. // Model C.SSV.3

.

. // poisson model

. glm dv `ss\_lag\_4\_vars' `covariates' ib(freq).state ib(freq).time, family(poisson) link(log) vce(cl mineid) exposure(hours) iter(50) eform

Iteration 0: log pseudolikelihood = -44210.566

Iteration 1: log pseudolikelihood = -41194.571

Iteration 2: log pseudolikelihood = -41177.175

Iteration 3: log pseudolikelihood = -41176.942

Iteration 4: log pseudolikelihood = -41176.901

Iteration 5: log pseudolikelihood = -41176.892

Iteration 6: log pseudolikelihood = -41176.889

Iteration 7: log pseudolikelihood = -41176.889

Iteration 8: log pseudolikelihood = -41176.889

Iteration 9: log pseudolikelihood = -41176.889

Generalized linear models No. of obs = 22,446

Optimization : ML Residual df = 22,289

Scale parameter = 1

Deviance = 41269.94629 (1/df) Deviance = 1.851584

Pearson = 984736.8057 (1/df) Pearson = 44.18039

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

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

AIC = 3.682963

Log pseudolikelihood = -41176.88879 BIC = -182040.6

(Std. Err. adjusted for 1,293 clusters in mineid)

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

| Robust

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

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

sp48\_11\_ss\_c\_4lag | .9976089 .0336974 -0.07 0.943 .933702 1.06589

sp48\_25\_ss\_c\_4lag | .9289633 .0468693 -1.46 0.144 .8414971 1.025521

sp48\_26\_ss\_c\_4lag | 1.093115 .0655268 1.49 0.137 .9719425 1.229394

sp48\_27\_ss\_c\_4lag | 1.000495 .0624324 0.01 0.994 .8853166 1.130658

sp48\_28\_ss\_c\_4lag | .935702 .0532537 -1.17 0.243 .8369375 1.046121

sp48\_4\_ss\_c\_4lag | .7351619 .4400219 -0.51 0.607 .227461 2.376069

sp48\_5\_ss\_c\_4lag | 1.004728 .0811737 0.06 0.953 .8575878 1.177114

sp48\_6\_ss\_c\_4lag | 1.059728 .0781446 0.79 0.431 .9171211 1.22451

sp48\_7\_ss\_c\_4lag | 1.060194 .0335377 1.85 0.065 .996458 1.128008

sp48\_8\_ss\_c\_4lag | .9538982 .0980209 -0.46 0.646 .7798913 1.166729

sp75\_100\_ss\_c\_4lag | .9712112 .1383606 -0.21 0.838 .7345982 1.284037

sp75\_1002\_ss\_c\_4lag | .986997 .026418 -0.49 0.625 .9365534 1.040158

sp75\_1003\_ss\_c\_4lag | .9664546 .0310489 -1.06 0.288 .9074762 1.029266

sp75\_1003\_2\_ss\_c\_4lag | .910695 .0636093 -1.34 0.180 .7941804 1.044304

sp75\_1311\_ss\_c\_4lag | .9127743 .1117803 -0.75 0.456 .7179983 1.160388

sp75\_1315\_ss\_c\_4lag | .4526039 .1566944 -2.29 0.022 .2296291 .8920923

sp75\_1316\_ss\_c\_4lag | .90029 .1310283 -0.72 0.470 .6768594 1.197475

sp75\_1318\_ss\_c\_4lag | 1.19e-06 1.20e-06 -13.61 0.000 1.67e-07 8.50e-06

sp75\_1322\_ss\_c\_4lag | 1.42e+07 1.43e+07 16.35 0.000 1975835 1.02e+08

sp75\_1400\_ss\_c\_4lag | 1.026739 .0460227 0.59 0.556 .9403848 1.121022

sp75\_1400\_1\_ss\_c\_4lag | .8646329 .1331459 -0.94 0.345 .6393728 1.169255

sp75\_1403\_10\_ss\_c\_4lag | 1.037888 .0086068 4.48 0.000 1.021155 1.054895

sp75\_1403\_5\_ss\_c\_4lag | .9851405 .0065246 -2.26 0.024 .9724351 .9980119

sp75\_1403\_6\_ss\_c\_4lag | .9857352 .0065626 -2.16 0.031 .9729563 .9986819

sp75\_1403\_7\_ss\_c\_4lag | 1.03286 .0364334 0.92 0.359 .9638647 1.106795

sp75\_1403\_8\_ss\_c\_4lag | .9806267 .0101236 -1.90 0.058 .9609843 1.000671

sp75\_1404\_ss\_c\_4lag | 1.071169 .2312938 0.32 0.750 .7015535 1.635517

sp75\_1404\_1\_ss\_c\_4lag | .8362569 .09529 -1.57 0.117 .6688778 1.045521

sp75\_1405\_ss\_c\_4lag | .9760194 .0088777 -2.67 0.008 .9587736 .9935753

sp75\_1405\_1\_ss\_c\_4lag | 1.038338 .1683235 0.23 0.816 .7557037 1.426677

sp75\_153\_ss\_c\_4lag | 1.763954 .2046061 4.89 0.000 1.405251 2.214219

sp75\_155\_ss\_c\_4lag | .7708664 .0759668 -2.64 0.008 .6354707 .9351099

sp75\_156\_ss\_c\_4lag | .5337538 .0805036 -4.16 0.000 .3971533 .7173378

sp75\_1719\_2\_ss\_c\_4lag | .7983309 .1470418 -1.22 0.221 .5564204 1.145415

sp75\_1719\_4\_ss\_c\_4lag | .9832584 .0563561 -0.29 0.768 .8787808 1.100157

sp75\_1720\_ss\_c\_4lag | 1.044919 .0302113 1.52 0.129 .9873521 1.105842

sp75\_1725\_ss\_c\_4lag | .9962092 .0030509 -1.24 0.215 .9902475 1.002207

sp75\_1906\_ss\_c\_4lag | 1.258065 .2058055 1.40 0.161 .9129686 1.733605

sp75\_1916\_ss\_c\_4lag | 1.01875 .0408 0.46 0.643 .9418417 1.101939

sp75\_203\_ss\_c\_4lag | 1.013279 .014231 0.94 0.348 .9857673 1.041559

sp75\_204\_ss\_c\_4lag | 1.063385 .0281433 2.32 0.020 1.009631 1.12

sp75\_205\_ss\_c\_4lag | 1.48544 .3008845 1.95 0.051 .9987101 2.209383

sp75\_207\_ss\_c\_4lag | 1.274473 .1623577 1.90 0.057 .9928747 1.635938

sp75\_208\_ss\_c\_4lag | 1.019566 .0139275 1.42 0.156 .9926304 1.047232

sp75\_209\_ss\_c\_4lag | .9955617 .0725678 -0.06 0.951 .8630242 1.148453

sp75\_212\_ss\_c\_4lag | 1.076398 .0491784 1.61 0.107 .9841995 1.177233

sp75\_213\_ss\_c\_4lag | 1.0943 .0179172 5.50 0.000 1.059741 1.129987

sp75\_215\_ss\_c\_4lag | 1.128612 .0765093 1.78 0.074 .9881916 1.288986

sp75\_332\_ss\_c\_4lag | .9163453 .0831914 -0.96 0.336 .7669762 1.094804

sp75\_334\_ss\_c\_4lag | .9780882 .0312463 -0.69 0.488 .9187245 1.041288

sp75\_337\_ss\_c\_4lag | .9695891 .0204252 -1.47 0.143 .9303716 1.01046

sp75\_340\_ss\_c\_4lag | .9895944 .0123995 -0.83 0.404 .9655878 1.014198

sp75\_343\_ss\_c\_4lag | 1.151256 .0782902 2.07 0.038 1.007597 1.315398

sp75\_373\_ss\_c\_4lag | 7.54e-06 6.81e-06 -13.05 0.000 1.28e-06 .0000443

sp75\_388\_ss\_c\_4lag | 1.05081 .0607167 0.86 0.391 .9382982 1.176812

sp75\_389\_ss\_c\_4lag | 1.056771 .2225794 0.26 0.793 .6993568 1.596845

sp75\_500\_ss\_c\_4lag | .9771174 .0606834 -0.37 0.709 .8651338 1.103596

sp75\_500\_1\_ss\_c\_4lag | .8439107 .2858377 -0.50 0.616 .4344995 1.639093

sp75\_501\_ss\_c\_4lag | .8826753 .0621008 -1.77 0.076 .768979 1.013182

sp75\_501\_2\_ss\_c\_4lag | .9288864 .3578363 -0.19 0.848 .4365691 1.976388

sp75\_502\_ss\_c\_4lag | 1.162625 .2761301 0.63 0.526 .7299183 1.851846

sp75\_503\_ss\_c\_4lag | 1.004345 .0038769 1.12 0.261 .9967754 1.011973

sp75\_505\_ss\_c\_4lag | .5608849 .1539403 -2.11 0.035 .3275316 .960493

sp75\_506\_1\_ss\_c\_4lag | 1.047379 .1479845 0.33 0.743 .7940312 1.381563

sp75\_507\_ss\_c\_4lag | 1.028305 .0601507 0.48 0.633 .9169188 1.153222

sp75\_507\_1\_ss\_c\_4lag | 1.055249 .032362 1.75 0.080 .9936894 1.120623

sp75\_509\_ss\_c\_4lag | 1.239494 .1025853 2.59 0.009 1.053891 1.457784

sp75\_512\_1\_ss\_c\_4lag | 1.54566 .2685727 2.51 0.012 1.099537 2.172792

sp75\_523\_ss\_c\_4lag | .9725171 .0203787 -1.33 0.184 .9333847 1.01329

sp75\_523\_3\_ss\_c\_4lag | .9731764 .0083927 -3.15 0.002 .9568654 .9897655

sp75\_524\_ss\_c\_4lag | 1.242288 .1656889 1.63 0.104 .9565202 1.613431

sp75\_602\_ss\_c\_4lag | 1.021519 .0377892 0.58 0.565 .950075 1.098336

sp75\_603\_ss\_c\_4lag | 1.038675 .0368885 1.07 0.285 .9688338 1.113551

sp75\_604\_ss\_c\_4lag | 1.004385 .0040904 1.07 0.283 .9963994 1.012434

sp75\_605\_ss\_c\_4lag | .9835178 .0219342 -0.75 0.456 .9414535 1.027461

sp75\_606\_ss\_c\_4lag | 1.010918 .0165356 0.66 0.507 .9790226 1.043852

sp75\_607\_ss\_c\_4lag | .9710618 .0368924 -0.77 0.440 .9013805 1.04613

sp75\_703\_3\_ss\_c\_4lag | 1.040958 .0659478 0.63 0.526 .9194052 1.178581

sp75\_807\_ss\_c\_4lag | 1.027826 .0165728 1.70 0.089 .9958519 1.060827

sp75\_810\_ss\_c\_4lag | 1.20014 .0648128 3.38 0.001 1.079601 1.334137

sp75\_811\_ss\_c\_4lag | .9469985 .065785 -0.78 0.433 .8264546 1.085125

sp75\_812\_ss\_c\_4lag | .8417471 .1079069 -1.34 0.179 .6547308 1.082182

sp75\_816\_ss\_c\_4lag | 1.02365 .0535182 0.45 0.655 .9239518 1.134107

sp75\_817\_ss\_c\_4lag | .9176269 .2592972 -0.30 0.761 .5273987 1.596589

sp75\_906\_ss\_c\_4lag | .4851117 .1163852 -3.02 0.003 .3031282 .7763493

mine\_time | 1.001434 .0014966 0.96 0.338 .9985049 1.004371

onsite\_insp\_hours | .9995778 .0001045 -4.04 0.000 .999373 .9997827

|

state |

AL | .9783919 .0726175 -0.29 0.769 .8459323 1.131593

AR | 1.835453 .0920752 12.11 0.000 1.663577 2.025087

CO | .6850549 .0723529 -3.58 0.000 .5569609 .842609

IL | 1.242701 .0750733 3.60 0.000 1.103938 1.398908

IN | 1.088363 .1017497 0.91 0.365 .9061413 1.307228

MD | 1.201776 .1632287 1.35 0.176 .9208964 1.568325

MT | .5295839 .0265962 -12.66 0.000 .4799397 .5843632

NM | .7109528 .0329751 -7.36 0.000 .6491734 .7786115

OH | 1.126626 .11442 1.17 0.240 .9232766 1.374763

OK | 1.607645 .238573 3.20 0.001 1.201912 2.150343

PA | 1.067212 .1043677 0.67 0.506 .8810647 1.292688

TN | 1.587296 .1778088 4.12 0.000 1.274402 1.977013

UT | .442949 .0678235 -5.32 0.000 .3281099 .597982

VA | .8668603 .0678107 -1.83 0.068 .7436411 1.010497

WV | 1.116121 .0567125 2.16 0.031 1.010322 1.232999

WY | .7411335 .0396532 -5.60 0.000 .6673509 .8230735

|

time |

2000.75 | 1.490912 .1151453 5.17 0.000 1.281482 1.734569

2001 | 1.466488 .1165551 4.82 0.000 1.254948 1.713686

2001.25 | 1.56286 .1289403 5.41 0.000 1.329516 1.837158

2001.5 | 1.896055 .1628407 7.45 0.000 1.60231 2.243652

2001.75 | 1.485206 .1194311 4.92 0.000 1.268639 1.738741

2002 | 1.55551 .1117817 6.15 0.000 1.351152 1.790778

2002.25 | 1.535143 .1163263 5.66 0.000 1.323271 1.78094

2002.5 | 1.681206 .1459384 5.98 0.000 1.418181 1.993013

2002.75 | 1.524335 .1254751 5.12 0.000 1.297221 1.791211

2003 | 1.29422 .0956255 3.49 0.000 1.119736 1.495893

2003.25 | 1.414536 .115991 4.23 0.000 1.204526 1.661162

2003.5 | 1.533748 .1112516 5.90 0.000 1.33049 1.768059

2003.75 | 1.21254 .0918715 2.54 0.011 1.045207 1.406662

2004 | 1.242582 .0990722 2.72 0.006 1.062816 1.452754

2004.25 | 1.366211 .0968802 4.40 0.000 1.188934 1.569922

2004.5 | 1.502476 .1133837 5.39 0.000 1.295901 1.741979

2004.75 | 1.212141 .0977124 2.39 0.017 1.034991 1.419612

2005 | 1.152158 .0799172 2.04 0.041 1.005704 1.319939

2005.25 | 1.277238 .088888 3.52 0.000 1.11438 1.463896

2005.5 | 1.396707 .0991877 4.70 0.000 1.215225 1.605291

2005.75 | 1.192586 .0864291 2.43 0.015 1.034669 1.374606

2006 | 1.190779 .080335 2.59 0.010 1.043291 1.359117

2006.25 | 1.154036 .0823987 2.01 0.045 1.003328 1.32738

2006.5 | 1.452793 .0934173 5.81 0.000 1.280766 1.647925

2006.75 | 1.102689 .0734759 1.47 0.142 .9676864 1.256526

2007 | 1.13073 .0739129 1.88 0.060 .9947593 1.285286

2007.25 | 1.16393 .0937786 1.88 0.060 .9939048 1.36304

2007.5 | 1.331069 .0801371 4.75 0.000 1.182916 1.497778

2007.75 | 1.179061 .0659865 2.94 0.003 1.056571 1.315752

2008 | 1.072933 .0622268 1.21 0.225 .957647 1.202097

2008.25 | 1.035677 .0648735 0.56 0.576 .916023 1.170962

2008.5 | 1.260088 .0696051 4.19 0.000 1.13079 1.40417

2009 | .9900107 .0515623 -0.19 0.847 .8939374 1.096409

2009.25 | .934572 .0540726 -1.17 0.242 .8343799 1.046795

2009.5 | 1.060109 .0550455 1.12 0.261 .9575298 1.173677

2009.75 | .910551 .0556509 -1.53 0.125 .8077569 1.026427

2010 | .9192559 .0681124 -1.14 0.256 .794999 1.062934

2010.25 | .9165062 .0669533 -1.19 0.233 .7942419 1.057592

2010.5 | 1.08339 .0689879 1.26 0.208 .9562739 1.227404

2010.75 | .8658419 .0540398 -2.31 0.021 .7661478 .9785087

2011 | .8647184 .0518407 -2.42 0.015 .7688547 .9725346

2011.25 | .8028765 .0488029 -3.61 0.000 .7127027 .9044595

2011.5 | .9319547 .0536429 -1.22 0.221 .8325302 1.043253

2011.75 | .7239083 .0440242 -5.31 0.000 .6425665 .8155471

2012 | .7964805 .051967 -3.49 0.000 .7008707 .905133

2012.25 | .7141642 .0441517 -5.45 0.000 .6326659 .806161

2012.5 | .8143682 .0570285 -2.93 0.003 .7099258 .9341758

2012.75 | .6477116 .0501716 -5.61 0.000 .5564778 .7539031

2013 | .7085651 .0530869 -4.60 0.000 .6117955 .8206411

2013.25 | .6981797 .0569392 -4.41 0.000 .5950432 .8191925

2013.5 | .8094476 .0659941 -2.59 0.010 .6899068 .9497012

2013.75 | .6228425 .0545407 -5.41 0.000 .524615 .7394618

2014 | .7008934 .0540986 -4.60 0.000 .6024928 .815365

2014.25 | .7396573 .0648171 -3.44 0.001 .6229292 .8782586

2014.5 | .8040957 .0574887 -3.05 0.002 .6989582 .9250481

2014.75 | .738375 .0537853 -4.16 0.000 .6401372 .8516888

2015 | .6838133 .0541663 -4.80 0.000 .58548 .798662

2015.25 | .628361 .0456597 -6.39 0.000 .5449503 .7245386

2015.5 | .8334767 .0654282 -2.32 0.020 .7146178 .9721048

2015.75 | .6308108 .0574592 -5.06 0.000 .5276732 .7541075

2016 | .6920533 .0643898 -3.96 0.000 .5766899 .8304946

|

\_cons | .0000544 3.90e-06 -136.96 0.000 .0000472 .0000626

ln(hours) | 1 (exposure)

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.

. quietly poisson dv `ss\_lag\_4\_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 = 41269.95

Prob > chi2(22284) = 0.0000

Pearson goodness-of-fit = 984710.1

Prob > chi2(22284) = 0.0000

.

. pause "next"

.

. // negative binomial model

. glm dv `ss\_lag\_4\_vars' `covariates' ib(freq).state ib(freq).time, family(nbinomial) link(log) vce(cl mineid) exposure(hours) iter(50) eform

Iteration 0: log pseudolikelihood = -40108.756

Iteration 1: log pseudolikelihood = -39693.185

Iteration 2: log pseudolikelihood = -39690.409

Iteration 3: log pseudolikelihood = -39690.28

Iteration 4: log pseudolikelihood = -39690.269

Iteration 5: log pseudolikelihood = -39690.267

Iteration 6: log pseudolikelihood = -39690.267

Iteration 7: log pseudolikelihood = -39690.267

Iteration 8: log pseudolikelihood = -39690.267

Generalized linear models No. of obs = 22,446

Optimization : ML Residual df = 22,289

Scale parameter = 1

Deviance = 17201.9783 (1/df) Deviance = .7717699

Pearson = 652946.0033 (1/df) Pearson = 29.29454

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

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

AIC = 3.5505

Log pseudolikelihood = -39690.26668 BIC = -206108.6

(Std. Err. adjusted for 1,293 clusters in mineid)

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| Robust

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

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

sp48\_11\_ss\_c\_4lag | 1.052178 .0511758 1.05 0.296 .9565078 1.157417

sp48\_25\_ss\_c\_4lag | .9068086 .0552264 -1.61 0.108 .8047774 1.021776

sp48\_26\_ss\_c\_4lag | 1.127713 .0686109 1.98 0.048 1.000947 1.270534

sp48\_27\_ss\_c\_4lag | .9122156 .0607942 -1.38 0.168 .8005152 1.039502

sp48\_28\_ss\_c\_4lag | .9271491 .0677748 -1.03 0.301 .8033903 1.069972

sp48\_4\_ss\_c\_4lag | .7224213 .415326 -0.57 0.572 .2341142 2.229222

sp48\_5\_ss\_c\_4lag | 1.106502 .1006995 1.11 0.266 .9257358 1.322567

sp48\_6\_ss\_c\_4lag | .9955749 .0889957 -0.05 0.960 .8355722 1.186216

sp48\_7\_ss\_c\_4lag | 1.049339 .045807 1.10 0.270 .9632924 1.143072

sp48\_8\_ss\_c\_4lag | 1.260998 .2904542 1.01 0.314 .8028817 1.980512

sp75\_100\_ss\_c\_4lag | 1.008228 .1913374 0.04 0.966 .6950585 1.462502

sp75\_1002\_ss\_c\_4lag | .984313 .0589931 -0.26 0.792 .8752214 1.107002

sp75\_1003\_ss\_c\_4lag | .9271871 .0402485 -1.74 0.082 .851564 1.009526

sp75\_1003\_2\_ss\_c\_4lag | .9206398 .0656657 -1.16 0.246 .8005286 1.058773

sp75\_1311\_ss\_c\_4lag | .7658154 .0827519 -2.47 0.014 .6196488 .9464608

sp75\_1315\_ss\_c\_4lag | .3828982 .1391893 -2.64 0.008 .1877841 .7807427

sp75\_1316\_ss\_c\_4lag | .7510464 .1600889 -1.34 0.179 .4945718 1.140524

sp75\_1318\_ss\_c\_4lag | 2.26e-06 2.27e-06 -12.97 0.000 3.18e-07 .0000161

sp75\_1322\_ss\_c\_4lag | 6362634 6406739 15.56 0.000 884168.2 4.58e+07

sp75\_1400\_ss\_c\_4lag | 1.069694 .0532161 1.35 0.176 .9703158 1.17925

sp75\_1400\_1\_ss\_c\_4lag | .7363697 .1052515 -2.14 0.032 .5564564 .9744525

sp75\_1403\_10\_ss\_c\_4lag | 1.048271 .0155926 3.17 0.002 1.018151 1.079282

sp75\_1403\_5\_ss\_c\_4lag | .982636 .0117562 -1.46 0.143 .9598623 1.00595

sp75\_1403\_6\_ss\_c\_4lag | .9871979 .0075359 -1.69 0.091 .9725378 1.002079

sp75\_1403\_7\_ss\_c\_4lag | 1.011286 .0373132 0.30 0.761 .9407347 1.087127

sp75\_1403\_8\_ss\_c\_4lag | .9739742 .0088392 -2.91 0.004 .9568029 .9914537

sp75\_1404\_ss\_c\_4lag | 1.273873 .5215927 0.59 0.554 .5709499 2.842197

sp75\_1404\_1\_ss\_c\_4lag | .662169 .1008702 -2.71 0.007 .4912502 .892555

sp75\_1405\_ss\_c\_4lag | .966151 .0114229 -2.91 0.004 .9440199 .9888009

sp75\_1405\_1\_ss\_c\_4lag | 1.254571 .2608712 1.09 0.275 .83464 1.885781

sp75\_153\_ss\_c\_4lag | 1.539839 .1759503 3.78 0.000 1.230871 1.926363

sp75\_155\_ss\_c\_4lag | .9324967 .1115683 -0.58 0.559 .7375739 1.178933

sp75\_156\_ss\_c\_4lag | .4657979 .0736403 -4.83 0.000 .3416858 .634992

sp75\_1719\_2\_ss\_c\_4lag | .6529233 .2579562 -1.08 0.281 .3010027 1.416296

sp75\_1719\_4\_ss\_c\_4lag | .9528452 .0634387 -0.73 0.468 .8362785 1.08566

sp75\_1720\_ss\_c\_4lag | 1.064715 .0329954 2.02 0.043 1.00197 1.131389

sp75\_1725\_ss\_c\_4lag | 1.002889 .0038292 0.76 0.450 .9954121 1.010422

sp75\_1906\_ss\_c\_4lag | 1.240219 .2019726 1.32 0.186 .901318 1.706548

sp75\_1916\_ss\_c\_4lag | .9895758 .0543957 -0.19 0.849 .8885044 1.102144

sp75\_203\_ss\_c\_4lag | 1.010654 .0138103 0.78 0.438 .983946 1.038088

sp75\_204\_ss\_c\_4lag | 1.106344 .0279539 4.00 0.000 1.05289 1.162512

sp75\_205\_ss\_c\_4lag | 2.003182 .3502766 3.97 0.000 1.421934 2.82203

sp75\_207\_ss\_c\_4lag | 1.537409 .5465003 1.21 0.226 .7659742 3.085778

sp75\_208\_ss\_c\_4lag | 1.01085 .015626 0.70 0.485 .9806827 1.041945

sp75\_209\_ss\_c\_4lag | 1.038582 .0630666 0.62 0.533 .9220461 1.169847

sp75\_212\_ss\_c\_4lag | 1.043219 .0453491 0.97 0.330 .9580179 1.135998

sp75\_213\_ss\_c\_4lag | 1.038488 .0342564 1.14 0.252 .9734708 1.107847

sp75\_215\_ss\_c\_4lag | .859733 .1807521 -0.72 0.472 .5693838 1.298142

sp75\_332\_ss\_c\_4lag | .922218 .0904294 -0.83 0.409 .7609705 1.117633

sp75\_334\_ss\_c\_4lag | .9583234 .0360336 -1.13 0.258 .8902385 1.031615

sp75\_337\_ss\_c\_4lag | .9759214 .0269491 -0.88 0.377 .9245061 1.030196

sp75\_340\_ss\_c\_4lag | .9864577 .0140336 -0.96 0.338 .9593322 1.01435

sp75\_343\_ss\_c\_4lag | 1.043645 .0776759 0.57 0.566 .9019859 1.207551

sp75\_373\_ss\_c\_4lag | 9.74e-06 8.96e-06 -12.54 0.000 1.60e-06 .0000592

sp75\_388\_ss\_c\_4lag | 1.069617 .0669557 1.08 0.282 .9461168 1.209237

sp75\_389\_ss\_c\_4lag | 1.047989 .2780316 0.18 0.860 .6230645 1.762709

sp75\_500\_ss\_c\_4lag | 1.194976 .1546374 1.38 0.169 .9272749 1.539962

sp75\_500\_1\_ss\_c\_4lag | .8371041 .3470408 -0.43 0.668 .3714448 1.886534

sp75\_501\_ss\_c\_4lag | .802959 .0727045 -2.42 0.015 .6723891 .958884

sp75\_501\_2\_ss\_c\_4lag | .8943192 .3277171 -0.30 0.761 .4360895 1.834043

sp75\_502\_ss\_c\_4lag | 1.201995 .3540602 0.62 0.532 .6747956 2.14108

sp75\_503\_ss\_c\_4lag | 1.010764 .0065666 1.65 0.099 .9979752 1.023716

sp75\_505\_ss\_c\_4lag | .7505521 .1906136 -1.13 0.259 .456253 1.234684

sp75\_506\_1\_ss\_c\_4lag | .8683081 .1255865 -0.98 0.329 .6539756 1.152885

sp75\_507\_ss\_c\_4lag | 1.05497 .0673921 0.84 0.402 .9308182 1.195681

sp75\_507\_1\_ss\_c\_4lag | 1.024458 .0429088 0.58 0.564 .9437174 1.112106

sp75\_509\_ss\_c\_4lag | 1.211538 .1072889 2.17 0.030 1.018493 1.441173

sp75\_512\_1\_ss\_c\_4lag | 1.125742 .2322717 0.57 0.566 .7512983 1.686806

sp75\_523\_ss\_c\_4lag | .9572019 .0199162 -2.10 0.036 .9189521 .9970438

sp75\_523\_3\_ss\_c\_4lag | .9806797 .0099413 -1.92 0.054 .9613873 1.000359

sp75\_524\_ss\_c\_4lag | 1.078059 .1620291 0.50 0.617 .802989 1.447357

sp75\_602\_ss\_c\_4lag | 1.015422 .0536176 0.29 0.772 .9155888 1.126141

sp75\_603\_ss\_c\_4lag | 1.051518 .0498722 1.06 0.290 .9581765 1.153953

sp75\_604\_ss\_c\_4lag | 1.007578 .0049293 1.54 0.123 .9979634 1.017286

sp75\_605\_ss\_c\_4lag | .9988165 .0245705 -0.05 0.962 .9518017 1.048154

sp75\_606\_ss\_c\_4lag | 1.011984 .0151378 0.80 0.426 .9827449 1.042092

sp75\_607\_ss\_c\_4lag | .9656398 .0427589 -0.79 0.430 .8853676 1.05319

sp75\_703\_3\_ss\_c\_4lag | 1.067331 .0584941 1.19 0.234 .958627 1.188361

sp75\_807\_ss\_c\_4lag | 1.016995 .018305 0.94 0.349 .9817435 1.053513

sp75\_810\_ss\_c\_4lag | 1.171345 .0796764 2.33 0.020 1.025144 1.338395

sp75\_811\_ss\_c\_4lag | .8628121 .0805238 -1.58 0.114 .7185814 1.035992

sp75\_812\_ss\_c\_4lag | .8535124 .1603183 -0.84 0.399 .5906437 1.233372

sp75\_816\_ss\_c\_4lag | 1.002406 .0598848 0.04 0.968 .8916448 1.126926

sp75\_817\_ss\_c\_4lag | 1.187097 .5758278 0.35 0.724 .4587667 3.071712

sp75\_906\_ss\_c\_4lag | .5364958 .1470043 -2.27 0.023 .3135668 .9179153

mine\_time | 1.001363 .0014284 0.95 0.340 .9985675 1.004167

onsite\_insp\_hours | .9994848 .0001206 -4.27 0.000 .9992484 .9997213

|

state |

AL | 1.058387 .1070909 0.56 0.575 .8679952 1.290541

AR | 1.755258 .0916171 10.78 0.000 1.584571 1.94433

CO | .8350142 .106445 -1.41 0.157 .6504072 1.072019

IL | 1.343171 .0804661 4.92 0.000 1.194367 1.510514

IN | 1.095686 .0863103 1.16 0.246 .9389328 1.278609

MD | 1.382542 .2741678 1.63 0.102 .9373007 2.039283

MT | .6196841 .0274096 -10.82 0.000 .5682251 .6758033

NM | .8011034 .0371188 -4.79 0.000 .7315575 .8772607

OH | 1.153762 .1338355 1.23 0.218 .9191311 1.448288

OK | 1.749676 .266817 3.67 0.000 1.297638 2.359183

PA | 1.384192 .105395 4.27 0.000 1.192297 1.606972

TN | 1.807586 .217832 4.91 0.000 1.427318 2.289165

UT | .5390198 .1044838 -3.19 0.001 .3686442 .7881375

VA | .9512357 .0514308 -0.92 0.355 .8555903 1.057573

WV | 1.32812 .0617576 6.10 0.000 1.21243 1.45485

WY | .8335325 .0421598 -3.60 0.000 .7548646 .9203989

|

time |

2000.75 | 1.496412 .1211336 4.98 0.000 1.276871 1.7537

2001 | 1.569127 .1285704 5.50 0.000 1.336327 1.842483

2001.25 | 1.714821 .1498441 6.17 0.000 1.444905 2.035159

2001.5 | 1.989815 .1638398 8.36 0.000 1.693267 2.338299

2001.75 | 1.635311 .1341018 6.00 0.000 1.39251 1.920446

2002 | 1.907507 .2520979 4.89 0.000 1.472212 2.471506

2002.25 | 1.79361 .1670362 6.27 0.000 1.494365 2.152777

2002.5 | 1.914615 .1832662 6.79 0.000 1.587102 2.309714

2002.75 | 1.537564 .1218296 5.43 0.000 1.3164 1.795886

2003 | 1.50163 .1265942 4.82 0.000 1.272925 1.771427

2003.25 | 1.677854 .1677337 5.18 0.000 1.379305 2.041024

2003.5 | 1.787347 .1459752 7.11 0.000 1.522965 2.097624

2003.75 | 1.30995 .1115112 3.17 0.002 1.108652 1.547799

2004 | 1.360034 .1148212 3.64 0.000 1.152622 1.60477

2004.25 | 1.440905 .1157151 4.55 0.000 1.231056 1.686526

2004.5 | 1.562058 .1213889 5.74 0.000 1.341372 1.81905

2004.75 | 1.273146 .1026332 3.00 0.003 1.087075 1.491066

2005 | 1.273714 .0999738 3.08 0.002 1.092097 1.485535

2005.25 | 1.341911 .1002901 3.94 0.000 1.159065 1.553602

2005.5 | 1.4848 .1105177 5.31 0.000 1.283249 1.718008

2005.75 | 1.20901 .0952525 2.41 0.016 1.036018 1.410887

2006 | 1.329839 .1022945 3.71 0.000 1.143728 1.546236

2006.25 | 1.27847 .0986203 3.18 0.001 1.099081 1.48714

2006.5 | 1.523353 .1109185 5.78 0.000 1.320757 1.757027

2006.75 | 1.177702 .0917295 2.10 0.036 1.010966 1.371938

2007 | 1.133493 .0806721 1.76 0.078 .9859116 1.303167

2007.25 | 1.175256 .0870346 2.18 0.029 1.016473 1.358842

2007.5 | 1.476936 .1231806 4.68 0.000 1.254206 1.739219

2007.75 | 1.233776 .0881469 2.94 0.003 1.072562 1.419221

2008 | 1.108877 .0773814 1.48 0.139 .9671269 1.271403

2008.25 | 1.107892 .0786022 1.44 0.149 .9640659 1.273175

2008.5 | 1.228659 .0791743 3.20 0.001 1.08288 1.394063

2009 | .9932242 .0648731 -0.10 0.917 .8738774 1.12887

2009.25 | .9870835 .0725892 -0.18 0.860 .854589 1.14012

2009.5 | 1.115373 .0737642 1.65 0.099 .9797754 1.269736

2009.75 | .9454404 .0679565 -0.78 0.435 .8212045 1.088471

2010 | .9504277 .0734352 -0.66 0.511 .8168656 1.105828

2010.25 | .9434288 .085213 -0.64 0.519 .7903625 1.126139

2010.5 | 1.225833 .0907329 2.75 0.006 1.060297 1.417213

2010.75 | .9459368 .073972 -0.71 0.477 .8115184 1.10262

2011 | .9287285 .0681699 -1.01 0.314 .8042841 1.072428

2011.25 | .886426 .0649797 -1.64 0.100 .7677943 1.023387

2011.5 | 1.003255 .0666996 0.05 0.961 .8806855 1.142884

2011.75 | .7862789 .0577966 -3.27 0.001 .6807815 .9081248

2012 | .8807862 .0695302 -1.61 0.108 .7545287 1.028171

2012.25 | .7793093 .0570801 -3.40 0.001 .6750937 .8996128

2012.5 | .917447 .0784685 -1.01 0.314 .7758512 1.084885

2012.75 | .6879307 .059497 -4.33 0.000 .5806666 .8150091

2013 | .8024403 .0696845 -2.53 0.011 .676852 .9513312

2013.25 | .7471274 .0636692 -3.42 0.001 .6322028 .8829435

2013.5 | .8833629 .0757668 -1.45 0.148 .7466737 1.045075

2013.75 | .6510398 .0605007 -4.62 0.000 .5426326 .7811045

2014 | .7433247 .0624084 -3.53 0.000 .6305405 .8762824

2014.25 | .7802746 .0689559 -2.81 0.005 .6561807 .9278365

2014.5 | .8227269 .0718403 -2.23 0.025 .6933125 .976298

2014.75 | .8169625 .0726752 -2.27 0.023 .6862479 .9725752

2015 | .710065 .0601125 -4.04 0.000 .6015023 .8382218

2015.25 | .6692418 .0571041 -4.71 0.000 .566178 .7910668

2015.5 | .8905638 .0788773 -1.31 0.191 .7486417 1.05939

2015.75 | .7049581 .0682437 -3.61 0.000 .583126 .8522445

2016 | .7199731 .0722533 -3.27 0.001 .5914166 .876474

|

\_cons | .0000471 3.29e-06 -142.48 0.000 .0000411 .000054

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. eststo clear

. eststo: nbreg dv `ss\_lag\_4\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -116205.56

Iteration 1: log pseudolikelihood = -68799.26

Iteration 2: log pseudolikelihood = -45249.445

Iteration 3: log pseudolikelihood = -42111.473

Iteration 4: log pseudolikelihood = -41249.447

Iteration 5: log pseudolikelihood = -41177.548

Iteration 6: log pseudolikelihood = -41176.889

Iteration 7: log pseudolikelihood = -41176.889

Iteration 8: log pseudolikelihood = -41176.889

Iteration 9: log pseudolikelihood = -41176.889

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -40773.93

Iteration 1: log pseudolikelihood = -40071.319

Iteration 2: log pseudolikelihood = -40040.125

Iteration 3: log pseudolikelihood = -40040.039

Iteration 4: log pseudolikelihood = -40040.039

Fitting full model:

Iteration 0: log pseudolikelihood = -38728.081

Iteration 1: log pseudolikelihood = -38489.093

Iteration 2: log pseudolikelihood = -38482.702

Iteration 3: log pseudolikelihood = -38482.697

Iteration 4: log pseudolikelihood = -38482.697

Negative binomial regression Number of obs = 22,446

Wald chi2(156) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -38482.697 Pseudo R2 = 0.0389

(Std. Err. adjusted for 1,293 clusters in mineid)

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| Robust

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

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

sp48\_11\_ss\_c\_4lag | 1.032604 .0429318 0.77 0.440 .951796 1.120272

sp48\_25\_ss\_c\_4lag | .9104611 .0496326 -1.72 0.085 .8181996 1.013126

sp48\_26\_ss\_c\_4lag | 1.121498 .0632126 2.03 0.042 1.004202 1.252495

sp48\_27\_ss\_c\_4lag | .9409463 .0596807 -0.96 0.337 .8309528 1.0655

sp48\_28\_ss\_c\_4lag | .9106151 .0571801 -1.49 0.136 .805166 1.029874

sp48\_4\_ss\_c\_4lag | .7268263 .4343046 -0.53 0.593 .225324 2.34452

sp48\_5\_ss\_c\_4lag | 1.089828 .0994439 0.94 0.346 .9113558 1.30325

sp48\_6\_ss\_c\_4lag | 1.00867 .0822905 0.11 0.916 .8596178 1.183567

sp48\_7\_ss\_c\_4lag | 1.050816 .0411667 1.27 0.206 .9731508 1.13468

sp48\_8\_ss\_c\_4lag | 1.093813 .1803342 0.54 0.587 .7917855 1.511049

sp75\_100\_ss\_c\_4lag | .9662347 .146414 -0.23 0.821 .717959 1.300366

sp75\_1002\_ss\_c\_4lag | .9756278 .0390928 -0.62 0.538 .9019387 1.055337

sp75\_1003\_ss\_c\_4lag | .9368769 .0371229 -1.65 0.100 .8668708 1.012536

sp75\_1003\_2\_ss\_c\_4lag | .9241699 .0666818 -1.09 0.274 .8022965 1.064556

sp75\_1311\_ss\_c\_4lag | .8099517 .0919477 -1.86 0.063 .6483785 1.011788

sp75\_1315\_ss\_c\_4lag | .4124934 .1400193 -2.61 0.009 .2120703 .8023321

sp75\_1316\_ss\_c\_4lag | .8247943 .1525099 -1.04 0.298 .5740541 1.185055

sp75\_1318\_ss\_c\_4lag | 3.15e-09 3.15e-09 -19.54 0.000 4.42e-10 2.24e-08

sp75\_1322\_ss\_c\_4lag | 4.70e+09 4.72e+09 22.13 0.000 6.53e+08 3.37e+10

sp75\_1400\_ss\_c\_4lag | 1.05421 .0462339 1.20 0.229 .9673783 1.148835

sp75\_1400\_1\_ss\_c\_4lag | .7792449 .1131756 -1.72 0.086 .5862023 1.035858

sp75\_1403\_10\_ss\_c\_4lag | 1.042054 .0122539 3.50 0.000 1.018311 1.06635

sp75\_1403\_5\_ss\_c\_4lag | .9827723 .0094335 -1.81 0.070 .9644558 1.001437

sp75\_1403\_6\_ss\_c\_4lag | .9870084 .0068508 -1.88 0.060 .9736721 1.000527

sp75\_1403\_7\_ss\_c\_4lag | 1.031439 .0360931 0.88 0.376 .9630689 1.104662

sp75\_1403\_8\_ss\_c\_4lag | .976715 .0087872 -2.62 0.009 .9596433 .9940904

sp75\_1404\_ss\_c\_4lag | 1.225839 .4330355 0.58 0.564 .6133961 2.449773

sp75\_1404\_1\_ss\_c\_4lag | .7005601 .1013936 -2.46 0.014 .5275325 .9303398

sp75\_1405\_ss\_c\_4lag | .9705169 .0102009 -2.85 0.004 .950728 .9907178

sp75\_1405\_1\_ss\_c\_4lag | 1.167301 .2305861 0.78 0.434 .7925715 1.719204

sp75\_153\_ss\_c\_4lag | 1.634578 .1706832 4.71 0.000 1.332057 2.005803

sp75\_155\_ss\_c\_4lag | .8781335 .0962248 -1.19 0.236 .7084136 1.088514

sp75\_156\_ss\_c\_4lag | .4952016 .0753488 -4.62 0.000 .3675065 .6672662

sp75\_1719\_2\_ss\_c\_4lag | .7122438 .2200118 -1.10 0.272 .3887701 1.304862

sp75\_1719\_4\_ss\_c\_4lag | .9580698 .0587939 -0.70 0.485 .8494962 1.08052

sp75\_1720\_ss\_c\_4lag | 1.064575 .0313028 2.13 0.033 1.004957 1.127729

sp75\_1725\_ss\_c\_4lag | 1.000417 .0032977 0.13 0.899 .9939745 1.006901

sp75\_1906\_ss\_c\_4lag | 1.232489 .1962866 1.31 0.189 .9020291 1.684014

sp75\_1916\_ss\_c\_4lag | 1.000793 .0506288 0.02 0.987 .9063233 1.10511

sp75\_203\_ss\_c\_4lag | 1.011871 .0132804 0.90 0.369 .9861737 1.038238

sp75\_204\_ss\_c\_4lag | 1.094335 .027042 3.65 0.000 1.042597 1.148641

sp75\_205\_ss\_c\_4lag | 1.913611 .397982 3.12 0.002 1.272992 2.876615

sp75\_207\_ss\_c\_4lag | 1.338448 .2366876 1.65 0.099 .9464052 1.892891

sp75\_208\_ss\_c\_4lag | 1.014655 .0141656 1.04 0.297 .9872677 1.042803

sp75\_209\_ss\_c\_4lag | 1.016231 .0590987 0.28 0.782 .9067573 1.138922

sp75\_212\_ss\_c\_4lag | 1.053575 .0438392 1.25 0.210 .971062 1.143099

sp75\_213\_ss\_c\_4lag | 1.063715 .0255316 2.57 0.010 1.014832 1.114951

sp75\_215\_ss\_c\_4lag | .9812448 .1384209 -0.13 0.893 .7442199 1.293759

sp75\_332\_ss\_c\_4lag | .9443308 .0890651 -0.61 0.544 .7849512 1.136072

sp75\_334\_ss\_c\_4lag | .9629697 .0319175 -1.14 0.255 .9024012 1.027604

sp75\_337\_ss\_c\_4lag | .9765713 .0233222 -0.99 0.321 .931914 1.023369

sp75\_340\_ss\_c\_4lag | .9858927 .0125371 -1.12 0.264 .9616241 1.010774

sp75\_343\_ss\_c\_4lag | 1.080164 .0742923 1.12 0.262 .9439421 1.236045

sp75\_373\_ss\_c\_4lag | 1.85e-08 1.70e-08 -19.48 0.000 3.09e-09 1.11e-07

sp75\_388\_ss\_c\_4lag | 1.052096 .0599682 0.89 0.373 .9408879 1.176448

sp75\_389\_ss\_c\_4lag | 1.074481 .2621649 0.29 0.768 .6660583 1.733346

sp75\_500\_ss\_c\_4lag | 1.097283 .1130663 0.90 0.368 .8966212 1.342852

sp75\_500\_1\_ss\_c\_4lag | .8518511 .3543288 -0.39 0.700 .3769684 1.924963

sp75\_501\_ss\_c\_4lag | .8439777 .0638935 -2.24 0.025 .7275965 .9789745

sp75\_501\_2\_ss\_c\_4lag | .9111692 .337439 -0.25 0.802 .4409286 1.882911

sp75\_502\_ss\_c\_4lag | 1.135931 .3056171 0.47 0.636 .6704097 1.924704

sp75\_503\_ss\_c\_4lag | 1.007794 .0050867 1.54 0.124 .9978733 1.017813

sp75\_505\_ss\_c\_4lag | .6952064 .1963573 -1.29 0.198 .3996654 1.209292

sp75\_506\_1\_ss\_c\_4lag | .9123612 .1285084 -0.65 0.515 .6922658 1.202432

sp75\_507\_ss\_c\_4lag | 1.04774 .0651361 0.75 0.453 .9275466 1.183508

sp75\_507\_1\_ss\_c\_4lag | 1.034221 .0381949 0.91 0.362 .9620051 1.111857

sp75\_509\_ss\_c\_4lag | 1.231659 .1066923 2.41 0.016 1.039334 1.459572

sp75\_512\_1\_ss\_c\_4lag | 1.262658 .2466929 1.19 0.233 .8609575 1.851783

sp75\_523\_ss\_c\_4lag | .962627 .0191278 -1.92 0.055 .9258579 1.000856

sp75\_523\_3\_ss\_c\_4lag | .9782696 .0091984 -2.34 0.019 .9604061 .9964654

sp75\_524\_ss\_c\_4lag | 1.128958 .165162 0.83 0.407 .8475207 1.503852

sp75\_602\_ss\_c\_4lag | 1.012969 .043574 0.30 0.765 .9310663 1.102076

sp75\_603\_ss\_c\_4lag | 1.052825 .0474615 1.14 0.253 .963793 1.150081

sp75\_604\_ss\_c\_4lag | 1.006965 .0045621 1.53 0.126 .9980626 1.015946

sp75\_605\_ss\_c\_4lag | .9928347 .0224905 -0.32 0.751 .9497184 1.037908

sp75\_606\_ss\_c\_4lag | 1.013383 .0152467 0.88 0.377 .9839358 1.043711

sp75\_607\_ss\_c\_4lag | .9654603 .0394739 -0.86 0.390 .8911116 1.046012

sp75\_703\_3\_ss\_c\_4lag | 1.069733 .0532157 1.36 0.175 .9703557 1.179288

sp75\_807\_ss\_c\_4lag | 1.021744 .0170928 1.29 0.199 .9887857 1.0558

sp75\_810\_ss\_c\_4lag | 1.193079 .0745109 2.83 0.005 1.055624 1.348431

sp75\_811\_ss\_c\_4lag | .9099134 .0774658 -1.11 0.267 .7700745 1.075146

sp75\_812\_ss\_c\_4lag | .851348 .1399015 -0.98 0.327 .6169211 1.174856

sp75\_816\_ss\_c\_4lag | 1.016031 .0555671 0.29 0.771 .9127555 1.130992

sp75\_817\_ss\_c\_4lag | 1.112875 .5255525 0.23 0.821 .4410308 2.808175

sp75\_906\_ss\_c\_4lag | .5199334 .1341221 -2.54 0.011 .3135967 .8620329

mine\_time | 1.001188 .0013904 0.86 0.392 .9984671 1.003917

onsite\_insp\_hours | .9995307 .0001139 -4.12 0.000 .9993075 .9997539

|

state |

AL | 1.046858 .0915452 0.52 0.601 .8819666 1.242577

AR | 1.834372 .0906338 12.28 0.000 1.665063 2.020897

CO | .7787265 .0932211 -2.09 0.037 .6158683 .9846504

IL | 1.307812 .0724499 4.84 0.000 1.17325 1.457807

IN | 1.09024 .087486 1.08 0.282 .9315747 1.275929

MD | 1.306275 .2135409 1.63 0.102 .9481695 1.79963

MT | .586914 .0265326 -11.79 0.000 .5371483 .6412903

NM | .7854966 .034471 -5.50 0.000 .7207588 .8560491

OH | 1.171392 .1282104 1.45 0.148 .9452291 1.451668

OK | 1.708514 .2515982 3.64 0.000 1.280175 2.280172

PA | 1.31815 .1044447 3.49 0.000 1.128546 1.539609

TN | 1.728349 .1978121 4.78 0.000 1.381053 2.162981

UT | .4985079 .0871123 -3.98 0.000 .3539386 .7021277

VA | .9378725 .0529615 -1.14 0.256 .8396081 1.047637

WV | 1.263579 .0580787 5.09 0.000 1.154724 1.382696

WY | .8079771 .0434557 -3.96 0.000 .7271409 .8977999

|

time |

2000.75 | 1.496939 .1156782 5.22 0.000 1.286549 1.741735

2001 | 1.512776 .1145126 5.47 0.000 1.304191 1.754721

2001.25 | 1.654646 .1301326 6.40 0.000 1.418276 1.930409

2001.5 | 1.94039 .151207 8.51 0.000 1.665552 2.260579

2001.75 | 1.563883 .1221137 5.73 0.000 1.341959 1.822507

2002 | 1.733114 .1607178 5.93 0.000 1.445081 2.078558

2002.25 | 1.687405 .1393317 6.34 0.000 1.435272 1.98383

2002.5 | 1.812329 .1540499 7.00 0.000 1.534207 2.140869

2002.75 | 1.529592 .1152848 5.64 0.000 1.319535 1.773089

2003 | 1.413336 .1074279 4.55 0.000 1.217714 1.640383

2003.25 | 1.534895 .1271518 5.17 0.000 1.304862 1.80548

2003.5 | 1.677602 .126425 6.87 0.000 1.447244 1.944625

2003.75 | 1.271653 .1026051 2.98 0.003 1.085646 1.489529

2004 | 1.324775 .1076316 3.46 0.001 1.12976 1.553453

2004.25 | 1.420161 .1046666 4.76 0.000 1.229147 1.640861

2004.5 | 1.548922 .1147665 5.91 0.000 1.339554 1.791014

2004.75 | 1.265506 .0995065 2.99 0.003 1.084762 1.476366

2005 | 1.221616 .0887971 2.75 0.006 1.059405 1.408663

2005.25 | 1.314966 .0914814 3.94 0.000 1.147353 1.507065

2005.5 | 1.451615 .100708 5.37 0.000 1.267063 1.663048

2005.75 | 1.210756 .0912239 2.54 0.011 1.044536 1.403428

2006 | 1.273196 .089696 3.43 0.001 1.108993 1.461713

2006.25 | 1.241562 .090952 2.95 0.003 1.075506 1.433257

2006.5 | 1.501376 .1014764 6.01 0.000 1.315097 1.714041

2006.75 | 1.144769 .0815764 1.90 0.058 .9955457 1.31636

2007 | 1.13869 .0771114 1.92 0.055 .9971549 1.300314

2007.25 | 1.173218 .0882284 2.12 0.034 1.012433 1.359536

2007.5 | 1.424989 .1007878 5.01 0.000 1.240529 1.636877

2007.75 | 1.211322 .0777549 2.99 0.003 1.068122 1.37372

2008 | 1.089763 .0681458 1.37 0.169 .9640597 1.231856

2008.25 | 1.075029 .0723142 1.08 0.282 .9422412 1.22653

2008.5 | 1.231803 .0734039 3.50 0.000 1.096018 1.384411

2009 | .9718893 .0555879 -0.50 0.618 .8688238 1.087181

2009.25 | .9534204 .0629794 -0.72 0.470 .8376397 1.085205

2009.5 | 1.08587 .0652614 1.37 0.170 .9652065 1.221618

2009.75 | .9234045 .061838 -1.19 0.234 .8098214 1.052918

2010 | .9262381 .0683902 -1.04 0.299 .8014434 1.070465

2010.25 | .9294057 .0796969 -0.85 0.393 .7856235 1.099503

2010.5 | 1.164853 .0801628 2.22 0.027 1.017872 1.333058

2010.75 | .9119948 .0648748 -1.30 0.195 .7933085 1.048438

2011 | .902756 .0602011 -1.53 0.125 .7921497 1.028806

2011.25 | .8491359 .057569 -2.41 0.016 .7434781 .9698091

2011.5 | .9805178 .0605329 -0.32 0.750 .8687724 1.106636

2011.75 | .7595974 .0511109 -4.09 0.000 .6657464 .8666786

2012 | .8427103 .060251 -2.39 0.017 .7325212 .9694745

2012.25 | .7440534 .0491908 -4.47 0.000 .6536263 .8469908

2012.5 | .8630444 .0649626 -1.96 0.050 .7446667 1.00024

2012.75 | .6685853 .0530641 -5.07 0.000 .5722672 .7811146

2013 | .7540698 .056857 -3.74 0.000 .6504752 .8741627

2013.25 | .7202233 .0569941 -4.15 0.000 .6167486 .8410583

2013.5 | .8383029 .0659903 -2.24 0.025 .718448 .9781527

2013.75 | .6358099 .055181 -5.22 0.000 .5363555 .7537056

2014 | .7166416 .0563196 -4.24 0.000 .6143382 .8359811

2014.25 | .7506574 .0619473 -3.48 0.001 .6385533 .8824423

2014.5 | .8014774 .0623059 -2.85 0.004 .6882082 .933389

2014.75 | .7727849 .0604712 -3.29 0.001 .6629049 .9008782

2015 | .6927125 .0551203 -4.61 0.000 .5926817 .8096262

2015.25 | .6489576 .0509618 -5.51 0.000 .5563813 .7569376

2015.5 | .8665767 .0707199 -1.75 0.079 .7384852 1.016886

2015.75 | .6725107 .0613826 -4.35 0.000 .5623502 .8042509

2016 | .7097115 .067261 -3.62 0.000 .5894019 .8545789

|

\_cons | .0000494 3.38e-06 -144.99 0.000 .0000432 .0000565

ln(hours) | 1 (exposure)

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

/lnalpha | -1.119731 .0696089 -1.256162 -.9833003

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

alpha | .3263675 .0227181 .2847447 .3740745

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

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.C.SSV.3.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.SP.C.SSV.3.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.SP.C.SSV.3.csv)

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(4) = -5388.38

(Assumption: nbin nested in pois) Prob > chi2 = 1.0000

Akaike's information criterion and Bayesian information criterion

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

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

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

nbin | 22,446 -40040.04 -38482.7 158 77281.39 78548.38

pois | 22,446 -45450.16 -41176.89 162 82677.78 83976.83

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

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

.

. pause "next"

.

. // final model + diagnostics/assessment

. quietly nbreg dv `ss\_lag\_4\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

. predict cssv3\_yhat

(option n assumed; predicted number of events)

(7,843 missing values generated)

. gen cssv3\_res = dv - cssv3\_yhat

(7,843 missing values generated)

.

. summ dv cssv3\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv | 30,289 2.177721 3.851734 0 71

cssv3\_yhat | 22,446 2.718253 3.839715 5.67e-10 61.08822

. /\*

> pause "next"

>

> scatter dv cssv3\_yhat

>

> pause "next"

>

> scatter cssv3\_res dv

>

> pause "next"

>

> scatter cssv3\_res cssv3\_yhat

> \*/

. pause "complete: C.SSV.3"

.