
> og.smcl
  log type:  smcl
 closed on:  14 Feb 2021, 09:02:00
```