**Descriptive Graphs:**

--------------------------------------------------------------------------------------











\*original logit regression

logit any\_cs FSS\_support

Iteration 0: log likelihood = -1392.2612

Iteration 1: log likelihood = -1391.946

Iteration 2: log likelihood = -1391.9458

Iteration 3: log likelihood = -1391.9458

Logistic regression Number of obs = 2,247

LR chi2(1) = 0.63

Prob > chi2 = 0.4270

Log likelihood = -1391.9458 Pseudo R2 = 0.0002

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

FSS\_support | -.0003834 .0004797 -0.80 0.424 -.0013236 .0005567

\_cons | .821475 .054976 14.94 0.000 .713724 .9292259

------------------------------------------------------------------------------

\*clear outliers

list instnm any\_cs FSS\_support year if FSS\_support > 600

+----------------------------------------------------+

| instnm any\_cs FSS\_su~t year |

|----------------------------------------------------|

817. | JOHNS HOPKINS UNIV 0 794.2897 1978 |

818. | JOHNS HOPKINS UNIV 0 997.3532 1979 |

819. | JOHNS HOPKINS UNIV 0 779.1247 1980 |

820. | JOHNS HOPKINS UNIV 0 1044.176 1981 |

821. | JOHNS HOPKINS UNIV 0 838.9989 1983 |

|----------------------------------------------------|

822. | JOHNS HOPKINS UNIV 0 970.021 1984 |

911. | MASS INST OF TECHNOLOGY 0 682.3825 1972 |

912. | MASS INST OF TECHNOLOGY 0 710.8229 1973 |

+----------------------------------------------------+

drop if any\_cs==0 & FSS\_support>600

(8 observations deleted)

\*New logit regression without these 8 outliers with huge funding and no cs programs

logit any\_cs FSS\_support

Iteration 0: log likelihood = -1382.8764

Iteration 1: log likelihood = -1381.6293

Iteration 2: log likelihood = -1381.6278

Iteration 3: log likelihood = -1381.6278

Logistic regression Number of obs = 2,239

LR chi2(1) = 2.50

Prob > chi2 = 0.1141

Log likelihood = -1381.6278 Pseudo R2 = 0.0009

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

FSS\_support | .0009234 .0005912 1.56 0.118 -.0002354 .0020822

\_cons | .7543237 .057089 13.21 0.000 .6424313 .8662161

\*Largest 25 residuals, mostly showing schools with no funding and

----------------------------------------------------------------+

| instnm year FSS\_su~t any\_cs absr1 |

|----------------------------------------------------------------|

| U OF NC GREENSBORO 1975 0 0 1.501129 |

| BIOLA COLL 1979 0 0 1.501129 |

| US INTERNATIONAL U 1979 0 0 1.501129 |

| US INTERNATIONAL U 1983 0 0 1.501129 |

| BIOLA COLL 1977 0 0 1.501129 |

|----------------------------------------------------------------|

| BIOLA COLL 1975 0 0 1.501129 |

| US INTERNATIONAL U 1981 0 0 1.501129 |

| ANDREWS UNIV 1973 0 0 1.501129 |

| BIOLA UNIV 1981 0 0 1.501129 |

| BIOLA COLL 1972 0 0 1.501129 |

|----------------------------------------------------------------|

| US INTERNATIONAL U 1977 0 0 1.501129 |

| MISSISSIPPI COLL 1981 0 0 1.501129 |

| US INTERNATIONAL U 1976 0 0 1.501129 |

| US INTERNATIONAL U 1984 0 0 1.501129 |

| US INTERNATIONAL U 1975 0 0 1.501129 |

|----------------------------------------------------------------|

| U OF NORTHERN COLORADO 1981 0 0 1.501129 |

| BIOLA COLL 1976 0 0 1.501129 |

| US INTERNATIONAL U 1978 0 0 1.501129 |

| BIOLA COLL 1980 0 0 1.501129 |

| US INTERNATIONAL U 1980 0 0 1.501129 |

|----------------------------------------------------------------|

| BIOLA COLL 1973 0 0 1.501129 |

| BIOLA UNIV 1983 0 0 1.501129 |

| BIOLA COLL 1978 0 0 1.501129 |

| ANDREWS UNIV 1976 .0269631 0 1.501124 |

| MISSISSIPPI COLL 1978 .0902009 0 1.501112 |

|----------------------------------------------------------------|

logit any\_cs FSS\_support tot\_rev\_ps

Iteration 0: log likelihood = -1382.8764

Iteration 1: log likelihood = -1326.7975

Iteration 2: log likelihood = -1321.8309

Iteration 3: log likelihood = -1321.7357

Iteration 4: log likelihood = -1321.7357

Logistic regression Number of obs = 2,239

LR chi2(2) = 122.28

Prob > chi2 = 0.0000

Log likelihood = -1321.7357 Pseudo R2 = 0.0442

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

FSS\_support | .005363 .0008399 6.39 0.000 .0037168 .0070092

tot\_rev\_ps | -15.37588 2.044925 -7.52 0.000 -19.38385 -11.3679

\_cons | 1.155437 .0784268 14.73 0.000 1.001723 1.309151

gen lnFSS=log(FSS\_support)

(37 missing values generated)

.

end of do-file

. logit any\_cs L.lnFSS

Iteration 0: log likelihood = -948.76112

Iteration 1: log likelihood = -943.20645

Iteration 2: log likelihood = -943.19475

Iteration 3: log likelihood = -943.19475

Logistic regression Number of obs = 1,603

LR chi2(1) = 11.13

Prob > chi2 = 0.0008

Log likelihood = -943.19475 Pseudo R2 = 0.0059

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

lnFSS |

L1. | .0971352 .0290037 3.35 0.001 .0402891 .1539814

|

\_cons | .6683314 .0992916 6.73 0.000 .4737234 .8629393

------------------------------------------------------------------------------

\*Putting the two together

logit any\_cs lnFSS tot\_rev\_ps

Iteration 0: log likelihood = -1350.5017

Iteration 1: log likelihood = -1290.2489

Iteration 2: log likelihood = -1279.7259

Iteration 3: log likelihood = -1279.6122

Iteration 4: log likelihood = -1279.6122

Logistic regression Number of obs = 2,202

LR chi2(2) = 141.78

Prob > chi2 = 0.0000

Log likelihood = -1279.6122 Pseudo R2 = 0.0525

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

lnFSS | .2253293 .0288788 7.80 0.000 .168728 .2819307

tot\_rev\_ps | -14.61033 1.807892 -8.08 0.000 -18.15373 -11.06693

\_cons | .8124096 .0890863 9.12 0.000 .6378037 .9870155

------------------------------------------------------------------------------

\*Running with a 1 year lag

logit any\_cs L.lnFSS tot\_rev\_ps

Iteration 0: log likelihood = -948.76112

Iteration 1: log likelihood = -899.74863

Iteration 2: log likelihood = -890.54916

Iteration 3: log likelihood = -890.4022

Iteration 4: log likelihood = -890.4022

Logistic regression Number of obs = 1,603

LR chi2(2) = 116.72

Prob > chi2 = 0.0000

Log likelihood = -890.4022 Pseudo R2 = 0.0615

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

lnFSS |

L1. | .2537493 .0347274 7.31 0.000 .1856848 .3218138

|

tot\_rev\_ps | -15.81997 2.173062 -7.28 0.000 -20.07909 -11.56084

\_cons | .9145801 .1061188 8.62 0.000 .7065911 1.122569

------------------------------------------------------------------------------

\*Log log model so a 1% increase in likelihood of CS program correlates to a .25% increase in FSS funding

\*I ran this same model trying a 2 year lag, 3 year lag, etc. All spit out similar, but slightly less significant, results than the original one year lag.

\*Fully log log models

logit any\_cs lnFSS lnTRS

Iteration 0: log likelihood = -1350.5017

Iteration 1: log likelihood = -1275.6831

Iteration 2: log likelihood = -1275.2241

Iteration 3: log likelihood = -1275.224

Logistic regression Number of obs = 2,202

LR chi2(2) = 150.56

Prob > chi2 = 0.0000

Log likelihood = -1275.224 Pseudo R2 = 0.0557

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

lnFSS | .3159808 .0328704 9.61 0.000 .251556 .3804055

lnTRS | -1.135371 .1048611 -10.83 0.000 -1.340895 -.9298467

\_cons | -3.882985 .4206239 -9.23 0.000 -4.707393 -3.058578

------------------------------------------------------------------------------

. logit any\_cs L.lnFSS lnTRS

Iteration 0: log likelihood = -948.76112

Iteration 1: log likelihood = -884.99385

Iteration 2: log likelihood = -884.41477

Iteration 3: log likelihood = -884.41456

Iteration 4: log likelihood = -884.41456

Logistic regression Number of obs = 1,603

LR chi2(2) = 128.69

Prob > chi2 = 0.0000

Log likelihood = -884.41456 Pseudo R2 = 0.0678

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

lnFSS |

L1. | .3567312 .0398253 8.96 0.000 .278675 .4347874

|

lnTRS | -1.268208 .1290454 -9.83 0.000 -1.521132 -1.015284

\_cons | -4.298102 .5135624 -8.37 0.000 -5.304666 -3.291538

------------------------------------------------------------------------------

\*Proportionality Test Cox Model, I found that eeoff, tot\_rev\_ps, and inst\_bach\_tot were the significant variables in my cox models. FSS\_Support was not significant whatsoever but I chose to include anyways. All passed the proportionality test below. However, when I tried to create hazard models, I was not getting graphs that I expected to see – as in I did something wrong I haven’t figured out yet and the graphs have not been showing me what I want to see.

stcox i.eeoff tot\_rev\_ps inst\_bach\_tot FSS\_support, nohr tvc(eeoff tot\_rev\_ps inst\_bach\_tot FSS\_support) texp

> (ln(\_t))

Failure \_d: any\_cs==1

Analysis time \_t: year

ID variable: id

Iteration 0: log likelihood = -891.09209

Iteration 1: log likelihood = -873.46729

Iteration 2: log likelihood = -871.97612

Iteration 3: log likelihood = -871.58648

Iteration 4: log likelihood = -871.49498

Iteration 5: log likelihood = -871.48645

Iteration 6: log likelihood = -871.48637

Iteration 7: log likelihood = -871.48637

Refining estimates:

Iteration 0: log likelihood = -871.48637

Cox regression with Breslow method for ties

No. of subjects = 206 Number of obs = 807

No. of failures = 189

Time at risk = 406,985

LR chi2(8) = 39.21

Log likelihood = -871.48637 Prob > chi2 = 0.0000

-------------------------------------------------------------------------------

\_t | Coefficient Std. err. z P>|z| [95% conf. interval]

--------------+----------------------------------------------------------------

main |

1.eeoff | -304.8051 690.6032 -0.44 0.659 -1658.362 1048.752

tot\_rev\_ps | 4655.973 12976.61 0.36 0.720 -20777.72 30089.66

inst\_bach\_tot | 240.6815 300.9869 0.80 0.424 -349.2419 830.605

FSS\_support | -.3045715 5.050349 -0.06 0.952 -10.20307 9.59393

--------------+----------------------------------------------------------------

tvc |

eeoff | 40.24099 91.00702 0.44 0.658 -138.1295 218.6115

tot\_rev\_ps | -614.175 1710.032 -0.36 0.719 -3965.777 2737.426

inst\_bach\_tot | -31.69985 39.66751 -0.80 0.424 -109.4467 46.04704

FSS\_support | .0401497 .6655485 0.06 0.952 -1.264301 1.344601

-------------------------------------------------------------------------------

Note: Variables in tvc equation interacted with ln(\_t).

\*Seems to perform much better without universities receiving large funding (Over 300,000)

logit any\_cs FSS\_support tot\_rev\_ps tuitfee3 if FSS\_support<300

Iteration 0: log likelihood = -1329.3064

Iteration 1: log likelihood = -1255.8827

Iteration 2: log likelihood = -1242.9874

Iteration 3: log likelihood = -1242.253

Iteration 4: log likelihood = -1242.2499

Iteration 5: log likelihood = -1242.2499

Logistic regression Number of obs = 2,171

LR chi2(3) = 174.11

Prob > chi2 = 0.0000

Log likelihood = -1242.2499 Pseudo R2 = 0.0655

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

FSS\_support | .0095644 .001116 8.57 0.000 .0073771 .0117518

tot\_rev\_ps | -16.28228 2.242357 -7.26 0.000 -20.67722 -11.88734

tuitfee3 | -.0484673 .0120118 -4.03 0.000 -.0720101 -.0249245

\_cons | 1.562392 .129849 12.03 0.000 1.307893 1.816892

\*Interestingly, the effect of FSS\_Support is much more pronounced at public universities and private universities show a negative effect

logit any\_cs FSS\_support tot\_rev\_ps tuitfee3 if private==0

Iteration 0: log likelihood = -830.02812

Iteration 1: log likelihood = -784.44033

Iteration 2: log likelihood = -780.3157

Iteration 3: log likelihood = -780.16826

Iteration 4: log likelihood = -780.16815

Iteration 5: log likelihood = -780.16815

Logistic regression Number of obs = 1,447

LR chi2(3) = 99.72

Prob > chi2 = 0.0000

Log likelihood = -780.16815 Pseudo R2 = 0.0601

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

FSS\_support | .0099431 .0014515 6.85 0.000 .0070981 .0127881

tot\_rev\_ps | -21.34549 4.364605 -4.89 0.000 -29.89996 -12.79102

tuitfee3 | -.1022555 .0270908 -3.77 0.000 -.1553525 -.0491586

\_cons | 2.137332 .2411848 8.86 0.000 1.664618 2.610045

logit any\_cs FSS\_support tot\_rev\_ps tuitfee3 if private==1

Iteration 0: log likelihood = -529.51227

Iteration 1: log likelihood = -512.47769

Iteration 2: log likelihood = -511.10611

Iteration 3: log likelihood = -511.0148

Iteration 4: log likelihood = -511.0145

Iteration 5: log likelihood = -511.0145

Logistic regression Number of obs = 789

LR chi2(3) = 37.00

Prob > chi2 = 0.0000

Log likelihood = -511.0145 Pseudo R2 = 0.0349

------------------------------------------------------------------------------

any\_cs | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

FSS\_support | -.0004624 .0008819 -0.52 0.600 -.0021908 .0012661

tot\_rev\_ps | -6.415634 2.104232 -3.05 0.002 -10.53985 -2.291415

tuitfee3 | .0323522 .0202833 1.60 0.111 -.0074022 .0721066

\_cons | .3614526 .2954692 1.22 0.221 -.2176564 .9405617

------------------------------------------------------------------------------