Economics of Development: Problem Set 1

S M Sajid Al Sanai

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1 Question II

1.1 Source

```
* Development Economics: Problem Set 1
* S M Sajid Al Sanai
* Import dataset
use burkina731.dta, clear
* Identifier variables do not use {0} as indexing value
//tab village //v
                  [1-6]
             //h
                    [1 - 32]
//tab hhn
//tab year
             //t
                   [1 - 3]
//tab fcrop //c
                   [1-44] discont.
//tab plotnum //i
                  [1-999] discont.
* Generate fixed effects
** Fixed effects are
gen fe_vtc = (village * 1000) + (fcrop * 10) + year
label var fe_vtc "vtc Fixed Effects"
gen fe_vhtc = (fe_vtc * 100) + hhn
label var fe_vhtc "vhtc Fixed Effects"
* Dependent variable is log of yield (vhtci)
** { yield = tot_value / tot_area }
** => In_yield = In( tot_value / tot_area )
** \Rightarrow ln_yield = ln(tot_value) - ln(tot_area)
rename Invalue In_value
rename Inarea In_area
gen In_yield = In_value - In_area
* Fixed Effects Regression
** {xtreg, fe i(.)}
                                Command format
** {topo* soil* loc* ln_area}
                                Covariates matrix
** {totarea Intarea Inhhsize}
                                Exclude
xtreg In_yield topo* soil* loc* In_area, fe i(fe_vtc)
predict residuals_v, e
label var residuals_v "v Residuals"
xtreg In_yield topo* soil* loc* In_area, fe i(fe_vhtc)
predict residuals_h, e
label var residuals_h "h Residuals"
* Estimation of Density
kdensity residuals_v , normal gen(est_pts_vtc density_vtc)
label var density_vtc "vtc Density"
label var est_pts_vtc "vtc Pred. Dev."
graph export graph1.png, replace
kdensity residuals_h, at(est_pts_vtc) gen(est_pts_vhtc density_vhtc)
label var density_vhtc "vhtc Density"
label var est_pts_vhtc "vhtc Pred. Dev."
graph export graph2.png, replace
graph twoway connected density_vtc density_vhtc est_pts_vtc , I("Kernel Density Estimate")
graph export graph3.png, replace
* Modifying dataset structure and cleaning up
```

```
** Append residuals for village level and household level regressions
** into a single column by saving with one constructed index and then
** importing from temporary dataset.
keep residuals_v residuals_h
* Create the indexx
gen is_village = 1
* Save temporary dataset
save temp_burkina73, replace
* Change the index
replace is_village = 0
* Append using old index
append using temp_burkina73
* Verify
tab is_village
* Construct single variable residuals using index
gen residuals = .
replace residuals = residuals_v if is_village == 1
replace residuals = residuals_h if is_village == 0
keep residuals is_village
* Save temporary dataset
save temp_burkina73, replace
* Testing for equality of distribution
ksmirnov residuals, by(is_village)
* Reuse dataset prior to temporary modifications
use burkina731.dta, clear
* Generate fixed effects
** Fixed effects are
gen fe_vtc = (village * 1000) + (fcrop * 10) + year
label var fe_vtc "vtc Fixed Effects"
gen fe_vhtc = (fe_vtc * 100) + hhn
label var fe_vhtc "vhtc Fixed Effects"
* Dependent variable is log of yield (vhtci)
** { yield = tot_value / tot_area }
** \Rightarrow ln_yield = ln(tot_value / tot_area)
** \Rightarrow ln_yield = ln(tot_value) - ln(tot_area)
rename Invalue In_value
rename Inarea In_area
gen In_yield = In_value - In_area
* Fixed Effects Regression w/ Additional Household Characteristics
** {xtreg, fe i(.)}
                                Command format
                                 Covariates matrix
** {topo* soil* loc* ln_area}
                                 Additional Characteristics
** {Intarea Inhhsize}
                                 Exclude
** {totarea}
xtreg In_yield topo* soil* loc* In_area Inhhsize, fe i(fe_vtc)
predict residuals_v_hs, e
label var residuals_{-}v_{-}hs "v Residuals w/ Log of Household Size"
xtreg In_yield topo* soil* loc* In_area Intarea, fe i(fe_vtc)
predict residuals_v_hta , e
label var residuals_v_hta "v Residuals w/ Log of Total Area Cultivated by Household Head"
```

1.2 Output

```
\log : C: \bigcup Sers \bigcup Bl \bigcup Documents \bigcup Graduate - Economics \bigcup Development Economics \bigcup PS1\_SMSajidAlSanaine Service Service
    log type:
                               smcl
  opened on: 23 Apr 2019, 14:28:00
. do "C:\Users\Dell\AppData\Local\Temp\STD01000000.tmp"
. * Development Economics: Problem Set 1
. * S M Sajid Al Sanai
. * Import dataset
. use burkina731.dta, clear
. * Identifier variables do not use \{0\} as indexing value
. //tab village //v
                                                               [1-6]
                                      //h
. //tab hhn
                                                               [1 - 32]
                                       //t
. //tab year
                                                               [1 - 3]
. //tab fcrop //c
                                                               [1-44] discont.
                                                               [1-999] discont.
. //tab plotnum //i
. * Generate fixed effects
. ** Fixed effects are
. gen fe_vtc = (village * 1000) + (fcrop * 10) + year
. label var fe_vtc "vtc Fixed Effects"
. gen fe_vhtc = (fe_vtc * 100) + hhn
. label var fe_vhtc "vhtc Fixed Effects"
. * Dependent variable is log of yield (vhtci)
. ** {yield = tot_value / tot_area}
. ** \Rightarrow In_yield = In( tot_value / tot_area )
. ** \Rightarrow In_yield = In(tot_value) - In(tot_area)
. rename Invalue In_value
. rename Inarea In_area
. gen In_yield = In_value - In_area
. * Fixed Effects Regression
. ** {xtreg, fe i(.)}
                                                                                                                          Command format
. ** {topo* soil* loc* ln_area}
                                                                                   Covariates matrix
. ** {totarea Intarea Inhhsize}
                                                                                   Exclude
. xtreg ln_yield topo* soil* loc* ln_area, fe i(fe_vtc)
warning: existing panel variable is not fe_vtc
Fixed-effects (within) regression
                                                                                                                                                                                    2576
                                                                                                                     Number of obs
Group variable: fe_vtc
                                                                                                                     Number of groups
                                                                                                                                                                                      162
R-sq: within = 0.0422
                                                                                                                     Obs per group: min =
                 between = 0.1326
                                                                                                                                                                                    15.9
                                                                                                                                                         avg =
                 overall = 0.1224
                                                                                                                                                         max =
                                                                                                                                                                                         56
```

In_yield	Coef.	Std. Err.	t	P> t	[95% Conf.	Interval]
topo1	4173048	.1552245	-2.69	0.007	7216934	1129162
topo2	2770841	.1379051	-2.01	0.045	54751	0066581
topo3	2596383	.1350329	-1.92	0.055	5244321	.0051555
topo4	2068287	.1326425	-1.56	0.119	466935	.0532775
soil7	1693681	.1374232	-1.23	0.218	438849	.1001129
soil21	.2189651	.1928816	1.14	0.256	1592675	.5971976
soil31	.0639357	.1454792	0.44	0.660	2213427	.3492141
soil32	0029926	.1493357	-0.02	0.984	2958336	.2898484
soil33	.2108274	.1877727	1.12	0.262	1573867	.5790415
soil37	.1287846	.1982255	0.65	0.516	259927	.5174963
soil35	.1403218	.2155674	0.65	0.515	2823967	.5630402
soil45	.0298251	.1640325	0.18	0.856	2918356	.3514858
soil51	.1275817	.0972852	1.31	0.190	0631904	.3183539
soil1	.1579305	.4604687	0.34	0.732	7450289	1.06089
soil3	1055179	.1332205	-0.79	0.428	3667576	.1557217
soil11	3610024	.2326668	-1.55	0.121	8172519	.0952472
soil12	0667989	.2188587	-0.31	0.760	4959714	.3623735
soil13	.1708714	.2667383	0.64	0.522	3521909	.6939337
soil34	1531976	.2647133	-0.58	0.563	6722891	.3658938
soil46	418554	.2377307	-1.76	0.078	8847337	.0476257
soil53	.3928609	.2157001	1.82	0.069	0301177	.8158396
loc1	.2106108	.0753538	2.79	0.005	.0628452	.3583763
loc2	.118715	.0584738	2.03	0.042	.0040504	.2333796
ln_area	1610271	.0247182	-6.51	0.000	2094984	1125558
_cons	3.415241	.1392904	24.52	0.000	3.142099	3.688384
sigma_u	1.1032508					
sigma_u sigma_e	1.1032308					
rho	50517851	(fraction	of warian		:)	
		(114011011				
F test that a	II $u_i = 0$:	F(161, 2390) = 7	7.46	Prob >	F = 0.0000
. predict resi	duals_v , e					
		.				
. label var re	esiduals_v "v	Residuals"				
. xtreg ln_yie	eld topo* soi	l∗ loc∗ ln_a	rea. fe i	i(fe_vhtc))	
warning: exist						
Fixed-effects	(within) reg	ression		Number o	of obs $=$	2576
Group variable	e: fe_vhtc			Number o	of groups =	1846
D car within	_ 0.0761			Obs. nor	group: min —	1
•	= 0.0761 $= 0.0529$			Obs per	group: min =	
					avg =	
overall	I = 0.0584				max =	6
				F(24,706	i) =	2.42
$corr(u_i, Xb)$	= -0.0659			Prob > F	•	0.0002
In_yield	Coef.	Std. Err.	t	P> t	[95% Conf.	 Interval
= :					-	-

```
-.4709716
                               .267833
                                            -1.76
                                                    0.079
                                                              -.9968161
                                                                             .054873
       topo1
       topo2
                   -.146441
                               .2340169
                                            -0.63
                                                    0.532
                                                              -.6058934
                                                                             .3130113
       topo3
                 -.1741458
                               .2262705
                                            -0.77
                                                    0.442
                                                               -.6183895
                                                                            .2700979
                 -.1131443
                               .2229497
                                            -0.51
                                                    0.612
                                                                            .3245796
       topo4
                                                              -.5508682
        soil7
                 -.2937165
                               .2778046
                                            -1.06
                                                    0.291
                                                              -.8391386
                                                                            .2517057
                               .3082066
                                            0.86
                                                    0.392
                                                              -.3411685
                                                                            .8690541
      soil21
                  .2639428
                               .2284215
                                                    0.148
                                                              -.7792246
      soil31
                 -.3307579
                                            -1.45
                                                                            .1177089
      soil32
                 -.3485796
                               .2463119
                                                    0.157
                                                                             .135012
                                            -1.42
                                                              -.8321712
      soil33
                 -.1971536
                              .3566942
                                            -0.55
                                                    0.581
                                                              -.8974619
                                                                            .5031547
      soil37
                  .0668419
                              .3283176
                                            0.20
                                                    0.839
                                                              -.5777538
                                                                            .7114377
                                                    0.740
      soil35
                 -.1496067
                              .4514536
                                            -0.33
                                                              -1.035959
                                                                            .7367456
      soil45
                 -.1476147
                              .2500988
                                            -0.59
                                                    0.555
                                                              -.6386411
                                                                            .3434117
      soil51
                  .1632733
                              .2259021
                                            0.72
                                                    0.470
                                                               -.2802471
                                                                            .6067937
       soil1
                  1.022489
                              .7351434
                                             1.39
                                                    0.165
                                                               -.4208398
                                                                            2.465818
       soil3
                  .2367755
                               .2669585
                                             0.89
                                                    0.375
                                                               -.287352
                                                                              .760903
      soil11
                  -.6923676
                              .4213079
                                            -1.64
                                                    0.101
                                                               -1.519534
                                                                             .1347988
      soil12
                    .424006
                                  .3692
                                             1.15
                                                    0.251
                                                              -.3008553
                                                                             1.148867
      soil13
                  1.082068
                              .6215119
                                             1.74
                                                    0.082
                                                               -.1381647
                                                                            2.302301
      soil34
                 -.5078006
                              .4040409
                                                    0.209
                                                              -1.301066
                                                                            .2854649
                                            -1.26
      soil46
                                                                            -.1448896
                 -.8469797
                              .3576017
                                                    0.018
                                                               -1.54907
                                            -2.37
      soil53
                  .3945319
                               .4681921
                                            0.84
                                                    0.400
                                                              -.5246835
                                                                            1.313747
         loc1
                  .1868941
                               .1147844
                                             1.63
                                                    0.104
                                                              -.0384656
                                                                            .4122537
         loc2
                  .0960644
                                  .0976
                                             0.98
                                                    0.325
                                                              -.0955565
                                                                            .2876853
                                                    0.000
     In_area
                  -.1537155
                               .0403257
                                            -3.81
                                                               -.2328881
                                                                            -.0745428
                  3.417972
                               .228832
                                            14.94
                                                    0.000
                                                               2.968699
                                                                            3.867244
        _cons
                 1.3621766
     sigma_u
     sigma_e
                 .95713414
          rho
                 .66947051
                              (fraction of variance due to u_i)
F test that all u_i=0:
                             F(1845, 706) =
                                                                   Prob > F = 0.0000
                                                  2.15
. predict residuals_h , e
. label var residuals_h "h Residuals"
  * Estimation of Density
  kdensity residuals_v , normal gen(est_pts_vtc density_vtc)
. label var density_vtc "vtc Density"
. label var est_pts_vtc "vtc Pred. Dev."
. graph export graph1.png, replace
(file graph1.png written in PNG format)
. kdensity residuals_h , at(est_pts_vtc) gen(est_pts_vhtc density_vhtc)
. label var density_vhtc "vhtc Density"
. label var est_pts_vhtc "vhtc Pred. Dev."
. graph export graph2.png, replace
(file graph2.png written in PNG format)
. graph twoway connected density_vtc density_vhtc est_pts_vtc , I("Kernel Density Estimate")
```

```
. graph export graph3.png, replace
(file graph3.png written in PNG format)
. * Modifying dataset structure and cleaning up
. ** Append residuals for village level and household level regressions
. ** into a single column by saving with one constructed index and then
. ** importing from temporary dataset.
. keep residuals_v residuals_h
. * Create the indexx
. gen is_village = 1
. * Save temporary dataset
. save temp_burkina73, replace
file temp_burkina73.dta saved
. * Change the index
. replace is_village = 0
(2576 real changes made)
. * Append using old index
. append using temp_burkina73
. * Verify
. tab is_village
                              Percent
 is_village |
                   Freq.
                                             Cum.
          0
                   2,576
                                50.00
                                            50.00
                                50.00
                                           100.00
          1
                   2,576
      Total |
                   5,152
                               100.00
. * Construct single variable residuals using index
gen residuals = .
(5152 missing values generated)
replace residuals = residuals_v if is_village == 1
(2576 real changes made)
. replace residuals = residuals_h if is_village == 0
(2576 real changes made)
. keep residuals is_village
```

. * Testing for equality of distribution
. ksmirnov residuals , by(is_village)

. * Save temporary dataset
. save temp_burkina73, replace
file temp_burkina73.dta saved

Two-sample Kolmogorov-Smirnov test for equality of distribution functions

Smaller	group	D	P-value	Corrected

```
1:
                     -0.1836
                                0.000
Combined K-S:
                     0.3090
                                           0.000
                                0.000
Note: ties exist in combined dataset;
      there are 3847 unique values out of 5152 observations.
. * Reuse dataset prior to temporary modifications
. use burkina731.dta, clear
. * Generate fixed effects
 ** Fixed effects are
. gen fe_vtc = (village * 1000) + (fcrop * 10) + year
. label var fe_vtc "vtc Fixed Effects"
. gen fe_vhtc = (fe_vtc * 100) + hhn
. label var fe_vhtc "vhtc Fixed Effects"
. * Dependent variable is log of yield (vhtci)
. ** { yield = tot_value / tot_area }
. ** => In_yield = In( tot_value / tot_area )
. ** \Rightarrow ln_yield = ln(tot_value) - ln(tot_area)
. rename Invalue In_value
. rename Inarea In_area
. gen ln_yield = ln_value - ln_area
. * Fixed Effects Regression w/ Additional Household Characteristics
                                                   Command format
. ** {xtreg, fe i(.)}
. ** {topo* soil* loc* ln_area}
                                   Covariates matrix
. ** {Intarea Inhhsize}
                                           Additional Characteristics
. ** {totarea}
                                                    Exclude
. xtreg In_yield topo* soil* loc* In_area Inhhsize, fe i(fe_vtc)
warning: existing panel variable is not fe_vtc
Fixed-effects (within) regression
                                                 Number of obs
                                                                            2270
Group variable: fe_vtc
                                                 Number of groups
                                                                             152
R-sq: within = 0.0560
                                                 Obs per group: min =
                                                                               1
       between \, = \, 0.1603
                                                                 avg =
                                                                             14.9
       overall = 0.1255
                                                                 max =
                                                                              56
                                                 F(25,2093)
                                                                             4.97
corr(u_i, Xb) = 0.1226
                                                  Prob > F
                                                                          0.0000
    In_yield |
                    Coef.
                             Std. Err.
                                                            [95% Conf. Interval]
                                            t
                                                 P>|t|
                -.4751642
                             .1662653
                                         -2.86
                                                 0.004
                                                           -.8012268
                                                                       -.1491017
       topo1
       topo2
                -.3160177
                             .1499737
                                         -2.11
                                                 0.035
                                                           -.6101309
                                                                       -.0219046
       topo3
                -.2824825
                             .1473026
                                         -1.92
                                                 0.055
                                                           -.5713574
                                                                        .0063923
       topo4
               -.233111
                             .1454243
                                         -1.60
                                                 0.109
                                                           -.5183023
                                                                        .0520804
```

0:

0.3090

0.000

```
soil7
                 -.1850849
                               .1385881
                                            -1.34
                                                     0.182
                                                               -.4568698
                                                                              .0867001
      soil21
                  .3340159
                               .2186946
                                             1.53
                                                     0.127
                                                               -.0948657
                                                                              .7628976
      soil31
                  .0943839
                               .1609004
                                             0.59
                                                     0.558
                                                                -.2211576
                                                                              .4099254
      soil32
                  -.0207809
                               .1633791
                                             -0.13
                                                     0.899
                                                                -.3411832
                                                                              .2996215
                                             0.72
                                                     0.474
                                                                              .5881847
      soil33
                  .1573599
                               .2196855
                                                                -.2734649
      soil37
                   .1398084
                               .2089537
                                             0.67
                                                     0.504
                                                               -.2699703
                                                                               .549587
                                                     0.898
                                                                              .6112876
      soil35
                  .0375211
                               .2925741
                                             0.13
                                                               -.5362453
                                                     0.884
      soil45
                  .0250932
                               .1724409
                                             0.15
                                                                -.3130803
                                                                              .3632667
      soil51
                                                     0.234
                  .1167337
                               .0981021
                                             1.19
                                                                -.0756541
                                                                              .3091215
       soil1
                  .1308078
                               .4632604
                                             0.28
                                                     0.778
                                                                -.7776913
                                                                              1.039307
       soil3
                  -.1524365
                               .1346335
                                            -1.13
                                                     0.258
                                                                -.416466
                                                                             .1115929
      soil11
                   -.299804
                               .2527981
                                            -1.19
                                                     0.236
                                                                -.7955659
                                                                             .1959579
      soil12
                  .0087922
                               .2391904
                                             0.04
                                                     0.971
                                                                -.4602836
                                                                              .477868
      soil13
                  .3263832
                               .2939373
                                             1.11
                                                     0.267
                                                                -.2500567
                                                                              .9028231
      soil34
                  -.3615046
                                .359567
                                             -1.01
                                                     0.315
                                                                -1.066651
                                                                              .3436414
      soil46
                  -.3152511
                               .2572601
                                            -1.23
                                                     0.221
                                                                -.8197634
                                                                              .1892612
      soil53
                   .4009233
                               .2169944
                                             1.85
                                                     0.065
                                                               -.0246241
                                                                              .8264707
                   .1923843
                               .0837448
                                                     0.022
                                                                .0281525
                                                                              .3566162
         loc1
                                             2.30
                                                                             .2298008
         loc2
                  .1081072
                               .0620538
                                             1.74
                                                     0.082
                                                                -.0135864
                  -.1983996
                                                     0.000
                                                                             -.1442791
                               .0275971
                                            -7.19
                                                               -.2525202
     ln_area
                  .1744971
                                                     0.000
                                                                .0952917
                                                                              .2537026
    Inhhsize
                               .0403883
                                             4.32
                    2.95245
                               .1827431
                                                     0.000
                                                                2.594073
                                                                              3.310827
        _cons
                                            16.16
                 1.0934009
     sigma_u
     sigma_e
                  1.0980639
          rho
                 .49787224
                               (fraction of variance due to u_i)
                             F(151, 2093) =
                                                                    \mathsf{Prob} \,>\, \mathsf{F} \,=\, 0.0000
F test that all u_i=0:
                                                   7.01
. predict residuals_v_hs, e
(306 missing values generated)
. label var residuals_v_hs "v Residuals w/ Log of Household Size"
. xtreg In_yield topo* soil* loc* In_area Intarea, fe i(fe_vtc)
Fixed-effects (within) regression
                                                     Number\ of\ obs
                                                                                  2574
Group variable: fe_vtc
                                                     Number of groups
                                                                                   162
R-sq: within = 0.0444
                                                     Obs per group: min =
                                                                                     1
        \mathsf{between} \, = \, 0.1359
                                                                      avg =
                                                                                  15.9
        overall = 0.1199
                                                                                    56
                                                                      max =
                                                     F(25,2387)
                                                                                  4.44
corr(u_i, Xb) = 0.1571
                                                     \mathsf{Prob} > \mathsf{F}
                                                                                0.0000
                                                                [95% Conf. Interval]
    In_yield |
                      Coef.
                               Std. Err.
                                                t
                                                     P>|t|
       topo1
                   -.416895
                               .1552245
                                            -2.69
                                                     0.007
                                                               -.7212839
                                                                             -.1125062
       topo2
                  -.2820464
                               .1378393
                                            -2.05
                                                     0.041
                                                               -.5523434
                                                                             -.0117494
       topo3
                  -.2604823
                               .1349537
                                            -1.93
                                                     0.054
                                                               -.5251209
                                                                             .0041563
                  -\,.2116314
                                                     0.111
       topo4
                               .1325778
                                            -1.60
                                                               -.4716109
                                                                               .048348
                                                     0.158
        soil7
                  -.1947183
                               .1377819
                                            -1.41
                                                                -.4649028
                                                                              .0754662
                                                                -.1396343
      soil21
                   .2387001
                               .1929334
                                             1.24
                                                     0.216
                                                                              .6170345
      soil31
                  .0778865
                                             0.54
                                                     0.593
                                                               -.2074447
                                                                              .3632177
                                .145506
      soil32
                  -.0016825
                               .1492457
                                             -0.01
                                                     0.991
                                                               -.2943471
                                                                              .290982
                                                               -.1509822
      soil33
                 .2170502
                               .1876799
                                             1.16
                                                     0.248
                                                                              .5850827
```

```
soil37
                   .1431607
                               .1981965
                                             0.72
                                                     0.470
                                                               -.2454944
                                                                              .5318157
      soil35
                   .1129503
                                .215735
                                             0.52
                                                     0.601
                                                                -.310097
                                                                              .5359977
      soil45
                    .030253
                               .1639322
                                             0.18
                                                     0.854
                                                               -.2912112
                                                                              .3517172
                                                               -.0843335
      soil51
                   .1071003
                               .0976226
                                             1.10
                                                     0.273
                                                                              .2985341
                   .1405978
                                .460244
                                                     0.760
                                                               -.7619214
                                                                              1.043117
        soil1
                                             0.31
                                            -0.87
                                                               -.3771515
        soil3
                  -.1157721
                               .1332917
                                                     0.385
                                                                              .1456073
      soil11
                   -.338055
                               .2327611
                                            -1.45
                                                     0.147
                                                               -.7944899
                                                                              .1183799
                  -.0647688
                                                     0.767
      soil12
                               .2187546
                                            -0.30
                                                               -.4937374
                                                                              .3641999
                               .2665937
                                                     0.539
                                                               -.3590274
                                                                              .6865307
      soil13
                  .1637517
                                             0.61
      soil34
                  -.1508433
                               .2645525
                                            -0.57
                                                     0.569
                                                               -.6696197
                                                                             .3679331
                  -.4207864
                               .2375957
                                            -1.77
                                                     0.077
                                                               -.8867016
                                                                              .0451288
      soil46
      soil53
                   .3912891
                               .2155743
                                             1.82
                                                     0.070
                                                               -.0314432
                                                                              .8140213
         loc1
                   .2016891
                               .0755108
                                             2.67
                                                     0.008
                                                                .0536156
                                                                             .3497627
         loc2
                    .108903
                               .0585879
                                             1.86
                                                     0.063
                                                               -.0059853
                                                                              .2237913
                                            -6.70
     ln₋area
                  -.1661606
                               .0248036
                                                     0.000
                                                                -.2147993
                                                                             -.1175219
     Intarea
                   .0654094
                               .0273768
                                             2.39
                                                     0.017
                                                                .0117246
                                                                              .1190942
                   3.341878
                               .1426763
                                            23.42
                                                     0.000
                                                                3.062096
                                                                              3.621661
        _cons
     sigma_u
                 1.1002254
                 1.0912119
     sigma_e
                               (fraction of variance due to u_i)
                 .50411295
          rho
F test that all u_i=0:
                              F(161, 2387) =
                                                   7.46
                                                                    \mathsf{Prob} \,>\, \mathsf{F} \,=\, 0.0000
  predict residuals_v_hta, e
(2 missing values generated)
. label var residuals_v_hta "v Residuals w/ Log of Total Area Cultivated by Household Head"
end of do-file
```

. log close

name: <unnamed>

 $log: \quad C: \setminus Users \setminus Dell \setminus Documents \setminus Graduate \ - \ Economics \setminus Development \ Economics \setminus PS1_SMSajidAlSanains \cap SMSajidAlSanains \cap SMSajidAlS$

log type: smcl

closed on: 23 Apr 2019, 14:28:27

1.3 Graphs





