



```

name: <unnamed>
log: /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/cap
> _risk_sharing_replication_log.smcl
log type: smcl
opened on: 12 Dec 2016, 16:10:27

1 .
2 .      *Import Main Scorecard File
3 .      gzuse "${raw}scorecard_clean_all.dta.gz", clear

4 .
5 .      *Drop MSI etc. Variables because they are null in older years
6 .      drop hbcu pbi annhi tribal aanapii hsi nanti menonly womenonly

7 .
8 .      *****
9 .      *          Do Some Cleaning and Apply Labels          *
10 .     *****
11 .     label define preddeg 0 "Not Classified" 1 "Certificate" 2 "Associates" ///
>         3 "Bachelors" 4 "Entirely Graduate"

12 .         label values preddeg preddeg

13 .         label variable preddeg "Predominant Undergrad Degree Awarded"

14 .
15 .     label define control 1 "Public" 2 "Private NonProfit" ///
>         3 "Private For-Profit"

16 .         label values control control

17 .         label variable control "Control of Institution"

18 .
19 .     label define region 0 "US Service School" 1 "New England" ///
>         2 "Mid Atlantic" 3 "Great Lakes" 4 "Plains" ///
>         5 "Southeast" 6 "Southwest" 7 "Rocky Mountains" ///
>         8 "Far West" 9 "Outlying Areas"

20 .
21 .         label values region region

22 .         label variable region "Region of institution"

23 .
24 .     label define iclevel 1 "4 year" 2 "2 year" 3 "Less-than-2yr"

25 .
26 .     *Assign Value Labels for Institution Levels to each year
27 .     foreach x in 9697 9798 9899 9900 0001 0102 0203 0304 0405 0506 0607 ///
>         0708 0809 1011 1112 1213 1314 1415{
28 .         2.         label values iclevel_`x' iclevel
29 .         3.         label variable iclevel_`x' "Level of Institution"
30 .         4.
31 .     }

```

```

32.
33.      *Drop states outside of 50 + DC
34.      drop if stabbr=="PR" | stabbr=="PW" | stabbr=="AS" | stabbr=="FM" ///
>         | stabbr=="GU" | stabbr=="MH" | stabbr=="MP" | stabbr=="VI"
(165 observations deleted)

35.
36.      /* Drop schools that do not have predominant degree classification or
>         are exclusively grad programs */
37.      drop if preddeg==4 | preddeg==0
(931 observations deleted)

38.
39.      *Rename existing merge variable so that next merge can take place
40.      rename _merge pre_merge

41.
42.      *****
43.      *      Merge on IPEDS Revenue and School Info for      *
44.      *      2008-09 School Year                               *
45.      *                                                         *
46.      *      Key data points coming in with this file:      *
47.      *      -Revenue from tuition and fees                 *
48.      *      (relevant accounting rules for each sector) *
49.      *      -12 Month FTE                                  *
50.      *                                                         *
51.      * Note: this file also comes in with a variable,      *
52.      * sector_new, that is already operationalized to      *
53.      * have the sectors we are interested (see sector      *
54.      * label for info on which schools are in each group)*
55.      *****
56.      merge 1:1 unitid using "${data_server}ipeds_clean_08_09.dta"

```

Result	# of obs.
not matched	2,482
from master	1,832 (_merge==1)
from using	650 (_merge==2)
matched	4,980 (_merge==3)

```

57.
58.      *Drop schools in using data but not master data
59.      drop if _merge==2
(650 observations deleted)

60.
61.      *Find duplicates in terms of opeid, generate a tag for those
62.      duplicates tag opeid6, gen(dup_tag)

Duplicates in terms of opeid6

63.
64.      *Drop the observations of duplicate groups that were only in master
65.      drop if _merge==1 & dup_tag==1
(129 observations deleted)

66.
67.      *Rename existing merge variable so that next merge can take place
>

```

```

68.          rename _merge ipeds_merge
69.
70.          label define sector 1 "Public 4yr" 2 "Public 2yr or less" ///
>              3 "Non-Profit" 4 "For-Profit"
71.          label values sector_new sector
72.
73.          *Operationalizing tuition per FTE variable
74.          gen tuit_rev_per_fte = .
(6,683 missing values generated)
75.          replace tuit_rev_per_fte = f1tufeft if !missing(f1tufeft)
(1,732 real changes made)
76.          replace tuit_rev_per_fte = f2tufeft if !missing(f2tufeft)
(1,467 real changes made)
77.          replace tuit_rev_per_fte = f3tufeft if !missing(f3tufeft)
(1,775 real changes made)
78.
79.          *Make tuition revenue decile
80.          egen marg_tuit_5_groups = cut(tuit_rev_per_fte), group(5)
(1709 missing values generated)
81.          label define marg_tuit_5_groups 0 "Tuit Rev/FTE Q1" ///
>              1 "Tuit Rev/FTE Q2" 2 "Tuit Rev/FTE Q3" 3 "Tuit Rev/FTE Q4" ///
>              4 "Tuit Rev/FTE Q5"
82.
83.          label values marg_tuit_5_groups marg_tuit_5_groups
84.
85.          tab marg_tuit_5_groups, generate(TuitRevQuintile)

```

marg_tuit_5_gro ups	Freq.	Percent	Cum.
Tuit Rev/FTE Q1	994	19.98	19.98
Tuit Rev/FTE Q2	995	20.00	39.99
Tuit Rev/FTE Q3	995	20.00	59.99
Tuit Rev/FTE Q4	994	19.98	79.98
Tuit Rev/FTE Q5	996	20.02	100.00
Total	4,974	100.00	

```

86.
87.          /*Calculate the cut points for Tution Revenue Quintiles,
>              store them as locals for display on the plot */
88.
89.          sum tuit_rev_per_fte if marg_tuit_5_groups==0

```

Variable	Obs	Mean	Std. Dev.	Min	Max
tuit_rev_p~e	994	1230.44	620.1318	0	2248

```

90.          local q1_max = r(max)

```

```

91.
92.          sum tuit_rev_per_fte if marg_tuit_5_groups==1

```

Variable	Obs	Mean	Std. Dev.	Min	Max
tuit_rev_p~e	995	3408.292	702.5141	2249	4692

```

93.          local q2_min = r(min)

```

```

94.          local q2_max = r(max)

```

```

95.
96.          sum tuit_rev_per_fte if marg_tuit_5_groups==2

```

Variable	Obs	Mean	Std. Dev.	Min	Max
tuit_rev_p~e	995	6127.643	914.0111	4694	7858

```

97.          local q3_min = r(min)

```

```

98.          local q3_max = r(max)

```

```

99.
100.         sum tuit_rev_per_fte if marg_tuit_5_groups==3

```

Variable	Obs	Mean	Std. Dev.	Min	Max
tuit_rev_p~e	994	9962.302	1252.823	7859	12331

```

101.         local q4_min = r(min)

```

```

102.         local q4_max = r(max)

```

```

103.
104.         sum tuit_rev_per_fte if marg_tuit_5_groups==4

```

Variable	Obs	Mean	Std. Dev.	Min	Max
tuit_rev_p~e	996	18861.7	13878.63	12338	330925

```

105.         local q5_min = r(min)

```

```

106
107     *Graph share of sectors in each quintile of tuition revenue per FTE
>
108     graph bar TuitRevQuintile*, over(sector_new) percentages stack ///
>     legend(cols(5) position(6) label(1 "Lowest") ///
>     label(2 "Low-Middle") label(3 "Middle") ///
>     label(4 "High-Middle") label(5 "High")) ///
>     ytitle("Perecent of Sector") ///
>     note("Note: Each quintile group has just under 1,000 schools with th
> e following levels" ///
>     "of tuition dollars per FTE: Quintile 1: Less than `$q1_max', Quinti
> le 2: Between `$q2_min'" ///
>     "and `$q2_max', Quintile 3: Between `$q3_min' and `$q3_max', Quintil
> e 4: Between `$q4_min'" ///
>     "and `$q4_max', Quintile 5: Greater than `$q5_min'")

```

```

109
110     *Export graph

```

```
111 graph export "${graphs}tuit_rev_per_fte_quintiles.png", replace
    (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/tuit_rev_p
    > er_fte_quintiles.png written in PNG format)
```

```
112 *****
113 *
114 * Merge on MSI Data *
115 * from: "Most Recent Cohorts Data Elements.csv" on *
116 * http://collegescorecard.ed.gov/data/ *
117 * Note: Data limited to just unitid and MSI data *
118 *****
119 merge 1:1 unitid using "${data_server}msi_info.dta"
```

Result	# of obs.
not matched	3,944
from master	1,462 (_merge==1)
from using	2,482 (_merge==2)
matched	5,221 (_merge==3)

```
120
121 *Drop schools in using data but not master data
122 drop if _merge==2
    (2,482 observations deleted)
```

```
123
124 *Rename existing merge variable so that next merge can take place
    >
125 rename _merge msi_merge
```

```
126
127 *Generate a Special Designation School Categorical Variable
128 gen spec_desig_school = 0
```

```
129 replace spec_desig_school = 1 if hbcu=="1"
    (99 real changes made)
```

```
130 replace spec_desig_school = 2 if pbi=="1"
    (89 real changes made)
```

```
131 replace spec_desig_school = 3 if annhi=="1"
    (27 real changes made)
```

```
132 replace spec_desig_school = 4 if tribal=="1"
    (33 real changes made)
```

```
133 replace spec_desig_school = 5 if hsi=="1"
    (279 real changes made)
```

```
134 replace spec_desig_school = 6 if nanti=="1"
    (28 real changes made)
```

```
135 replace spec_desig_school = 7 if aanapii=="1"
    (116 real changes made)
```

```
136
137 label define spec_desig 0 "No special designation" 1 "HBCU" ///
    > 2 "PBI" 3 "ANNHI" 4 "Tribal" 5 "HSI" 6 "NANTI" 7 "AANAPII"
```

```

138
139             label values spec_desig_school spec_desig
140
141             *****
142             *           Merge on Unemployment Data           *
143             *           2009-2013                           *
144             *           from: http://www.bls.gov/lau/#cntyaa   *
145             *           *****                             *
146             merge m:1 county_mode using "${data_server}county_employment_09_13_cohort.dt
> a"

```

Result	# of obs.
not matched	3,867
from master	2,005 (_merge==1)
from using	1,862 (_merge==2)
matched	4,678 (_merge==3)

```

147
148             *Drop schools in using data but not master data
149             drop if _merge==2
(1,862 observations deleted)

```

```

150             rename _merge unemp_merge

```

```

151             *****
152             *           Merge on *annual* Loan Volume           *
153             *           Data for 2014-15 school year from:       *
154             *           https://studentaid.ed.gov/sa/about/data-center/student/title-iv *
155             *           *                                     *
156             *           * Note: loan volume has been operationalized before merge here, so *
157             *           * that a variable "opeid_stub" exists which is just the core 6 digits *
158             *           * of OPEID, that can help identify main repeated campuses that need to *
159             *           * be collapsed or deleted                *
160             >

```

```

161             *****
162             *Tag the duplicates in terms of OPEID
163             duplicates tag opeid, gen(op_tag)
164

```

Duplicates in terms of **opeid**

```

165
166             *Drop specific campuses that are duplicates and not relevant main campuses
167             drop if unitid==445027 | unitid==438586
(2 observations deleted)

```

```

168
169             /*Drop if observation is a duplicate and it's sector is missing &
>             predominant degree is Bachelor's */
170             drop if op_tag & sector_new==. & preddeg!=3
(5 observations deleted)

```

```

171
172             *After these drops, reassess duplicates in terms of OPEID
173             duplicates tag opeid, gen(op_tag2)

```

Duplicates in terms of **opeid**

```

174
175     *Destring our OPEID stub
176     destring opeid_stub, replace
177     opeid_stub has all characters numeric; replaced as long
178     (1696 missing values generated)

177
178     *Drop observation if the 6 digit opeid in the data doesn't match the stub
179     drop if op_tag2 & opeid6!=opeid_stub
180     (4 observations deleted)

180
181     *Merge on Loan Volume keeping only the disbursement info
182     merge 1:1 opeid using "${data_server}direct_loan_volume_AY2014_2015_Q4.dta",
183     ///
184     >     keepusing(dl*disb_dollars)
185     >

```

Result	# of obs.	
not matched	3,050	
from master	2,121	(_merge==1)
from using	929	(_merge==2)
matched	4,551	(_merge==3)

```

183
184     *Drop observations only in the loan data
185     drop if _merge==2
186     (929 observations deleted)

186
187     *Drop the merge variable
188     drop _merge

189
190     *Rename variables
191     rename dl_unsub_grab_disb_dollars dl_unsub_grad_disb_dollars

192
193     *Generate total direct loan volume across all DL types
194     egen loan_volume_14_15 = rowtotal(dl*dollars)

195
196     *Drop the grad dollars from the calculation
197     drop dl_unsub_grad_disb_dollars dl_gplus_disb_dollars

198
199     *Generate a new total, but with no grad amounts
200     egen loan_volume_14_15_no_grad = rowtotal(dl*dollars)

201
202     *Drop individual disbursement variables
203     drop dl*disb_dollars

204
205     *****
206     *           Merge on *annual* Grant Volume           *
207     *           Data for 2014-15 school year from:         *
208     *           https://studentaid.ed.gov/sa/about/data-center/student/title-iv *

```

```

209 *****
210
211 *Merge, keeping only disbursement variables for each grant program
212 merge 1:1 opeid using "${data_server}grant_volume_1415AY_clean.dta", ///
> keepusing(pell_disb teach_disb iasg_disb)

```

Result	# of obs.	
not matched	2,091	
from master	1,653	(<u>_merge</u> ==1)
from using	438	(<u>_merge</u> ==2)
matched	5,019	(<u>_merge</u> ==3)

```

213
214 *Sum up grant volume totals
215 egen grant_volume_14_15 = rowtotal(pell_disb teach_disb iasg_disb)

```

```

216
217 *Drop individual repayment variables
218 drop pell_disb teach_disb iasg_disb

```

```

219
220 *Drop schools only in grant data
221 drop if _merge==2
(438 observations deleted)

```

```

222
223 *Drop merge variable
224 drop _merge

```

```

225
226 *Generate Tota Aid Volume (loans + grants)
227 gen aid_volume_14_15 = loan_volume_14_15+grant_volume_14_15

```

```

228 *****
229 *
230 *
231 *
232 * Operationalizing *
233 *
234 *
235 *****

```

```

>
236 /* Generate Ratios of Repayment Rate for Non-Completers to Overall
> Repayment Rate and Repayment Rate for Completers to Overall
> Repayment Rate
>
> *Note - earliest CDR we have is 2010 so this is used for all
> years 2010 and before
> */

```

```

237
238 *07-08
239 gen comp_rpy_ratio_p0708 = rpy_3yr_rt_p0708/compl_rpy_3yr_rt_p0708
(4,096 missing values generated)
240 gen noncomp_rpy_ratio_p0708 = rpy_3yr_rt_p0708/noncom_rpy_3yr_rt_p0708
(4,096 missing values generated)

```



```

241
242     gen comp_adjusted_cdr_p0708 = comp_rpy_ratio_p0708*cdr3_10
    (4,206 missing values generated)

243     gen noncomp_adjusted_cdr_p0708 = noncomp_rpy_ratio_p0708*cdr3_10
    (4,206 missing values generated)

244
245
246 *Generate Necessary Default Amount and Withdrawal Calculations
247
248     /*
    >     Set Withdrawal rates to the borrower withdrawal rate for those
    >     where it's not missing, and to the overall withdrawal rate
    >     when it is missing, and to average of previous years loan withdraw rate
    >     or overall rate, as appropriate, and missing when all are missing
    >     */
249
250     *****
251     ***Begin with calculations for original school:
252     *****
253
254     *Withdrawal rate defaults to withdrawal rate for borrowers at original schoo
    > 1
255     gen wdraw_best_orig_yr6_0708 = loan_wdraw_orig_yr6_rt_0708
    (5,586 missing values generated)

256
257     *Replace with overall withdrawal rate at school when missing
258     replace wdraw_best_orig_yr6_0708 = wdraw_orig_yr6_rt_0708 ///
    >     if missing(loan_wdraw_orig_yr6_rt_0708)
    (2,212 real changes made)

259
260     *Calculated mean withdrawal rate for borrowers in all years of data
261     egen loan_wdraw_orig_mean_all_years = rowmean(loan_wdraw_orig_yr6_rt*)
    (5134 missing values generated)

262
263     *Calculate same for all students
264     egen wdraw_orig_mean_all_years = rowmean(wdraw_orig_yr6_rt*)
    (2687 missing values generated)

265
266     *Replace with borrower withdrawal rate at school across all years when missi
    > ng
267     replace wdraw_best_orig_yr6_0708 = loan_wdraw_orig_mean_all_years ///
    >     if missing(wdraw_best_orig_yr6_0708)
    (143 real changes made)

268
269     *Replace with overall withdrawal rate at school across all years when missin
    > g
270     replace wdraw_best_orig_yr6_0708 = wdraw_orig_mean_all_years ///
    >     if missing(wdraw_best_orig_yr6_0708)
    (544 real changes made)

271
272     *****
273     ***Same process as above but for 2yr schools students transfer to

```

```
274      *****
275      *2yr Transfer
276      gen wdraw_best_2yr_trans_yr6_0708 = loan_wdraw_2yr_trans_yr6_rt_0708
      (5,793 missing values generated)

277
278      gen imp_wdraw_best_2yr_trans_1 = missing(loan_wdraw_2yr_trans_yr6_rt_0708) /
> //
>
      & !missing(wdraw_2yr_trans_yr6_rt_0708)
279
      replace wdraw_best_2yr_trans_yr6_0708 = wdraw_2yr_trans_yr6_rt_0708
> ///
>
      if missing(loan_wdraw_2yr_trans_yr6_rt_0708)
>
      (1,900 real changes made)

280
281      *Calculate historical rates
282      egen loan_wdraw_2yr_trans_hist_mean = rowmean(loan_wdraw_2yr_trans_yr6_rt*)
      (5533 missing values generated)

283      egen wdraw_2yr_trans_hist_mean = rowmean(wdraw_2yr_trans_yr6_rt*)
      (3290 missing values generated)

284
285      replace wdraw_best_2yr_trans_yr6_0708 = loan_wdraw_2yr_trans_hist_mean ///
>
      if missing(wdraw_best_2yr_trans_yr6_0708)
      (70 real changes made)

286
287      replace wdraw_best_2yr_trans_yr6_0708 = wdraw_2yr_trans_hist_mean ///
>
      if missing(wdraw_best_2yr_trans_yr6_0708)
      (533 real changes made)

288
289      *****
290      ***Same process as above but for 4yr schools students transfer to
291      *****
292      *4yr Transfer
293      gen wdraw_best_4yr_trans_yr6_0708 = loan_wdraw_4yr_trans_yr6_rt_0708
      (5,651 missing values generated)

294
295      replace wdraw_best_4yr_trans_yr6_0708 = wdraw_4yr_trans_yr6_rt_0708 ///
>
      if missing(loan_wdraw_4yr_trans_yr6_rt_0708)
      (1,771 real changes made)

296
297      *Calculate historical rates
298      egen loan_wdraw_4yr_trans_hist_mean = rowmean(loan_wdraw_4yr_trans_yr6_rt*)
      (5272 missing values generated)

299      egen wdraw_4yr_trans_hist_mean = rowmean(wdraw_4yr_trans_yr6_rt*)
      (3393 missing values generated)

300
301      replace wdraw_best_4yr_trans_yr6_0708 = loan_wdraw_4yr_trans_hist_mean ///
>
      if missing(wdraw_best_4yr_trans_yr6_0708)
      (61 real changes made)
```

```

302
303     replace wdraw_best_4yr_trans_yr6_0708 = wdraw_4yr_trans_hist_mean ///
>     if missing(wdraw_best_4yr_trans_yr6_0708)
(426 real changes made)

304
305
306     *Calculate Total Withdrawals
307     egen wdraw_sum_yr6_0708 = rowtotal(wdraw_best_orig_yr6_0708 ///
>     wdraw_best_2yr_trans_yr6_0708 wdraw_best_4yr_trans_yr6_0708)

308
309     replace wdraw_sum_yr6_0708 = . if wdraw_best_orig_yr6_0708==. ///
>     & wdraw_best_2yr_trans_yr6_0708==. & wdraw_best_2yr_trans_yr6_0708==.
(2,559 real changes made, 2,559 to missing)

310
311
312 *****
313 *Calculate N of borrowers who withdraw
314 *****
315     gen loan_wdraws_n_yr6_0708 = loan_yr6_n_0708*wdraw_sum_yr6_0708
(3,858 missing values generated)

316
317     *Original
318     gen comp_best_orig_yr6_0708 = loan_comp_orig_yr6_rt_0708
(5,280 missing values generated)

319
320     replace comp_best_orig_yr6_0708 = comp_orig_yr6_rt_0708 ///
>     if missing(loan_comp_orig_yr6_rt_0708)
(2,481 real changes made)

321
322     egen loan_comp_orig_mean_all_years = rowmean(loan_comp_orig_yr6_rt*)
(5097 missing values generated)

323     egen comp_orig_mean_all_years = rowmean(comp_orig_yr6_rt*)
(2126 missing values generated)

324
325     replace comp_best_orig_yr6_0708 = loan_comp_orig_mean_all_years ///
>     if missing(comp_best_orig_yr6_0708)
(44 real changes made)

326     replace comp_best_orig_yr6_0708 = comp_orig_mean_all_years ///
>     if missing(comp_best_orig_yr6_0708)
(629 real changes made)

327
328     *2yr
329     gen comp_best_2yr_yr6_0708 = loan_comp_2yr_trans_yr6_rt_0708
(5,917 missing values generated)

330
331     replace comp_best_2yr_yr6_0708 = comp_2yr_trans_yr6_rt_0708 ///
>     if missing(loan_comp_2yr_trans_yr6_rt_0708)
(1,561 real changes made)

```

```
332
333     egen loan_comp_2yr_mean_all_years = rowmean(loan_comp_2yr_trans_yr6_rt*)
      (5729 missing values generated)

334     egen comp_2yr_trans_mean_all_years = rowmean(comp_2yr_trans_yr6_rt*)
      (3807 missing values generated)

335
336     replace comp_best_2yr_yr6_0708 = loan_comp_2yr_mean_all_years ///
      >         if missing(comp_best_2yr_yr6_0708)
      (49 real changes made)

337
338     replace comp_best_2yr_yr6_0708 = comp_2yr_trans_mean_all_years ///
      >         if missing(comp_best_2yr_yr6_0708)
      (500 real changes made)

339
340     *4yr
341     gen comp_best_4yr_yr6_0708 = loan_comp_4yr_trans_yr6_rt_0708
      (5,717 missing values generated)

342
343     replace comp_best_4yr_yr6_0708 = comp_4yr_trans_yr6_rt_0708 ///
      >         if missing(loan_comp_4yr_trans_yr6_rt_0708)
      (1,504 real changes made)

344
345     egen loan_comp_4yr_mean_all_years = rowmean(loan_comp_4yr_trans_yr6_rt*)
      (5485 missing values generated)

346     egen comp_4yr_trans_mean_all_years = rowmean(comp_4yr_trans_yr6_rt*)
      (3931 missing values generated)

347
348     replace comp_best_4yr_yr6_0708 = loan_comp_4yr_mean_all_years ///
      >         if missing(comp_best_4yr_yr6_0708)
      (27 real changes made)

349
350     replace comp_best_4yr_yr6_0708 = comp_4yr_trans_mean_all_years ///
      >         if missing(comp_best_4yr_yr6_0708)
      (255 real changes made)

351
352
353     *Calculate N of borrowers who don't withdraw
354     egen comp_sum_yr6_0708 = rowtotal(comp_best_orig_yr6_0708 ///
      >         comp_best_2yr_yr6_0708 comp_best_4yr_yr6_0708), missing
      (2081 missing values generated)

355
356     replace comp_sum_yr6_0708 = . if comp_best_orig_yr6_0708==. ///
      >         & comp_best_2yr_yr6_0708==. & comp_best_4yr_yr6_0708==.
      (0 real changes made)

357
358
359     gen loan_comp_n_6yr_0708 = loan_yr6_n_0708*comp_sum_yr6_0708
      (3,763 missing values generated)
```

```
360
361 *Set locals for debt amounts
362 *****
363 * Average Debt amounts come from Baccalaureate and Beyond Survey
364 *****
365
366 *Drops
367 local pub4yr_drop_debt = 9325.33
368
369 local pub2yr_drop_debt = 5694.09
370
371 local nfp4yr_drop_debt = 10427.24
372
373 local fp_drop_debt = 7461.9
374
375 *Certs
376 local pub4yr_cert_debt = 11345.11
377
378 local pub2yr_cert_debt = 7436.61
379
380 local fp_cert_debt = 5068.16
381
382 *AAs
383 local pub4yr_aa_debt = 12798.54
384
385 local pub2yr_aa_debt = 11389.58
386
387 local nfp4yr_aa_debt = 13467.61
388
389 local fp_aa_debt = 15567.17
390
391 *BAs
392 local pub4yr_ba_debt = 15504.33
393
394 local pub2yr_ba_debt = 15353.53
395
396 local nfp4yr_ba_debt = 17585.63
397
398 local fp_ba_debt = 27724.3
399
400
401
402 *Calculate Debt Totals
403 gen wdraw_debt_totals = .
(6,672 missing values generated)
```

```
404         replace wdraw_debt_totals = noncomp_adjusted_cdr_p0708*loan_wdraws_n
> _yr6_0708*`pub4yr_drop_debt' ///
>                                     if sector_new==1
(465 real changes made)

405         replace wdraw_debt_totals = noncomp_adjusted_cdr_p0708*loan_wdraws_n
> _yr6_0708*`pub2yr_drop_debt' ///
>                                     if sector_new==2
(497 real changes made)

406         replace wdraw_debt_totals = noncomp_adjusted_cdr_p0708*loan_wdraws_n
> _yr6_0708*`nfp4yr_drop_debt' ///
>                                     if sector_new==3
(506 real changes made)

407         replace wdraw_debt_totals = noncomp_adjusted_cdr_p0708*loan_wdraws_n
> _yr6_0708*`fp_drop_debt' ///
>                                     if sector_new==4
(537 real changes made)

408
409         ****NOTE**** This completion data isn't great - only has 1082 observations i
> n loan_comp variable
410         gen comp_debt_totals = .
(6,672 missing values generated)

411         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`pub4yr_cert_debt' ///
>                                     if sector_new==1 & preddeg==1
(1 real change made)

412         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`pub2yr_cert_debt' ///
>                                     if sector_new==2 & preddeg==1
(99 real changes made)

413         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`fp_cert_debt' ///
>                                     if sector_new==4 & preddeg==1
(433 real changes made)

414
415         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`pub4yr_aa_debt' ///
>                                     if sector_new==1 & preddeg==2
(45 real changes made)

416         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`pub2yr_aa_debt' ///
>                                     if sector_new==2 & preddeg==2
(402 real changes made)

417         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`nfp4yr_aa_debt' ///
>                                     if sector_new==3 & preddeg==2
(43 real changes made)

418         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`fp_aa_debt' ///
>                                     if sector_new==4 & preddeg==2
(92 real changes made)
```

```

419
420         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`pub4yr_ba_debt' ///
>                                     if sector_new==1 & preddeg==3
(419 real changes made)
421         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`pub2yr_ba_debt' ///
>                                     if sector_new==2 & preddeg==3
(0 real changes made)
422         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`nfp4yr_ba_debt' ///
>                                     if sector_new==3 & preddeg==3
(448 real changes made)
423         replace comp_debt_totals = comp_adjusted_cdr_p0708*loan_comp_n_6yr_0
> 708*`fp_ba_debt' ///
>                                     if sector_new==4 & preddeg==3
(15 real changes made)

```

```

424         *Set Data Signature
425         datasignature set
426         6672:21279(70523):972536298:2088917474      (data signature set)

```

```

427         datasignature report
428         (data signature set on Monday 12dec2016 16:11)

```

Data signature summary

1. previous data signature **6672:21279(70523):972536298:2088917474**
2. same data signature today (same as 1)
3. full data signature today (same as 1)

Comparison of current data with previously set data signature

variables	number	notes
original # of variables	21,279	(values unchanged)
added variables	0	
dropped variables	0	
resulting # of variables	21,279	

```

429
430 *****
431 *
432 *                               Penalties
433 *
434 *****
435
436 *****
437 *Option 1: Penalty Schedule Based on group-specific CDR as percentage of $ in default
> t
438 *****
439
440 *****

```

```

441 * 1.1 Penalties based on occurrence of defaults
442 *****
443 *** Penalty Calculations
444     gen drop_penalty = noncomp_adjusted_cdr_p0708*wdraw_debt_totals
      (4,667 missing values generated)

445
446     gen comp_penalty = comp_adjusted_cdr_p0708*comp_debt_totals
      (4,675 missing values generated)

447
448     egen total_penalty = rowtotal(drop_penalty comp_penalty)

449     replace total_penalty = . if missing(drop_penalty) ///
      & missing(comp_penalty)
      (4,660 real changes made, 4,660 to missing)

450
451 *** Graphs
452     *Graphs of Penalty in Thousands of dollars
453     gen penalty_1k = total_penalty/1000
      (4,660 missing values generated)

454
455     graph hbox penalty_1k, nooutsides over(sector_new) ///
      >         title("Distribution of Penalty by Sector") ///
      >         ytitle("Penalty in Thousands of $")

456
457     graph export "${graphs}box_penalty_by_sector.pdf", replace
      (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_penalt
      > y_by_sector.pdf written in PDF format)

458     graph export "${graphs}box_penalty_by_sector.png", replace
      (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_penalt
      > y_by_sector.png written in PNG format)

459
460     *Burden Calculations & Graphs
461     gen penalty_burden_cdr_loan = total_penalty/loan_volume_14_15
      (4,710 missing values generated)

462     gen penalty_burden_all_aid = total_penalty/aid_volume_14_15
      (4,687 missing values generated)

463
464     graph hbox penalty_burden_cdr_loan, nooutsides over(sector_new) ///
      >         ytitle("Ratio of Penalty to Loan Volume") ///
      >         title("Penalty Burdens by Sector")

465
466     graph export "${graphs}box_penalty_burden_by_sector.pdf", replace
      (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_penalt
      > y_burden_by_sector.pdf written in PDF format)

467     graph export "${graphs}box_penalty_burden_by_sector.png", replace
      (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_penalt
      > y_burden_by_sector.png written in PNG format)

468

```



```
469
470 *****
471 *
472 *                               Bonuses                               *
473 *
474 *****
475
476         *Fix up Income variables a bit so that they are in thousands of dollars
477         gen dep_inc_1k_0810 = dep_inc_avg_p0810/1000
         (2,024 missing values generated)

478         gen ind_inc_1k_0810 = ind_inc_avg_p0810/1000
         (2,024 missing values generated)

479
480         *Make undergrads measure in hundreds
481         gen ugds_per100_0910 = ugds_0910/100
         (1,713 missing values generated)

482
483         *Multiply proportion vars by 100 so 1-unit changes are percentage points
484         gen first_gen_100_0810 = par_ed_pct_1stgen_p0810*100
         (2,264 missing values generated)

485         gen pctpell_100_0910 = pctpell_0910*100
         (1,638 missing values generated)

486         gen pct_dependent_100_0810 = dependent_p0810*100
         (2,036 missing values generated)

487         gen pct_white_100_0910 = ugds_white_0910*100
         (1,714 missing values generated)

488         gen pct_black_100_0910 = ugds_black_0910*100
         (1,714 missing values generated)

489         gen pct_hisp_100_0910 = ugds_hisp_0910*100
         (1,714 missing values generated)

490         gen pct_asian_100_0910 = ugds_asian_0910*100
         (1,714 missing values generated)

491         gen pct_aian_100_0910 = ugds_aian_0910*100
         (1,714 missing values generated)

492         gen pct_nhpi_100_0910 = ugds_nhpi_0910*100
         (1,714 missing values generated)

493         gen pct_2mor_100_0910 = ugds_2mor_0910*100
         (1,714 missing values generated)

494         gen pct_nra_100_0910 = ugds_nra_0910*100
         (1,714 missing values generated)

495         gen pct_unkn_100_0910 = ugds_unkn_0910*100
         (1,714 missing values generated)

496         gen pct_men_100_0910 = ugds_men_0910*100
         (1,714 missing values generated)
```

```

497
498
499 *****
500 *The Prediction Model for All Repayers
501 *****
502 areg rpy_5yr_rt_p0910 first_gen_100_0810 pctpell_100_0910 i.preddeg ///
> unemploymentrate ugds_per100_0910 dep_inc_1k_0810 ind_inc_1k_0810 //
> /
> i.spec_desig_school pct_dependent_100_0810 pct*_0910 ///
> [w=rpy_5yr_n_p0910], vce(cluster countyfipscode) absorb(stabbr)
(analytic weights assumed)
(analytic weights assumed)
(sum of wgt is 4.2145e+06)

```

```

Linear regression, absorbing indicators      Number of obs   =      3,277
                                           F( 26, 183)    =      748.94
                                           Prob > F       =      0.0000
                                           R-squared     =      0.8875
                                           Adj R-squared =      0.8848
                                           Root MSE     =      0.0615

```

(Std. Err. adjusted for 184 clusters in countyfipscode)

> e)

	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interva	
rpy_5yr_rt_p0910						
first_gen_100_0810	-.0024829	.0004148	-5.99	0.000	-.0033013	-.00166
pctpell_100_0910	-.0015147	.0001878	-8.07	0.000	-.0018851	-.00114
preddeg Associates	.0022649	.0066775	0.34	0.735	-.0109099	.01543
Bachelors	.0645305	.0098321	6.56	0.000	.0451317	.08392
unemploymentrate_09_13	-.0026973	.0017658	-1.53	0.128	-.0061812	.00078
ugds_per100_0910	.0000166	.0000374	0.44	0.658	-.0000572	.00009
dep_inc_1k_0810	.0012196	.0001867	6.53	0.000	.0008512	.00158
ind_inc_1k_0810	.0038468	.0002627	14.64	0.000	.0033284	.00436
spec_desig_school HBCU	-.1421279	.0141698	-10.03	0.000	-.1700851	-.11417
PBI	-.0171177	.0128242	-1.33	0.184	-.04242	.00818
ANNHI	.0288158	.0228372	1.26	0.209	-.0162422	.07387
Tribal	-.0810335	.0143257	-5.66	0.000	-.1092982	-.05276
HSI	.0452315	.008206	5.51	0.000	.029041	.0614
NANTI	.0205628	.0168893	1.22	0.225	-.0127601	.05388
AANAPII	.0593557	.0108101	5.49	0.000	.0380273	.08068
pct_dependent_100_0810	.0021957	.0002158	10.17	0.000	.00177	.00262
pct_white_100_0910	.0002186	.0000582	3.76	0.000	.0001038	.00033
pct_black_100_0910	-.0013101	.0001949	-6.72	0.000	-.0016947	-.00092

> 94	pct_hisp_100_0910		-.0004392	.0005163	-0.85	0.396	-.0014578	.00057
> 29	pct_asian_100_0910		.0007254	.0006678	1.09	0.279	-.0005921	.00204
> 47	pct_aian_100_0910		-.0020947	.0012375	-1.69	0.092	-.0045364	.0003
> 12	pct_nhpi_100_0910		-.0016916	.0021757	-0.78	0.438	-.0059844	.00260
> 22	pct_2mor_100_0910		-.0012631	.0012242	-1.03	0.304	-.0036783	.00115
> 68	pct_nra_100_0910		.0005179	.0005829	0.89	0.376	-.0006323	.0016
> 67	pct_unkn_100_0910		-.0013468	.0002028	-6.64	0.000	-.0017468	-.00094
> 36	pct_men_100_0910		-.0004425	.0001262	-3.51	0.001	-.0006914	-.00019
> 53	_cons		.5774386	.0290301	19.89	0.000	.5201619	.63471

— stabbr | absorbed (51 categorie
 > s)

503
 504 *Store Estimates
 505 estimates store base

506
 507 *Display Information Criterion Measures
 508 estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
<u>base</u>	3,277	1158.373	4527.166	27	-9000.331	-8835.775

Note: N=Obs used in calculating BIC; see **[R] BIC note**.

509
 510 *Generate Predicted Values
 511 predict yhat_rpy, xb
 (2,714 missing values generated)

512
 513 *Set buffer amounts schools need to exceed to qualify
 514 local buff_amt = .03

515 local buff_n = 10

516
 517 gen buf_ub = yhat_rpy + `buff_amt'
 (2,714 missing values generated)

518
 519 *Calculate number of repayers above expectation (repayers_delta)
 >
 520 gen num_repayers_0910 = round(rpy_5yr_n_p0910*rpy_5yr_rt_p0910)
 (2,929 missing values generated)

```

521          gen pred_num_repayers_0910 = round(rpy_5yr_n_p0910*yhat_rpy)
(3,313 missing values generated)
522          gen repayers_delta = num_repayers_0910-pred_num_repayers_0910
(3,395 missing values generated)
523
524          gen buffer_bonus_qual = 1 if (rpy_5yr_rt_p0910 > buf_ub & ///
>                                     !missing(rpy_5yr_rt_p0910)) ///
>                                     & (num_repayers_0910>`buff_n' ///
>                                     & !missing(num_repayers_0910))
(5,366 missing values generated)
525
526          replace buffer_bonus_qual = 0 if (rpy_5yr_rt_p0910 <= buf_ub) ///
>                                     | (repayers_delta <= `buff_n')
(4,871 real changes made)
527
528
529          *****
530          *The Prediction Model for Pell Repayers
531          *****
532          areg pell_rpy_5yr_rt_p0910 first_gen_100_0810 pctpell_100_0910 i.preddeg //
> /
>          unemploymentrate ugds_per100_0910 dep_inc_1k_0810 ind_inc_1k_0810 //
> /
>          i.spec_desig_school pct_dependent_100_0810 pct_*_0910 ///
>          [w=pell_rpy_5yr_n_p0910], vce(cluster countyfipscode) absorb(stabbr)
>
(analytic weights assumed)
(analytic weights assumed)
(sum of wgt is 2.5183e+06)

```

```

Linear regression, absorbing indicators          Number of obs   =      2,698
                                                F( 26, 178)      =      649.26
                                                Prob > F         =      0.0000
                                                R-squared        =      0.8847
                                                Adj R-squared    =      0.8813
                                                Root MSE        =      0.0650

```

(Std. Err. adjusted for 179 clusters in countyfipscod

> e)

	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interva	
pell_rpy_5yr_rt_p0910 > 1]						
first_gen_100_0810 > 02	-.0030618	.0005075	-6.03	0.000	-.0040633	-.00206
pctpell_100_0910 > 76	-.0011781	.0002119	-5.56	0.000	-.0015961	-.000
preddeg > 91 Associates	-.003745	.0069799	-0.54	0.592	-.0175191	.01002
Bachelors > 03	.069021	.0115839	5.96	0.000	.0461616	.09188
unemploymentrate_09_13 > 97	-.0018377	.0019345	-0.95	0.343	-.0056552	.00197
ugds_per100_0910 > 61	.0000414	.000048	0.86	0.390	-.0000534	.00013
dep_inc_1k_0810 > 49	.0011001	.0002153	5.11	0.000	.0006753	.00152
ind_inc_1k_0810 > 93	.0041471	.0003001	13.82	0.000	.003555	.00473
spec_desig_school HBCU	-.1404074	.0148864	-9.43	0.000	-.169784	-.11103

> 08							
	PBI	-.006023	.0127235	-0.47	0.637	-.0311312	.01908
> 53							
	ANNHI	.0331771	.0406748	0.82	0.416	-.0470899	.1134
> 44							
	Tribal	-.1155129	.0095874	-12.05	0.000	-.1344324	-.09659
> 34							
	HSI	.057454	.0090853	6.32	0.000	.0395252	.07538
> 27							
	NANTI	.0202496	.0154578	1.31	0.192	-.0102545	.05075
> 37							
	AANAII	.0701206	.0132351	5.30	0.000	.0440027	.09623
> 84							
	pct_dependent_100_0810	.0025671	.0002581	9.94	0.000	.0020577	.00307
> 65							
	pct_white_100_0910	.0001526	.0000699	2.18	0.030	.0000146	.00029
> 07							
	pct_black_100_0910	-.0010817	.0001778	-6.08	0.000	-.0014327	-.00073
> 07							
	pct_hisp_100_0910	-.0001694	.0004971	-0.34	0.734	-.0011504	.00081
> 16							
	pct_asian_100_0910	.0007735	.0008332	0.93	0.354	-.0008707	.00241
> 78							
	pct_aian_100_0910	-.0018596	.0010494	-1.77	0.078	-.0039305	.00021
> 14							
	pct_nhpi_100_0910	-.0038624	.0038458	-1.00	0.317	-.0114517	.00372
> 68							
	pct_2mor_100_0910	-.0025017	.0014486	-1.73	0.086	-.0053603	.0003
> 57							
	pct_nra_100_0910	.0012582	.0007143	1.76	0.080	-.0001513	.00266
> 77							
	pct_unkn_100_0910	-.0013141	.0002209	-5.95	0.000	-.00175	-.00087
> 82							
	pct_men_100_0910	-.0006159	.0001453	-4.24	0.000	-.0009026	-.00032
> 92							
	_cons	.5131621	.0357732	14.34	0.000	.442568	.58375
> 63							

— stabbr | absorbed (51 categorie
 > s)

533
 534 *Store estimates
 535 estimates store pell

536
 537 *Display Information Criterion
 538 estat ic

Akaike's information criterion and Bayesian information criterion

Model	Obs	ll(null)	ll(model)	df	AIC	BIC
<u>pell</u>	2,698	830.9801	3584.813	27	-7115.626	-6956.319

Note: N=Obs used in calculating BIC; see [R] BIC note.

```

539
540      *Generate Predictions
541      predict yhat_pell, xb
      (2,714 missing values generated)

542
543      *Calculate unexpected number of repayers (pell_repayers_delta)
544      gen pell_num_repayers_0910 = round(pell_rpy_5yr_n_p0910*pell_rpy_5yr
> _rt_p0910)
      (3,719 missing values generated)

545      gen pell_pred_num_repayers_0910 = round(pell_rpy_5yr_n_p0910*yhat_pe
> ll)
      (3,465 missing values generated)

546
547      gen pell_repayers_delta = pell_num_repayers_0910-pell_pred_num_repay
> ers_0910
      (3,974 missing values generated)

548
549      *Set buffer amounts schools need to exceed to qualify
550      local buff_amt = .03

551      local pell_buff_n = 10

552
553      gen pell_buf_ub = yhat_pell + `buff_amt'
      (2,714 missing values generated)

554
555      gen pell_buffer_bonus_qual = 1 if (pell_rpy_5yr_rt_p0910 > pell_buf_
> ub ///
>                                     & !missing(pell_rpy_5yr_rt_p0910)) ///
>                                     & (pell_repayers_delta > `pell_buff_n' ///
>                                     & !missing(pell_repayers_delta))
      (5,806 missing values generated)

556
557      replace pell_buffer_bonus_qual = 0 if (pell_rpy_5yr_rt_p0910 <= pell
> _buf_ub) ///
>                                     | (pell_repayers_delta <= `pell_buff_n')
      (4,546 real changes made)

558
559      gen pell_buffer_bonus_qual_or = 1 if (pell_rpy_5yr_rt_p0910 > pell_b
> uf_ub ///
>                                     & !missing(pell_rpy_5yr_rt_p0910)) /
> //
>                                     | (pell_repayers_delta > `pell_buff_n
> ' ///
>                                     & !missing(pell_repayers_delta))
      (5,482 missing values generated)

560
561      *Export Regression Results
562      outreg2 [base pell] using "${spread}repayment_regression.xls", ///
> replace addstat(RMSE, e(rmse)) label ///
> addtext(State FE, YES, SE Clustered At, County Level)
      /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/spreadsheets/repayment
> _regression.xls
      dir : seeout

```

```

563
564 *****
565 * Calculate Bonuses
566 *****
567
568 *****
569 * Set Bonus Parameter here *
570 *****
571 local per_stu_amt = 5000
572
572 local per_stu_amt2 = 2750
573
573 local per_stu_amt3 = 2000
574
574 local per_stu_amt4 = 1500
575
575 local per_stu_amt5 = 750
576
576 *Generate Bonuses
577 gen bonus = round(rePAYERS_delta*\per_stu_amt') if marg_tuit_5_groups==0 ///
578 & buffer_bonus_qual
> (6,474 missing values generated)
579
579 replace bonus = round(rePAYERS_delta*\per_stu_amt2') ///
> if marg_tuit_5_groups==1 & buffer_bonus_qual
(269 real changes made)
580
580 replace bonus = round(rePAYERS_delta*\per_stu_amt3') ///
> if marg_tuit_5_groups==2 & buffer_bonus_qual
(228 real changes made)
581
581 replace bonus = round(rePAYERS_delta*\per_stu_amt4') ///
> if marg_tuit_5_groups==3 & buffer_bonus_qual
(234 real changes made)
582
582 replace bonus = round(rePAYERS_delta*\per_stu_amt5') ///
> if marg_tuit_5_groups==4 & buffer_bonus_qual
(191 real changes made)
583
583
584 replace bonus = 0 if buffer_bonus_qual==0
(4,871 real changes made)
585
585 replace bonus = . if yhat_rpy==.
(2,714 real changes made, 2,714 to missing)
586
587 sum bonus, d

```

bonus				
	Percentiles	Smallest		
1%	0	0		
5%	0	0		
10%	0	0	Obs	3,277
25%	0	0	Sum of Wgt.	3,277
50%	0		Mean	65046.31
		Largest	Std. Dev.	190833.2
75%	43500	2205000		
90%	189750	2555000	Variance	3.64e+10
95%	352000	2659250	Skewness	6.577266
99%	860750	2948000	Kurtosis	64.98015

```

588
589 *Calculate Bonus for Pell Repayers
590     local pell_per_stu_amt = `per_stu_amt'*2
591     local pell_per_stu_amt2 = `per_stu_amt2'*2
592     local pell_per_stu_amt3 = `per_stu_amt3'*2
593     local pell_per_stu_amt4 = `per_stu_amt4'*2
594     local pell_per_stu_amt5 = `per_stu_amt5'*2
595
596     gen pell_bonus = pell_repayers_delta*`pell_per_stu_amt' if ///
>     marg_tuit_5_groups==0 & pell_buffer_bonus_qual
(6,517 missing values generated)
597     replace pell_bonus = pell_repayers_delta*`pell_per_stu_amt2' ///
>     if marg_tuit_5_groups==1 & pell_buffer_bonus_qual
(242 real changes made)
598     replace pell_bonus = pell_repayers_delta*`pell_per_stu_amt3' ///
>     if marg_tuit_5_groups==2 & pell_buffer_bonus_qual
(177 real changes made)
599     replace pell_bonus = pell_repayers_delta*`pell_per_stu_amt4' ///
>     if marg_tuit_5_groups==3 & pell_buffer_bonus_qual
(164 real changes made)
600     replace pell_bonus = pell_repayers_delta*`pell_per_stu_amt5' ///
>     if marg_tuit_5_groups==4 & pell_buffer_bonus_qual
(128 real changes made)
601
602     replace pell_bonus = 0 if pell_buffer_bonus_qual==0
(4,546 real changes made)
603     replace bonus = . if yhat_pell==.
(0 real changes made)
604
605     sum pell_bonus, d

```

pell_bonus				
Percentiles	Smallest			
1%	0	0		
5%	0	0		
10%	0	0	Obs	5,412
25%	0	0	Sum of Wgt.	5,412
50%	0		Mean	53711.94
		Largest	Std. Dev.	235890.2
75%	0	3680000		
90%	121000	3930000	Variance	5.56e+10
95%	324500	5049000	Skewness	10.28214
99%	992000	5709000	Kurtosis	162.1914

```

606
607 *Calculate Total Bonus

```



```
608 gen total_bonus = bonus + pell_bonus
(3,974 missing values generated)
```

```
609
610 sum total_bonus
```

Variable	Obs	Mean	Std. Dev.	Min	Max
total_bonus	2,698	181394.9	526470.4	0	8657000

```
611
612 gen both_bonus_qual = buffer_bonus_qual & pell_buffer_bonus_qual
```

```
613
614 gen some_bonus = total_bonus>0 & !missing(total_bonus)
```

```
615 replace some_bonus = . if missing(total_bonus)
(3,974 real changes made, 3,974 to missing)
```

```
616
617 fre some_bonus
```

some_bonus

	Freq.	Percent	Valid	Cum.
Valid 0	1688	25.30	62.56	62.56
1	1010	15.14	37.44	100.00
Total	2698	40.44	100.00	
Missing .	3974	59.56		
Total	6672	100.00		

```
618
619 *** Bonus Graphs
620 gen bonus_thous = bonus/1000
(3,395 missing values generated)
```

```
621 gen pell_bonus_thous = pell_bonus/1000
(1,260 missing values generated)
```

```
622 gen total_bonus_thous = total_bonus/1000
(3,974 missing values generated)
```

```
623
624 *** Bonus Graphs (conditional on any bonus)
625 gen main_bonus_context = bonus/loan_volume_14_15
(3,456 missing values generated)
```

```
626 gen pell_bonus_context = pell_bonus/loan_volume_14_15
(2,849 missing values generated)
```

```
627 gen bonus_context = total_bonus/loan_volume_14_15
(4,013 missing values generated)
```

```
628
629 *Main Bonus Boxplot
630 graph hbox bonus_thous if bonus_thous>0, nooutsides over(sector_new) ///
> title("Distribution of Main Bonuses by Sector") ytitle("Thousands of
> $") ///
> note("Note: Conditional on receiving a main bonus of at least $1")
```

```

631
632     graph export "${graphs}box_main_bonus_by_sector.pdf", replace
  (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_main_b
  > onus_by_sector.pdf written in PDF format)

633     graph export "${graphs}box_main_bonus_by_sector.png", replace
  (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_main_b
  > onus_by_sector.png written in PNG format)

634
635     *Pell Bonus Boxplot
636     graph hbox pell_bonus_thous if pell_bonus_thous>0, nooutsides over(sector_ne
  > w) ///
  >                                     title("Distribution of Pell Bonuses by Sector") ytitle("Thousands of
  > $") ///
  >                                     note("Note: Conditional on receiving a Pell bonus of at least $1")

637
638     graph export "${graphs}box_pell_bonus_by_sector.pdf", replace
  (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_pell_b
  > onus_by_sector.pdf written in PDF format)

639     graph export "${graphs}box_pell_bonus_by_sector.png", replace
  (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_pell_b
  > onus_by_sector.png written in PNG format)

640
641     *Total Bonus Boxplot
642     graph hbox total_bonus_thous if total_bonus_thous>0, ///
  > nooutsides over(sector_new) ///
  > title("Distribution of Total Bonuses by Sector") ///
  > ytitle("Thousands of $") ///
  > note("Note: Conditional on receiving a total bonus of at least $1")

643
644     graph export "${graphs}box_total_bonus_by_sector.pdf", replace
  (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_total_
  > bonus_by_sector.pdf written in PDF format)

645     graph export "${graphs}box_total_bonus_by_sector.png", replace
  (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_total_
  > bonus_by_sector.png written in PNG format)

646
647
648 *Burden Boxplots
649     *Main
650     graph hbox main_bonus_context if main_bonus_context>0, nooutsides over(secto
  > r_new) ///
  >                                     title("Ratio of Main Bonus to Loan Volume") ///
  >                                     ytitle("Ratio of Bonus to Loan Volume")

651
652     graph export "${graphs}box_main_bonus_burden_by_sector.pdf", replace
  (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_main_b
  > onus_burden_by_sector.pdf written in PDF format)

653     graph export "${graphs}box_main_bonus_burden_by_sector.png", replace
  (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_main_b
  > onus_burden_by_sector.png written in PNG format)

```

```

654
655     *Pell
656     graph hbox pell_bonus_context if pell_bonus_context>0, nooutsides ///
>         over(sector_new) ///
>         title("Ratio of Pell Bonus to Loan Volume") ///
>         ytitle("Ratio of Bonus to Loan Volume")

657
658     graph export "${graphs}box_pell_bonus_burden_by_sector.pdf", replace
(file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_pell_b
> onus_burden_by_sector.pdf written in PDF format)

659     graph export "${graphs}box_pell_bonus_burden_by_sector.png", replace
(file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_pell_b
> onus_burden_by_sector.png written in PNG format)

660
661     *Total
662     graph hbox bonus_context if bonus_context>0, nooutsides over(sector_new) ///
>         title("Ratio of Total Bonus to Loan Volume") ///
>         ytitle("Ratio of Bonus to Loan Volume")

663
664     graph export "${graphs}box_bonus_burden_by_sector.pdf", replace
(file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_bonus_
> burden_by_sector.pdf written in PDF format)

665     graph export "${graphs}box_bonus_burden_by_sector.png", replace
(file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_bonus_
> burden_by_sector.png written in PNG format)

666
667     bys sector_new: sum total_bonus_thous if total_bonus_thous>0, d

```

-> sector_new = Public 4yr

		total_bonus_thous		
Percentiles		Smallest		
1%	65	46		
5%	116	48		
10%	177	65	Obs	202
25%	352	72.75	Sum of Wgt.	202
50%	650		Mean	983.104
		Largest	Std. Dev.	1029.373
75%	1114	4149.75		
90%	2230.25	4237.75	Variance	1059609
95%	3133.5	4424.75	Skewness	2.60052
99%	4237.75	7708.25	Kurtosis	12.7394

-> sector_new = Public 2yr or less

		total_bonus_thous		
Percentiles		Smallest		
1%	30.25	16.5		
5%	66	26		
10%	115.5	28	Obs	335
25%	210	30.25	Sum of Wgt.	335
50%	380		Mean	561.5254
		Largest	Std. Dev.	674.944
75%	720	3810		
90%	1078	4530	Variance	455549.4
95%	1380.5	5885	Skewness	4.967843
99%	3810	6485	Kurtosis	36.71394

-> sector_new = Non-Profit

total_bonus_thous				
Percentiles	Smallest			
1%	9	8.25		
5%	16.5	8.25		
10%	23.25	9	Obs	272
25%	40.875	9.75	Sum of Wgt.	272
50%	87		Mean	237.9798
			Std. Dev.	693.283
75%	185.625	2724		
90%	438	3098	Variance	480641.3
95%	741	5532	Skewness	8.80738
99%	3098	8657	Kurtosis	95.03782

-> sector_new = For-Profit

total_bonus_thous				
Percentiles	Smallest			
1%	9	8.25		
5%	16.5	9		
10%	22.5	9	Obs	201
25%	54	11.25	Sum of Wgt.	201
50%	106.5		Mean	188.9303
			Std. Dev.	295.6121
75%	202	1345		
90%	368	1935	Variance	87386.49
95%	573	2086	Skewness	4.575288
99%	1935	2228	Kurtosis	27.89014

-> sector_new = .

total_bonus_thous				
no observations				

668 bys sector_new: sum bonus_context if bonus_context>0, d

-> sector_new = Public 4yr

bonus_context				
Percentiles	Smallest			
1%	.001412	.0006472		
5%	.003177	.0007329		
10%	.0038447	.001412	Obs	201
25%	.0083745	.0015682	Sum of Wgt.	201
50%	.0177246		Mean	.0273148
			Std. Dev.	.0327154
75%	.035112	.1178501		
90%	.0595172	.1206515	Variance	.0010703
95%	.0906899	.133921	Skewness	4.495875
99%	.1206515	.3236723	Kurtosis	36.04661

-> sector_new = Public 2yr or less

bonus_context

	Percentiles	Smallest		
1%	.0107665	.0078522		
5%	.0201188	.0087176		
10%	.0287615	.0103986	Obs	319
25%	.0497927	.0107665	Sum of Wgt.	319
50%	.0945807		Mean	.1339827
		Largest	Std. Dev.	.1247583
75%	.1700701	.6517436		
90%	.2860869	.6699904	Variance	.0155646
95%	.3968059	.6986545	Skewness	2.162715
99%	.6517436	.7290413	Kurtosis	8.561652

-> sector_new = Non-Profit

bonus_context

	Percentiles	Smallest		
1%	.000234	.0001598		
5%	.0009461	.000218		
10%	.001356	.000234	Obs	271
25%	.0025458	.0002484	Sum of Wgt.	271
50%	.0074931		Mean	.0202963
		Largest	Std. Dev.	.0425083
75%	.0212692	.2086174		
90%	.0400118	.2170684	Variance	.001807
95%	.0776866	.2527484	Skewness	5.630351
99%	.2170684	.4416273	Kurtosis	44.71538

-> sector_new = For-Profit

bonus_context

	Percentiles	Smallest		
1%	.0007851	.0006411		
5%	.0028472	.0007851		
10%	.0053738	.0009639	Obs	199
25%	.0163868	.0012402	Sum of Wgt.	199
50%	.0396233		Mean	.1434287
		Largest	Std. Dev.	.6737484
75%	.0959766	.4689445		
90%	.2225494	.5245155	Variance	.4539369
95%	.3204952	5.957006	Skewness	9.705099
99%	5.957006	7.44797	Kurtosis	98.27105

-> sector_new = .

bonus_context

no observations

```

670      *****
671      * Netted Amounts
672      *****
673      *Simply add together bonuses and penalties
674      gen net_risk_share = total_bonus + (-1)*total_penalty
      (4,937 missing values generated)

675
676      *Put total transfer in thousands of dollars
677      gen transfer1 = net_risk_share/1000
      (4,937 missing values generated)

678
679      *Graph total transfer
680      graph hbox transfer1, nooutsides over(sector_new) ///
>          title("Net Risk Sharing Payments by Sector") ///
>          ytitle("Thousands of $") note("Outliers not pictured") ///
>

681      graph export "${graphs}box_transfer1_bonus`per_stu_amt'_by_sector.pdf", rep
> lace
      (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_transf
> er1_bonus_5000_by_sector.pdf written in PDF format)

682      graph export "${graphs}box_transfer1_bonus`per_stu_amt'_by_sector.png", rep
> lace
      (file /afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/box_transf
> er1_bonus_5000_by_sector.png written in PNG format)

683
684      *Calculate Distribution of Net Payment
685      bys sector_new: sum transfer1, d

```

-> sector_new = Public 4yr

transfer1				
	Percentiles	Smallest		
1%	-838.932	-1937.881		
5%	-476.9688	-971.952		
10%	-375.1658	-937.6476	Obs	451
25%	-168.6411	-855.8657	Sum of Wgt.	451
50%	-55.25679		Mean	206.6485
		Largest	Std. Dev.	838.0932
75%	357.0549	4101.83		
90%	1016.346	4166.272	Variance	702400.2
95%	1695.302	4313.608	Skewness	3.385127
99%	3731.503	7604.588	Kurtosis	21.22681

-> sector_new = Public 2yr or less

transfer1				
	Percentiles	Smallest		
1%	-821.7444	-1903.56		
5%	-529.4042	-1080.007		
10%	-374.2634	-880.1326	Obs	485
25%	-188.7326	-840.0622	Sum of Wgt.	485
50%	-39.82358		Mean	128.0713
		Largest	Std. Dev.	650.8344
75%	347.9274	3620.212		
90%	747.2576	4280.009	Variance	423585.5
95%	977.9044	5406.369	Skewness	3.816607
99%	3586.398	5798.852	Kurtosis	28.86798

-> sector_new = Non-Profit

transfer1

	Percentiles	Smallest		
1%	-501.9086	-1030.887		
5%	-219.113	-874.5502		
10%	-129.0109	-598.8781	Obs	482
25%	-61.63248	-528.077	Sum of Wgt.	482
50%	-24.76996		Mean	35.60839
		Largest	Std. Dev.	533.9239
75%	-1.972643	2193.388		
90%	167.4534	2841.773	Variance	285074.7
95%	344.3302	5528.826	Skewness	11.52217
99%	1722.26	8640.521	Kurtosis	166.4659

-> sector_new = For-Profit

transfer1

	Percentiles	Smallest		
1%	-3758.178	-10615.7		
5%	-1682.275	-7371.553		
10%	-767.6182	-4008.637	Obs	317
25%	-219.6848	-3758.178	Sum of Wgt.	317
50%	-73.68062		Mean	-259.5665
		Largest	Std. Dev.	974.2093
75%	12.82833	1328.739		
90%	187.5661	1924.399	Variance	949083.7
95%	333.7693	1974.619	Skewness	-5.775377
99%	1328.739	2075.86	Kurtosis	52.66195

-> sector_new = .

transfer1

no observations

```

686
687     gen net_bonus_amt = transfer1>0 & !missing(transfer1)
688     replace net_bonus = . if missing(transfer1)
        (4,937 real changes made, 4,937 to missing)
689
690     gen net_payout = transfer1<0
691     replace net_payout = . if missing(transfer1)
        (4,937 real changes made, 4,937 to missing)
692
693
694 *****
695 * Sources for statistics we cite in paper
696 *****
697
698     *Calculate adjacent values in our box plot
    
```

699 adjacent transfer1, by(sector_new)

sector_new		lower adjacent	upper adjacent
Public	Public 4yr	-937.6476	1126.862
Public	2yr or less	-880.1326	1151.043
	Non-Profit	-150.617	81.43599
	For-Profit	-537.2115	333.7693

700
 701 *Correlation between default and repayment rates we use
 702 corr rpy_3yr_rt_p0708 cdr3_10
 (obs=3,621)

	rpy_3y..	cdr3_10
rpy_3yr_rt~8	1.0000	
cdr3_10	-0.7436	1.0000

703
 704 *Gen total net burden on both loan volume and aid volume
 705 gen transfer_burden_1 = abs(net_risk_share)/loan_volume_14_15
 (4,959 missing values generated)
 706 gen transfer_burden_2 = abs(net_risk_share)/aid_volume_14_15
 (4,947 missing values generated)
 707
 708 gen bonus_value1 = net_risk_share/loan_volume_14_15 if net_risk_share > 0
 (6,095 missing values generated)
 709 gen bonus_value2 = net_risk_share/aid_volume_14_15 if net_risk_share > 0
 (6,089 missing values generated)
 710
 711 gen negative_burden1 = abs(net_risk_share)/loan_volume_14_15 ///
 > if net_risk_share<0
 (5,536 missing values generated)
 712 gen negative_burden2 = abs(net_risk_share)/aid_volume_14_15 ///
 > if net_risk_share<0
 (5,530 missing values generated)
 713
 714 bys sector_new: sum penalty_burden_cdr_loan, d

-> sector_new = Public 4yr

penalty_burden_cdr_loan

Percentiles		Smallest		
1%	.0000929	9.35e-06		
5%	.0002269	.0000255		
10%	.0003707	.0000631	Obs	463
25%	.0009227	.0000646	Sum of Wgt.	463
50%	.0021263		Mean	.0054393
75%	.0054703	.0585935	Std. Dev.	.0094574
90%	.0140152	.0623953	Variance	.0000894
95%	.0227156	.0642889	Skewness	4.458635
99%	.0480519	.0963144	Kurtosis	30.79531

-> sector_new = Public 2yr or less

penalty_burden_cdr_loan

	Percentiles	Smallest		
1%	.0016659	.0003585		
5%	.0045904	.0011996		
10%	.0064774	.0013786	Obs	483
25%	.0105913	.0015947	Sum of Wgt.	483
50%	.0175127		Mean	.0246802
		Largest	Std. Dev.	.0264092
75%	.0294144	.1274197		
90%	.0471884	.1408864	Variance	.0006974
95%	.0708795	.1907723	Skewness	5.062736
99%	.1164067	.3380282	Kurtosis	48.08541

-> sector_new = Non-Profit

penalty_burden_cdr_loan

	Percentiles	Smallest		
1%	.0000226	.0000126		
5%	.0000692	.0000151		
10%	.0001665	.0000153	Obs	504
25%	.0004983	.0000157	Sum of Wgt.	504
50%	.0014196		Mean	.0052248
		Largest	Std. Dev.	.0100575
75%	.0044088	.0535073		
90%	.0136154	.0555551	Variance	.0001012
95%	.0278481	.0626769	Skewness	3.438088
99%	.0526001	.0741419	Kurtosis	16.1624

-> sector_new = For-Profit

penalty_burden_cdr_loan

	Percentiles	Smallest		
1%	.0004988	.0000485		
5%	.0019893	.0000733		
10%	.0039197	.0002512	Obs	512
25%	.0107192	.0002567	Sum of Wgt.	512
50%	.0244631		Mean	1.131097
		Largest	Std. Dev.	10.05638
75%	.058703	90.7852		
90%	.167282	104.4586	Variance	101.1308
95%	.4509214	105.3038	Skewness	10.87676
99%	22.84958	138.8219	Kurtosis	126.2853

-> sector_new = .

penalty_burden_cdr_loan

no observations

715 bys sector_new: sum bonus_context if bonus_context>0, d

-> sector_new = Public 4yr

bonus_context

	Percentiles	Smallest		
1%	.001412	.0006472		
5%	.003177	.0007329		
10%	.0038447	.001412	Obs	201
25%	.0083745	.0015682	Sum of Wgt.	201

50%	.0177246		Mean	.0273148
75%	.035112	Largest	Std. Dev.	.0327154
90%	.0595172	.1178501	Variance	.0010703
95%	.0906899	.1206515	Skewness	4.495875
99%	.1206515	.133921	Kurtosis	36.04661
		.3236723		

-> sector_new = Public 2yr or less

bonus_context				
	Percentiles	Smallest		
1%	.0107665	.0078522		
5%	.0201188	.0087176		
10%	.0287615	.0103986	Obs	319
25%	.0497927	.0107665	Sum of Wgt.	319
50%	.0945807		Mean	.1339827
		Largest	Std. Dev.	.1247583
75%	.1700701	.6517436	Variance	.0155646
90%	.2860869	.6699904	Skewness	2.162715
95%	.3968059	.6986545	Kurtosis	8.561652
99%	.6517436	.7290413		

-> sector_new = Non-Profit

bonus_context				
	Percentiles	Smallest		
1%	.000234	.0001598		
5%	.0009461	.000218		
10%	.001356	.000234	Obs	271
25%	.0025458	.0002484	Sum of Wgt.	271
50%	.0074931		Mean	.0202963
		Largest	Std. Dev.	.0425083
75%	.0212692	.2086174	Variance	.001807
90%	.0400118	.2170684	Skewness	5.630351
95%	.0776866	.2527484	Kurtosis	44.71538
99%	.2170684	.4416273		

-> sector_new = For-Profit

bonus_context				
	Percentiles	Smallest		
1%	.0007851	.0006411		
5%	.0028472	.0007851		
10%	.0053738	.0009639	Obs	199
25%	.0163868	.0012402	Sum of Wgt.	199
50%	.0396233		Mean	.1434287
		Largest	Std. Dev.	.6737484
75%	.0959766	.4689445	Variance	.4539369
90%	.2225494	.5245155	Skewness	9.705099
95%	.3204952	5.957006	Kurtosis	98.27105
99%	5.957006	7.44797		

-> sector_new = .

bonus_context				
no observations				

716 bys sector_new: sum bonus_value1, d

-> sector_new = Public 4yr

		bonus_value1			
	Percentiles	Smallest			
1%	.0010448	.0007236			
5%	.0019892	.0010448			
10%	.0030421	.001114	Obs		162
25%	.0066375	.0011642	Sum of Wgt.		162
50%	.0154617		Mean		.0212741
		Largest	Std. Dev.		.0218149
75%	.0285168	.0911916			
90%	.0424538	.0934759	Variance		.0004759
95%	.0655647	.1190289	Skewness		2.280656
99%	.1190289	.1300498	Kurtosis		9.504859

-> sector_new = Public 2yr or less

		bonus_value1			
	Percentiles	Smallest			
1%	.0064015	.0015225			
5%	.0089755	.0048555			
10%	.0169281	.0064015	Obs		211
25%	.0350827	.0064353	Sum of Wgt.		211
50%	.0696118		Mean		.1064423
		Largest	Std. Dev.		.115145
75%	.1405594	.6192783			
90%	.2129516	.6261894	Variance		.0132584
95%	.2955283	.6636248	Skewness		2.654393
99%	.6261894	.6661771	Kurtosis		11.72687

-> sector_new = Non-Profit

		bonus_value1			
	Percentiles	Smallest			
1%	.0001139	.0001033			
5%	.0002415	.0001139			
10%	.0006668	.0001639	Obs		118
25%	.0015897	.0001646	Sum of Wgt.		118
50%	.0067813		Mean		.0212523
		Largest	Std. Dev.		.043222
75%	.0189648	.1824343			
90%	.0518309	.2031706	Variance		.0018681
95%	.1131085	.2159211	Skewness		3.563693
99%	.2159211	.252377	Kurtosis		16.10257

-> sector_new = For-Profit

		bonus_value1			
	Percentiles	Smallest			
1%	.0003555	.0003555			
5%	.0010485	.0006622			
10%	.0042189	.0008408	Obs		86
25%	.0183735	.0008688	Sum of Wgt.		86

50%	.049756		Mean	.0925555
75%	.0880288	Largest	Std. Dev.	.1977291
90%	.2021173	.3344317	Variance	.0390968
95%	.3084555	.461814	Skewness	6.493784
99%	1.695771	.4632748	Kurtosis	51.81262
		1.695771		

-> sector_new = .

bonus_value1

no observations

717 bys sector_new: sum negative_burden1, d

-> sector_new = Public 4yr

negative_burden1

	Percentiles	Smallest		
1%	.0000646	.0000255		
5%	.0002698	.0000631		
10%	.0004539	.0000646	Obs	287
25%	.0011595	.0000929	Sum of Wgt.	287
50%	.0025517		Mean	.0065317
		Largest	Std. Dev.	.0109965
75%	.0070331	.0585935	Variance	.0001209
90%	.0150257	.0623953	Skewness	4.111567
95%	.0252608	.0642889	Kurtosis	25.15613
99%	.0623953	.0963144		

-> sector_new = Public 2yr or less

negative_burden1

	Percentiles	Smallest		
1%	.0031312	.0005285		
5%	.0065936	.0026135		
10%	.0081978	.0031312	Obs	257
25%	.0126897	.0032409	Sum of Wgt.	257
50%	.0220442		Mean	.0282933
		Largest	Std. Dev.	.0289296
75%	.0339501	.1164067	Variance	.0008369
90%	.0523362	.1274197	Skewness	5.654852
95%	.0725742	.1408864	Kurtosis	54.32349
99%	.1274197	.3380282		

-> sector_new = Non-Profit

negative_burden1

	Percentiles	Smallest		
1%	.0000157	1.33e-07		
5%	.0000666	.0000126		
10%	.0001494	.0000151	Obs	364
25%	.000475	.0000157	Sum of Wgt.	364
50%	.0014386		Mean	.0055453
		Largest	Std. Dev.	.0106771
75%	.0043257	.0535073	Variance	.000114
90%	.0162663	.0555551	Skewness	3.293658
95%	.0289939	.0626769	Kurtosis	15.06515
99%	.0535073	.0741419		

-> sector_new = For-Profit

negative_burden1				
Percentiles	Smallest			
1%	.0003078	.0002512		
5%	.0027515	.0002567		
10%	.0047082	.0003078	Obs	228
25%	.0125335	.000549	Sum of Wgt.	228
50%	.0287848		Mean	.2605973
		Largest	Std. Dev.	1.929015
75%	.0624581	.5216892		
90%	.1360649	7.490433	Variance	3.721098
95%	.249643	16.89258	Skewness	10.03377
99%	7.490433	22.7253	Kurtosis	106.7102

-> sector_new = .

negative_burden1				
no observations				

```

718
719 *Calculate percentage earning penalty and bonus
720 gen net_bonus = 1 if net_risk_share>0 & !missing(net_risk_share)
(6,084 missing values generated)

721 replace net_bonus = 0 if net_risk_share<=0 & ///
> !missing(net_risk_share)
(1,147 real changes made)

722
723 bys sector_new: tab net_bonus
    
```

-> sector_new = Public 4yr

net_bonus	Freq.	Percent	Cum.
0	288	63.86	63.86
1	163	36.14	100.00
Total	451	100.00	

-> sector_new = Public 2yr or less

net_bonus	Freq.	Percent	Cum.
0	265	54.64	54.64
1	220	45.36	100.00
Total	485	100.00	

-> sector_new = Non-Profit

net_bonus	Freq.	Percent	Cum.
0	364	75.52	75.52
1	118	24.48	100.00
Total	482	100.00	

-> sector_new = For-Profit

net_bonus	Freq.	Percent	Cum.
0	230	72.56	72.56
1	87	27.44	100.00
Total	317	100.00	

-> sector_new = .
no observations

```

724
725     gen net_penalty = 1 if net_risk_share<0
      (5,525 missing values generated)
726     replace net_penalty = 0 if net_risk_share>=0 & ///
      >                               !missing(net_risk_share)
      (588 real changes made)
727
728     bys sector_new: tab net_penalty
  
```

-> sector_new = Public 4yr

net_penalty	Freq.	Percent	Cum.
0	163	36.14	36.14
1	288	63.86	100.00
Total	451	100.00	

-> sector_new = Public 2yr or less

net_penalty	Freq.	Percent	Cum.
0	220	45.36	45.36
1	265	54.64	100.00
Total	485	100.00	

-> sector_new = Non-Profit

net_penalty	Freq.	Percent	Cum.
0	118	24.48	24.48
1	364	75.52	100.00
Total	482	100.00	

-> sector_new = For-Profit

net_penalty	Freq.	Percent	Cum.
0	87	27.44	27.44
1	230	72.56	100.00
Total	317	100.00	

-> sector_new = .
no observations

```

729
730 *****
731 * Calculate Repayment Rate Across Years for
732 * Completeres and Non Completers
733 *****
734 egen historical_completers = rowtotal(compl_rpy_3yr_n_p0607 ///
> compl_rpy_3yr_n_p0708 compl_rpy_3yr_n_p0809 ///
> compl_rpy_3yr_n_p0910 compl_rpy_3yr_n_p1011 ///
> compl_rpy_3yr_n_p1112)

735
736 egen historical_noncomp = rowtotal(noncom_rpy_3yr_n_p0607 ///
> noncom_rpy_3yr_n_p0708 noncom_rpy_3yr_n_p0809 ///
> noncom_rpy_3yr_n_p0910 noncom_rpy_3yr_n_p1011 ///
> noncom_rpy_3yr_n_p1112)

737
738 foreach x in p0607 p0708 p0809 p0910 p1011 p1112{
739 2. gen comp_year_weight_`x' = compl_rpy_3yr_n_`x'/historical_completers
740 3. gen noncom_year_weight_`x' = noncom_rpy_3yr_n_`x'/historical_nonc
> omp
4.
740 }
(2,960 missing values generated)
(2,960 missing values generated)
(2,954 missing values generated)
(2,954 missing values generated)
(2,901 missing values generated)
(2,901 missing values generated)
(2,848 missing values generated)
(2,848 missing values generated)
(2,783 missing values generated)
(2,783 missing values generated)
(2,719 missing values generated)
(2,719 missing values generated)

741
742 gen rpy_comp_hist_weighted = compl_rpy_3yr_rt_p0607*comp_year_weight_p0607 +
> ///
> compl_rpy_3yr_rt_p0708*comp_year_weight_p0708 + ///
> compl_rpy_3yr_rt_p0809*comp_year_weight_p0809 + ///
> compl_rpy_3yr_rt_p0910*comp_year_weight_p0910 + ///
> compl_rpy_3yr_rt_p1011*comp_year_weight_p1011 + ///
> compl_rpy_3yr_rt_p1112*comp_year_weight_p1112
(4,717 missing values generated)

743
744 gen rpy_noncom_hist_weighted = noncom_rpy_3yr_rt_p0607*noncom_year_weight_p0
> 607 + ///
> noncom_rpy_3yr_rt_p0708*noncom_year_weight_p0708 + /
> //
> noncom_rpy_3yr_rt_p0809*noncom_year_weight_p0809 + /
> //
> noncom_rpy_3yr_rt_p0910*noncom_year_weight_p0910 + /
> //
> noncom_rpy_3yr_rt_p1011*noncom_year_weight_p1011 + /
> //
> noncom_rpy_3yr_rt_p1112*noncom_year_weight_p1112
(4,717 missing values generated)

```

745
 746 sum rpy_comp_hist_weighted [w=historical_completers]
 (analytic weights assumed)

Variable	Obs	Weight	Mean	Std. Dev.	Min	Max
rpy_comp_h~d	1,955	9323658	.7940256	.1842489	.1495513	.987677

747 sum rpy_noncom_hist_weighted [w=historical_noncomp]
 (analytic weights assumed)

Variable	Obs	Weight	Mean	Std. Dev.	Min	Max
rpy_noncom~d	1,955	14227621	.5973033	.1834803	.0914581	.9420722

748
 749 *Close log, create a PDF
 750 log close
 name: **<unnamed>**
 log: **/afs/umich.edu/user/l/i/libassi/Private/CAP/risk_sharing/output/graph/cap**
> _risk_sharing_replication_log.smcl
 log type: **smcl**
 closed on: **12 Dec 2016, 16:12:54**
