. // Model C.SSV.4

.

. // poisson model

. glm dv `ss\_lag\_all\_vars' `covariates' ib(freq).state ib(freq).time, family(poisson) link(log) vce(cl mineid) exposure(hours) iter(50) eform

Iteration 0: log pseudolikelihood = -39944.718

Iteration 1: log pseudolikelihood = -36990.006

Iteration 2: log pseudolikelihood = -36974.701

Iteration 3: log pseudolikelihood = -36974.648

Iteration 4: log pseudolikelihood = -36974.637

Iteration 5: log pseudolikelihood = -36974.634

Iteration 6: log pseudolikelihood = -36974.634

Iteration 7: log pseudolikelihood = -36974.634

Iteration 8: log pseudolikelihood = -36974.634

Generalized linear models No. of obs = 19,291

Optimization : ML Residual df = 19,208

Scale parameter = 1

Deviance = 37602.79236 (1/df) Deviance = 1.957663

Pearson = 1100355.098 (1/df) Pearson = 57.28629

Variance function: V(u) = u [Poisson]

Link function : g(u) = ln(u) [Log]

AIC = 3.841961

Log pseudolikelihood = -36974.63354 BIC = -151930.1

(Std. Err. adjusted for 1,288 clusters in mineid)

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

| Robust

dv | IRR Std. Err. z P>|z| [95% Conf. Interval]

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

p48\_ss\_c\_lag\_all | 1.006963 .0109094 0.64 0.522 .9858065 1.028574

p75\_ss\_c\_lag\_all | .9999198 .0000846 -0.95 0.343 .999754 1.000086

mine\_time | 1.002996 .0020021 1.50 0.134 .9990792 1.006927

onsite\_insp\_hours | .9995767 .0001565 -2.70 0.007 .9992699 .9998835

|

state |

AL | .9773906 .0884825 -0.25 0.801 .8184826 1.167151

CO | .6609808 .0729701 -3.75 0.000 .5323767 .8206513

IL | 1.293783 .105126 3.17 0.002 1.103309 1.51714

IN | 1.137739 .1476293 0.99 0.320 .882254 1.467208

MD | 1.308503 .1478405 2.38 0.017 1.048582 1.632854

MT | .0000282 .0000283 -10.45 0.000 3.95e-06 .0002012

NM | .6739045 .0380007 -7.00 0.000 .6033927 .7526561

OH | .9298657 .0813675 -0.83 0.406 .7833146 1.103835

OK | 1.789703 .3356882 3.10 0.002 1.239151 2.584865

PA | .9593743 .0979902 -0.41 0.685 .7853198 1.172005

TN | 1.481922 .1764811 3.30 0.001 1.173428 1.87152

UT | .4409087 .0479092 -7.54 0.000 .3563338 .5455572

VA | .8388909 .0822341 -1.79 0.073 .6922527 1.016591

WV | 1.021607 .0586514 0.37 0.710 .9128844 1.143279

WY | .6841403 .0508206 -5.11 0.000 .5914454 .791363

|

time |

2000.25 | 1.124767 .0513945 2.57 0.010 1.028415 1.230147

2000.5 | 1.270439 .055847 5.45 0.000 1.165564 1.384751

2000.75 | .9308119 .0513671 -1.30 0.194 .8353877 1.037136

2001 | .9319525 .0511545 -1.28 0.199 .8368963 1.037805

2001.25 | .9842484 .0558961 -0.28 0.780 .8805711 1.100132

2001.5 | 1.216032 .0839131 2.83 0.005 1.062202 1.392139

2001.75 | .932678 .0611015 -1.06 0.287 .820291 1.060463

2002 | .9756577 .0568153 -0.42 0.672 .8704215 1.093617

2002.25 | .9585214 .0556495 -0.73 0.466 .8554272 1.07404

2002.5 | 1.023871 .0704377 0.34 0.732 .8947185 1.171667

2002.75 | .9296955 .0635321 -1.07 0.286 .8131537 1.06294

2003 | .8057836 .0539088 -3.23 0.001 .7067585 .9186832

2003.25 | .8813248 .0655459 -1.70 0.089 .7617814 1.019628

2003.5 | .9416272 .0566679 -1.00 0.318 .8368603 1.05951

2003.75 | .741314 .050837 -4.36 0.000 .6480812 .8479592

2004 | .7444123 .0491833 -4.47 0.000 .6539955 .8473296

2004.25 | .8235319 .0532362 -3.00 0.003 .7255303 .9347713

2004.5 | .8952326 .0588263 -1.68 0.092 .787051 1.018284

2004.75 | .7048956 .0542182 -4.55 0.000 .606252 .8195895

2005 | .6859445 .0483865 -5.34 0.000 .5973725 .7876491

2005.25 | .7519714 .0539398 -3.97 0.000 .6533467 .8654839

2005.5 | .8551498 .0671721 -1.99 0.046 .7331287 .9974798

2005.75 | .6980017 .053385 -4.70 0.000 .6008339 .8108836

2006 | .6943736 .0509819 -4.97 0.000 .6013077 .8018436

2006.25 | .6412814 .0469179 -6.07 0.000 .555613 .7401587

2006.5 | .8050814 .0583132 -2.99 0.003 .6985316 .9278836

2006.75 | .6427714 .0465578 -6.10 0.000 .5577011 .7408181

2007 | .655935 .0480704 -5.75 0.000 .5681725 .7572536

2007.25 | .6408542 .0569035 -5.01 0.000 .5384909 .7626761

2007.5 | .7884835 .0600489 -3.12 0.002 .6791525 .9154147

2007.75 | .7211236 .056438 -4.18 0.000 .6185735 .840675

2008 | .6589703 .0510873 -5.38 0.000 .5660772 .7671071

2008.25 | .6487469 .0545111 -5.15 0.000 .550241 .7648876

2008.5 | .7918571 .0691002 -2.67 0.007 .6673721 .9395623

2008.75 | .6246627 .0498118 -5.90 0.000 .5342803 .7303347

2009 | .6348617 .0474139 -6.08 0.000 .5484134 .7349371

2009.25 | .5913427 .0475033 -6.54 0.000 .5051974 .6921772

2009.5 | .6377385 .0511284 -5.61 0.000 .5450052 .7462505

2009.75 | .5543632 .0403298 -8.11 0.000 .480695 .6393213

2010 | .5217432 .047154 -7.20 0.000 .4370459 .6228544

2010.25 | .5617158 .0525586 -6.16 0.000 .4675967 .6747795

2010.5 | .6532584 .0506935 -5.49 0.000 .5610879 .7605699

2010.75 | .543337 .0440891 -7.52 0.000 .4634453 .637001

2011 | .5413055 .0458208 -7.25 0.000 .4585529 .6389921

2011.25 | .5019894 .0428599 -8.07 0.000 .4246381 .5934309

2011.5 | .5721954 .0460559 -6.94 0.000 .4886875 .6699733

2011.75 | .4544206 .0358767 -9.99 0.000 .389274 .5304699

2012 | .4882787 .0421817 -8.30 0.000 .4122244 .5783647

2012.25 | .4571727 .0402731 -8.88 0.000 .3846773 .5433305

2012.5 | .5277732 .0509962 -6.61 0.000 .4367168 .6378151

2012.75 | .4068949 .0388005 -9.43 0.000 .3375311 .4905132

2013 | .449991 .0437628 -8.21 0.000 .3718967 .5444844

2013.25 | .4407869 .0442283 -8.16 0.000 .3620926 .5365839

2013.5 | .51948 .0551354 -6.17 0.000 .4219159 .639605

2013.75 | .3931488 .0386114 -9.51 0.000 .3243097 .4765999

2014 | .4561762 .0485422 -7.38 0.000 .3703014 .5619657

2014.25 | .4633971 .0551216 -6.47 0.000 .3670303 .5850657

2014.5 | .5067571 .0518882 -6.64 0.000 .4146132 .6193792

2014.75 | .4708573 .0487291 -7.28 0.000 .3844133 .5767402

2015 | .4378771 .049635 -7.29 0.000 .3506431 .5468134

2015.25 | .3810044 .0407164 -9.03 0.000 .3090049 .46978

2015.5 | .5242923 .0569844 -5.94 0.000 .4236995 .6487673

2015.75 | .3884106 .050089 -7.33 0.000 .3016624 .5001048

2016 | .4280728 .0534805 -6.79 0.000 .3350999 .5468408

|

\_cons | .0000898 4.99e-06 -167.79 0.000 .0000806 .0001002

ln(hours) | 1 (exposure)

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

.

. quietly poisson dv `ss\_lag\_all\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

. est store pois

. estat gof

Deviance goodness-of-fit = 37602.79

Prob > chi2(19208) = 0.0000

Pearson goodness-of-fit = 1100365

Prob > chi2(19208) = 0.0000

.

. pause "next"

.

. // negative binomial model

. glm dv `ss\_lag\_all\_vars' `covariates' ib(freq).state ib(freq).time, family(nbinomial) link(log) vce(cl mineid) exposure(hours) iter(50) eform

Iteration 0: log pseudolikelihood = -35607.849

Iteration 1: log pseudolikelihood = -35236.925

Iteration 2: log pseudolikelihood = -35235.149

Iteration 3: log pseudolikelihood = -35235.117

Iteration 4: log pseudolikelihood = -35235.113

Iteration 5: log pseudolikelihood = -35235.112

Iteration 6: log pseudolikelihood = -35235.112

Iteration 7: log pseudolikelihood = -35235.112

Generalized linear models No. of obs = 19,291

Optimization : ML Residual df = 19,208

Scale parameter = 1

Deviance = 15281.55117 (1/df) Deviance = .7955826

Pearson = 789051.5274 (1/df) Pearson = 41.07932

Variance function: V(u) = u+(1)u^2 [Neg. Binomial]

Link function : g(u) = ln(u) [Log]

AIC = 3.661615

Log pseudolikelihood = -35235.11211 BIC = -174251.4

(Std. Err. adjusted for 1,288 clusters in mineid)

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

| Robust

dv | IRR Std. Err. z P>|z| [95% Conf. Interval]

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

p48\_ss\_c\_lag\_all | 1.005516 .0136331 0.41 0.685 .9791474 1.032595

p75\_ss\_c\_lag\_all | .9999819 .0000939 -0.19 0.847 .9997979 1.000166

mine\_time | 1.002613 .0019785 1.32 0.186 .9987423 1.006498

onsite\_insp\_hours | .999485 .0001343 -3.83 0.000 .9992217 .9997483

|

state |

AL | 1.051109 .11501 0.46 0.649 .848225 1.30252

CO | .7996751 .1052597 -1.70 0.089 .6178336 1.035036

IL | 1.371886 .0932811 4.65 0.000 1.200717 1.567456

IN | 1.146374 .1252961 1.25 0.211 .9253199 1.420237

MD | 1.593085 .2812495 2.64 0.008 1.127106 2.251716

MT | .0000368 .000037 -10.18 0.000 5.16e-06 .0002631

NM | .7229404 .0391799 -5.99 0.000 .650087 .8039582

OH | .9695715 .1070757 -0.28 0.780 .780866 1.20388

OK | 1.884893 .3343194 3.57 0.000 1.331407 2.66847

PA | 1.3266 .1264575 2.96 0.003 1.100524 1.599117

TN | 1.618262 .2107711 3.70 0.000 1.253671 2.088882

UT | .484367 .0654926 -5.36 0.000 .3716047 .6313467

VA | .9393216 .0568141 -1.03 0.301 .8343151 1.057544

WV | 1.279406 .0717515 4.39 0.000 1.146229 1.428056

WY | .7712702 .0597572 -3.35 0.001 .6626075 .8977529

|

time |

2000.25 | 1.188265 .0714345 2.87 0.004 1.056189 1.336856

2000.5 | 1.283562 .0800885 4.00 0.000 1.13581 1.450534

2000.75 | .852681 .0569408 -2.39 0.017 .7480741 .9719157

2001 | .9046269 .0614666 -1.48 0.140 .7918318 1.033489

2001.25 | 1.050787 .1056805 0.49 0.622 .8627941 1.279742

2001.5 | 1.213424 .0946477 2.48 0.013 1.041402 1.413861

2001.75 | .9583445 .0758235 -0.54 0.591 .8206826 1.119098

2002 | 1.105508 .1427018 0.78 0.437 .8583939 1.423761

2002.25 | 1.027811 .0858929 0.33 0.743 .8725285 1.21073

2002.5 | 1.0534 .0913988 0.60 0.549 .8886658 1.248672

2002.75 | .8475437 .0629851 -2.23 0.026 .7326646 .9804354

2003 | .8429832 .0692784 -2.08 0.038 .7175713 .9903136

2003.25 | .9412042 .0878568 -0.65 0.516 .7838417 1.130159

2003.5 | .9679978 .0693349 -0.45 0.650 .8412116 1.113893

2003.75 | .7189336 .0600184 -3.95 0.000 .6104193 .8467384

2004 | .7486756 .0607312 -3.57 0.000 .6386248 .8776909

2004.25 | .8029909 .0618441 -2.85 0.004 .6904837 .9338298

2004.5 | .8490606 .0654007 -2.12 0.034 .7300845 .9874253

2004.75 | .6700073 .0564927 -4.75 0.000 .5679488 .7904055

2005 | .700972 .0591138 -4.21 0.000 .5941797 .8269581

2005.25 | .7061381 .055742 -4.41 0.000 .6049179 .8242955

2005.5 | .8387319 .0664788 -2.22 0.027 .7180521 .9796938

2005.75 | .6569536 .0560429 -4.93 0.000 .5558032 .7765123

2006 | .730984 .065222 -3.51 0.000 .6137046 .8706755

2006.25 | .6336159 .0517323 -5.59 0.000 .5399191 .7435727

2006.5 | .7672839 .0619329 -3.28 0.001 .6550125 .8987991

2006.75 | .6493864 .056903 -4.93 0.000 .5469102 .771064

2007 | .614573 .0488183 -6.13 0.000 .5259671 .7181056

2007.25 | .6128486 .0577311 -5.20 0.000 .509529 .7371188

2007.5 | .8157345 .0934856 -1.78 0.076 .6516264 1.021172

2007.75 | .6805874 .0615401 -4.26 0.000 .5700547 .8125522

2008 | .6337254 .0538217 -5.37 0.000 .536549 .7485018

2008.25 | .6242103 .0553291 -5.32 0.000 .5246644 .7426432

2008.5 | .7222399 .0669417 -3.51 0.000 .6022638 .8661163

2008.75 | .5794264 .0504406 -6.27 0.000 .4885387 .6872229

2009 | .6089675 .0501696 -6.02 0.000 .5181651 .7156819

2009.25 | .6417343 .0648144 -4.39 0.000 .5264837 .782214

2009.5 | .6395625 .0625048 -4.57 0.000 .5280737 .7745891

2009.75 | .5470808 .0465983 -7.08 0.000 .4629661 .6464779

2010 | .4978064 .0467197 -7.43 0.000 .4141658 .5983382

2010.25 | .5566924 .0679343 -4.80 0.000 .4382697 .7071136

2010.5 | .7098526 .0639805 -3.80 0.000 .594905 .8470103

2010.75 | .580269 .0588246 -5.37 0.000 .4757065 .7078149

2011 | .553273 .0521306 -6.28 0.000 .4599783 .66549

2011.25 | .50434 .0458983 -7.52 0.000 .4219475 .6028211

2011.5 | .5649479 .0488073 -6.61 0.000 .4769479 .6691846

2011.75 | .4574539 .0404281 -8.85 0.000 .3846992 .543968

2012 | .4907592 .049659 -7.03 0.000 .4024732 .5984116

2012.25 | .4726534 .0445197 -7.96 0.000 .3929772 .568484

2012.5 | .5579586 .0596022 -5.46 0.000 .4525587 .6879058

2012.75 | .3847587 .0400126 -9.18 0.000 .3138114 .4717461

2013 | .4858201 .056349 -6.22 0.000 .387032 .6098235

2013.25 | .42965 .0444265 -8.17 0.000 .3508321 .5261752

2013.5 | .5057342 .0548888 -6.28 0.000 .4088264 .6256129

2013.75 | .3699996 .0391168 -9.40 0.000 .3007538 .4551885

2014 | .449752 .0461427 -7.79 0.000 .3678268 .5499242

2014.25 | .4361478 .0500257 -7.23 0.000 .3483386 .5460918

2014.5 | .4706134 .0497187 -7.13 0.000 .3825937 .578883

2014.75 | .4980882 .0568567 -6.11 0.000 .3982371 .6229753

2015 | .4093597 .0427228 -8.56 0.000 .3336334 .5022739

2015.25 | .3586443 .038937 -9.45 0.000 .2899022 .4436868

2015.5 | .4913866 .0519564 -6.72 0.000 .399413 .6045391

2015.75 | .3778749 .0461506 -7.97 0.000 .297433 .4800727

2016 | .3942616 .0508617 -7.21 0.000 .3061789 .5076843

|

\_cons | .0000867 5.03e-06 -161.32 0.000 .0000774 .0000972

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. eststo clear

. eststo: nbreg dv `ss\_lag\_all\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -37470.876

Iteration 1: log pseudolikelihood = -36976.618

Iteration 2: log pseudolikelihood = -36974.651

Iteration 3: log pseudolikelihood = -36974.637

Iteration 4: log pseudolikelihood = -36974.634

Iteration 5: log pseudolikelihood = -36974.634

Iteration 6: log pseudolikelihood = -36974.634

Iteration 7: log pseudolikelihood = -36974.634

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -36163.905

Iteration 1: log pseudolikelihood = -35503.284

Iteration 2: log pseudolikelihood = -35464.22

Iteration 3: log pseudolikelihood = -35464.069

Iteration 4: log pseudolikelihood = -35464.069

Fitting full model:

Iteration 0: log pseudolikelihood = -34403.832

Iteration 1: log pseudolikelihood = -34212.767

Iteration 2: log pseudolikelihood = -34208.11

Iteration 3: log pseudolikelihood = -34208.107

Negative binomial regression Number of obs = 19,291

Wald chi2(82) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -34208.107 Pseudo R2 = 0.0354

(Std. Err. adjusted for 1,288 clusters in mineid)

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

| Robust

dv | IRR Std. Err. z P>|z| [95% Conf. Interval]

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

p48\_ss\_c\_lag\_all | 1.00663 .0126687 0.53 0.600 .9821035 1.031769

p75\_ss\_c\_lag\_all | .999959 .000087 -0.47 0.638 .9997885 1.00013

mine\_time | 1.002361 .0019045 1.24 0.214 .9986356 1.006101

onsite\_insp\_hours | .9995297 .0001299 -3.62 0.000 .9992752 .9997843

|

state |

AL | 1.040242 .1046368 0.39 0.695 .8541082 1.266939

CO | .7482196 .0946218 -2.29 0.022 .5839611 .9586813

IL | 1.330724 .0878538 4.33 0.000 1.169209 1.514551

IN | 1.149009 .127995 1.25 0.212 .9236403 1.429367

MD | 1.460258 .2188328 2.53 0.012 1.088603 1.958799

MT | 5.77e-07 5.78e-07 -14.33 0.000 8.09e-08 4.11e-06

NM | .7217483 .038513 -6.11 0.000 .6500773 .801321

OH | .9678634 .0968068 -0.33 0.744 .7955654 1.177476

OK | 1.858857 .3289431 3.50 0.000 1.314067 2.629508

PA | 1.230348 .1230721 2.07 0.038 1.011305 1.496835

TN | 1.573793 .1930545 3.70 0.000 1.237463 2.001534

UT | .4697594 .0562422 -6.31 0.000 .3715052 .5939995

VA | .9205036 .0603745 -1.26 0.207 .8094619 1.046778

WV | 1.197024 .0651308 3.31 0.001 1.075941 1.331733

WY | .748419 .055794 -3.89 0.000 .6466786 .8661659

|

time |

2000.25 | 1.161167 .0620443 2.80 0.005 1.045714 1.289368

2000.5 | 1.268724 .0685485 4.41 0.000 1.14124 1.410448

2000.75 | .8816202 .053371 -2.08 0.037 .7829825 .9926841

2001 | .9067765 .0542273 -1.64 0.102 .8064852 1.019539

2001.25 | 1.015156 .0764532 0.20 0.842 .8758446 1.176625

2001.5 | 1.196722 .0805002 2.67 0.008 1.048903 1.365373

2001.75 | .9377517 .0629694 -0.96 0.339 .8221106 1.069659

2002 | 1.028649 .0874141 0.33 0.740 .8708285 1.215072

2002.25 | .9916188 .0668829 -0.12 0.901 .8688259 1.131766

2002.5 | 1.031441 .0720877 0.44 0.658 .8994021 1.182865

2002.75 | .8710913 .0581879 -2.07 0.039 .7641954 .9929399

2003 | .8165864 .0585488 -2.83 0.005 .7095311 .9397943

2003.25 | .8947951 .0669303 -1.49 0.137 .7727767 1.03608

2003.5 | .9497843 .0600581 -0.81 0.415 .8390746 1.075101

2003.75 | .7208622 .0532756 -4.43 0.000 .6236543 .8332218

2004 | .7485285 .0542988 -3.99 0.000 .6493242 .8628893

2004.25 | .8141329 .0566975 -2.95 0.003 .7102582 .9331991

2004.5 | .8709501 .0608397 -1.98 0.048 .7595093 .9987422

2004.75 | .6873113 .054223 -4.75 0.000 .5888449 .8022431

2005 | .6903022 .0514188 -4.98 0.000 .5965343 .7988091

2005.25 | .7182925 .0513798 -4.63 0.000 .6243303 .826396

2005.5 | .8447783 .0614722 -2.32 0.020 .7324924 .9742769

2005.75 | .6719405 .0532051 -5.02 0.000 .5753492 .7847478

2006 | .7106578 .0561278 -4.32 0.000 .6087411 .8296376

2006.25 | .6402959 .0482983 -5.91 0.000 .5522982 .7423144

2006.5 | .7841239 .0575096 -3.32 0.001 .6791339 .9053446

2006.75 | .6453895 .0505412 -5.59 0.000 .5535582 .7524549

2007 | .6319932 .046883 -6.19 0.000 .5464719 .7308983

2007.25 | .6225319 .0567254 -5.20 0.000 .5207145 .744258

2007.5 | .8001779 .0748306 -2.38 0.017 .6661689 .9611447

2007.75 | .6932136 .0559952 -4.54 0.000 .5917118 .8121269

2008 | .6374543 .0492162 -5.83 0.000 .5479362 .7415972

2008.25 | .6283828 .0524999 -5.56 0.000 .533468 .740185

2008.5 | .743505 .0658084 -3.35 0.001 .6250908 .884351

2008.75 | .5950885 .0482759 -6.40 0.000 .5076083 .6976448

2009 | .6102554 .0456191 -6.61 0.000 .5270853 .7065493

2009.25 | .613106 .0544404 -5.51 0.000 .5151736 .729655

2009.5 | .6310266 .0550052 -5.28 0.000 .5319248 .7485918

2009.75 | .5442431 .0420772 -7.87 0.000 .4677177 .6332892

2010 | .4985815 .0438297 -7.92 0.000 .4196701 .5923308

2010.25 | .5567301 .0628134 -5.19 0.000 .44628 .6945156

2010.5 | .6857844 .0573822 -4.51 0.000 .5820554 .8079992

2010.75 | .5604197 .0501027 -6.48 0.000 .4703425 .667748

2011 | .5449264 .0473098 -6.99 0.000 .459661 .6460082

2011.25 | .5001417 .0429202 -8.07 0.000 .4227137 .5917522

2011.5 | .5659502 .0453863 -7.10 0.000 .4836333 .6622778

2011.75 | .4522678 .0363624 -9.87 0.000 .3863304 .5294591

2012 | .4848368 .0435328 -8.06 0.000 .4066 .5781276

2012.25 | .4607846 .039741 -8.98 0.000 .3891212 .545646

2012.5 | .5390045 .0514525 -6.47 0.000 .4470314 .6499002

2012.75 | .3898683 .0375684 -9.78 0.000 .3227711 .4709136

2013 | .4592485 .0456896 -7.82 0.000 .3778884 .5581255

2013.25 | .4268958 .0407938 -8.91 0.000 .3539825 .5148278

2013.5 | .501475 .0507551 -6.82 0.000 .4112423 .611506

2013.75 | .3754003 .0369634 -9.95 0.000 .3095151 .4553102

2014 | .4456637 .0440233 -8.18 0.000 .3672184 .5408667

2014.25 | .4347643 .0472212 -7.67 0.000 .3514003 .5379051

2014.5 | .4741347 .0466156 -7.59 0.000 .3910335 .5748962

2014.75 | .473653 .0481463 -7.35 0.000 .3880937 .5780746

2015 | .4124003 .0415606 -8.79 0.000 .3384832 .5024593

2015.25 | .3606029 .0368552 -9.98 0.000 .2951431 .440581

2015.5 | .4990493 .0493502 -7.03 0.000 .4111209 .6057834

2015.75 | .3790246 .0451337 -8.15 0.000 .3001288 .4786601

2016 | .401524 .0488149 -7.51 0.000 .3163934 .5095604

|

\_cons | .0000881 4.65e-06 -176.85 0.000 .0000795 .0000977

ln(hours) | 1 (exposure)

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

/lnalpha | -1.083638 .0807728 -1.241949 -.9253261

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

alpha | .3383624 .0273305 .2888206 .3964021

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

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.C.SSV.4.csv"', replace plain wide p eform

(note: file C:\Users\jbodson\Dropbox (Stanford Law School)\R-code\Injury-Classification\PS Model Summaries 10-10\Estout\Model.PS.Q.P.C.SSV.4.csv not found)

(output written to C:\Users\jbodson\Dropbox (Stanford Law School)\R-code\Injury-Classification\PS Model Summaries 10-10\Estout\Model.PS.Q.P.C.SSV.4.csv)

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(1) = 5533.05

(Assumption: pois nested in nbin) Prob > chi2 = 0.0000

Akaike's information criterion and Bayesian information criterion

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

Model | Obs ll(null) ll(model) df AIC BIC

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

pois | 19,291 -40650.43 -36974.63 83 74115.27 74768.26

nbin | 19,291 -35464.07 -34208.11 84 68584.21 69245.08

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

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

.

. pause "next"

.

. // final model + diagnostics/assessment

. quietly nbreg dv `ss\_lag\_all\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

. predict cssv4\_yhat

(option n assumed; predicted number of events)

(10,998 missing values generated)

. gen cssv4\_res = dv - cssv4\_yhat

(10,998 missing values generated)

.

. summ dv cssv4\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv | 30,289 2.177721 3.851734 0 71

cssv4\_yhat | 19,291 2.94867 4.074852 9.33e-08 36.79583

. /\*

> pause "next"

>

> scatter dv cssv4\_yhat

>

> pause "next"

>

> scatter cssv4\_res dv

>

> pause "next"

>

> scatter cssv4\_res cssv4\_yhat

> \*/

. pause "complete: C.SSV.4"