. // Model C.SSV.2

.

. // poisson model

. glm dv `ss\_lag\_1\_vars' `covariates' ib(freq).state ib(freq).time, family(poisson) link(log) vce(cl mineid) exposure(hours) iter(50) eform

Iteration 0: log pseudolikelihood = -50674.573

Iteration 1: log pseudolikelihood = -47103.366

Iteration 2: log pseudolikelihood = -47085.911

Iteration 3: log pseudolikelihood = -47085.903

Iteration 4: log pseudolikelihood = -47085.903

Generalized linear models No. of obs = 26,110

Optimization : ML Residual df = 26,029

Scale parameter = 1

Deviance = 48456.23017 (1/df) Deviance = 1.861625

Pearson = 1188617.276 (1/df) Pearson = 45.66511

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

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

AIC = 3.612938

Log pseudolikelihood = -47085.90325 BIC = -216260.6

(Std. Err. adjusted for 1,475 clusters in mineid)

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

| Robust

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

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

p48\_ss\_1lag | 1.00017 .0273437 0.01 0.995 .9479875 1.055224

p75\_ss\_1lag | 1.00169 .0012231 1.38 0.167 .9992955 1.00409

mine\_time | 1.00111 .0015549 0.71 0.475 .998067 1.004162

onsite\_insp\_hours | .9994603 .0001255 -4.30 0.000 .9992144 .9997063

|

state |

AL | .962888 .0838389 -0.43 0.664 .8118231 1.142063

AR | 1.77303 .093525 10.86 0.000 1.598882 1.966147

CO | .6686793 .0693955 -3.88 0.000 .5456075 .8195123

IL | 1.28198 .1062458 3.00 0.003 1.089775 1.508085

IN | 1.105624 .1375305 0.81 0.420 .8664132 1.410879

MD | 1.117231 .1363438 0.91 0.364 .8795581 1.419127

MT | .4979007 .0239263 -14.51 0.000 .4531467 .5470747

NM | .6847575 .030487 -8.51 0.000 .627537 .7471955

OH | .9170961 .0585313 -1.36 0.175 .8092619 1.039299

OK | 1.684874 .3185798 2.76 0.006 1.163109 2.440701

PA | 1.007999 .0984791 0.08 0.935 .8323378 1.220732

TN | 1.519921 .151096 4.21 0.000 1.250843 1.846883

UT | .4446299 .0679688 -5.30 0.000 .3295178 .5999547

VA | .8357406 .0657216 -2.28 0.023 .7163644 .9750098

WV | 1.034773 .0558622 0.63 0.527 .9308786 1.150263

WY | .6861714 .030184 -8.56 0.000 .6294904 .7479561

|

time |

2000.25 | .9220954 .0605365 -1.24 0.217 .8107623 1.048717

2000.5 | 1.04125 .0642614 0.65 0.512 .9226194 1.175134

2000.75 | .7685258 .047157 -4.29 0.000 .6814413 .8667391

2001 | .758867 .0428268 -4.89 0.000 .6794039 .8476242

2001.25 | .818406 .0448923 -3.65 0.000 .7349834 .9112972

2001.75 | .7734082 .037059 -5.36 0.000 .7040803 .8495625

2002 | .7964071 .0504464 -3.59 0.000 .7034252 .9016799

2002.25 | .7929583 .0469634 -3.92 0.000 .7060534 .89056

2002.5 | .8747966 .051628 -2.27 0.023 .7792405 .9820704

2002.75 | .7696781 .0435752 -4.62 0.000 .6888402 .8600025

2003 | .6784573 .0411025 -6.40 0.000 .6024968 .7639946

2003.25 | .7320033 .045015 -5.07 0.000 .6488852 .8257683

2003.5 | .8120513 .0497857 -3.40 0.001 .7201079 .9157341

2003.75 | .625888 .0372809 -7.87 0.000 .5569228 .7033933

2004 | .6356909 .0408269 -7.05 0.000 .5605031 .7209645

2004.25 | .6863051 .043853 -5.89 0.000 .6055191 .7778693

2004.5 | .7659598 .0488735 -4.18 0.000 .6759173 .8679975

2004.75 | .6015115 .0403489 -7.58 0.000 .5274072 .686028

2005 | .5872492 .0415015 -7.53 0.000 .5112898 .6744934

2005.25 | .6599866 .045188 -6.07 0.000 .5771053 .7547709

2005.5 | .71561 .0488496 -4.90 0.000 .6259951 .8180538

2005.75 | .5978337 .0428143 -7.18 0.000 .5195424 .6879229

2006 | .6079707 .044104 -6.86 0.000 .5273924 .7008602

2006.25 | .5798035 .0406253 -7.78 0.000 .5054048 .6651541

2006.5 | .7160141 .0535525 -4.47 0.000 .6183838 .8290582

2006.75 | .5525203 .0420494 -7.80 0.000 .4759571 .6413995

2007 | .5664351 .0423749 -7.60 0.000 .4891837 .6558861

2007.25 | .5982249 .0513932 -5.98 0.000 .5055198 .7079308

2007.5 | .6927323 .0508573 -5.00 0.000 .5998933 .7999389

2007.75 | .6106568 .0437695 -6.88 0.000 .5306234 .7027614

2008 | .5695719 .0396842 -8.08 0.000 .4968693 .6529124

2008.25 | .562415 .0404632 -8.00 0.000 .4884464 .6475852

2008.5 | .6632263 .0531296 -5.13 0.000 .5668575 .7759784

2008.75 | .521808 .0420484 -8.07 0.000 .4455732 .611086

2009 | .5329547 .0394649 -8.50 0.000 .4609559 .6161993

2009.25 | .4930461 .0411987 -8.46 0.000 .4185637 .5807824

2009.5 | .561171 .0463833 -6.99 0.000 .477243 .6598586

2009.75 | .4826295 .0361777 -9.72 0.000 .4166852 .5590101

2010 | .4885896 .0478224 -7.32 0.000 .4033016 .5919139

2010.25 | .4850653 .0446028 -7.87 0.000 .4050702 .5808581

2010.5 | .5734053 .0408985 -7.80 0.000 .4985964 .6594384

2010.75 | .4607857 .0374733 -9.53 0.000 .3928939 .5404092

2011 | .4722377 .0381964 -9.28 0.000 .4030066 .5533617

2011.25 | .4461351 .0352973 -10.20 0.000 .3820508 .5209687

2011.5 | .5161344 .0398474 -8.57 0.000 .4436566 .6004525

2011.75 | .3968021 .0318334 -11.52 0.000 .3390676 .4643672

2012 | .4390524 .0353006 -10.24 0.000 .3750405 .5139899

2012.25 | .3893348 .0315079 -11.66 0.000 .332229 .4562563

2012.5 | .4434426 .0376357 -9.58 0.000 .3754866 .5236973

2012.75 | .3561485 .0305928 -12.02 0.000 .3009635 .4214523

2013 | .3925603 .0343817 -10.68 0.000 .33064 .4660766

2013.25 | .3878919 .0370139 -9.92 0.000 .3217262 .4676652

2013.5 | .4474862 .0422771 -8.51 0.000 .371844 .5385159

2013.75 | .3386018 .0325213 -11.28 0.000 .2805013 .4087366

2014 | .3892031 .0388837 -9.45 0.000 .3199899 .473387

2014.25 | .4091756 .0434873 -8.41 0.000 .3322338 .5039363

2014.5 | .440991 .0419195 -8.61 0.000 .3660299 .5313037

2014.75 | .4073363 .0413326 -8.85 0.000 .3338731 .4969639

2015 | .3804131 .0393766 -9.34 0.000 .3105614 .4659759

2015.25 | .3529581 .0351554 -10.46 0.000 .2903632 .4290467

2015.5 | .4673138 .0473081 -7.51 0.000 .3832109 .5698746

2015.75 | .3515319 .0394642 -9.31 0.000 .2821018 .43805

2016 | .3945185 .0440857 -8.32 0.000 .3169199 .4911175

|

\_cons | .0001095 6.30e-06 -158.50 0.000 .0000978 .0001226

ln(hours) | 1 (exposure)

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

.

. quietly poisson dv `ss\_lag\_1\_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 = 48456.23

Prob > chi2(26029) = 0.0000

Pearson goodness-of-fit = 1188617

Prob > chi2(26029) = 0.0000

.

. pause "next"

.

. // negative binomial model

. glm dv `ss\_lag\_1\_vars' `covariates' ib(freq).state ib(freq).time, family(nbinomial) link(log) vce(cl mineid) exposure(hours) iter(50) eform

Iteration 0: log pseudolikelihood = -45257.444

Iteration 1: log pseudolikelihood = -44816.946

Iteration 2: log pseudolikelihood = -44813.86

Iteration 3: log pseudolikelihood = -44813.858

Generalized linear models No. of obs = 26,110

Optimization : ML Residual df = 26,029

Scale parameter = 1

Deviance = 20591.99214 (1/df) Deviance = .7911173

Pearson = 899241.3071 (1/df) Pearson = 34.54767

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

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

AIC = 3.438901

Log pseudolikelihood = -44813.85796 BIC = -244124.9

(Std. Err. adjusted for 1,475 clusters in mineid)

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| Robust

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

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

p48\_ss\_1lag | 1.007607 .0311087 0.25 0.806 .9484431 1.070461

p75\_ss\_1lag | 1.005803 .0014007 4.15 0.000 1.003062 1.008552

mine\_time | 1.001279 .0013492 0.95 0.343 .998638 1.003927

onsite\_insp\_hours | .9993915 .0001227 -4.96 0.000 .9991511 .999632

|

state |

AL | 1.019789 .1049588 0.19 0.849 .8334952 1.247722

AR | 1.713862 .0770903 11.98 0.000 1.569237 1.871817

CO | .813657 .1032162 -1.63 0.104 .634545 1.043327

IL | 1.320232 .0815312 4.50 0.000 1.169726 1.490103

IN | 1.109066 .0990088 1.16 0.246 .9310408 1.321132

MD | 1.301549 .2378979 1.44 0.149 .9096564 1.862274

MT | .5708386 .0219169 -14.60 0.000 .5294588 .6154525

NM | .7512604 .0293105 -7.33 0.000 .6959544 .8109614

OH | .9589732 .0807692 -0.50 0.619 .8130445 1.131094

OK | 1.811131 .3176498 3.39 0.001 1.28428 2.554112

PA | 1.356434 .1038494 3.98 0.000 1.167428 1.57604

TN | 1.750648 .1802932 5.44 0.000 1.43066 2.142205

UT | .5275461 .0960265 -3.51 0.000 .3692501 .7537031

VA | .931451 .0477171 -1.39 0.166 .8424691 1.029831

WV | 1.274503 .0602158 5.13 0.000 1.161782 1.398161

WY | .7621918 .0295498 -7.00 0.000 .706421 .8223656

|

time |

2000.25 | .9978876 .0754291 -0.03 0.978 .8604791 1.157239

2000.5 | 1.055618 .0755295 0.76 0.449 .9174946 1.214536

2000.75 | .7261963 .0534685 -4.35 0.000 .6286104 .8389314

2001 | .7424781 .0502302 -4.40 0.000 .6502766 .8477527

2001.25 | .8983894 .0682601 -1.41 0.158 .7740871 1.042652

2001.75 | .7927387 .0498933 -3.69 0.000 .7007406 .896815

2002 | .8750662 .0991946 -1.18 0.239 .7007314 1.092774

2002.25 | .8323631 .0607019 -2.52 0.012 .7215012 .9602594

2002.5 | .9182916 .065456 -1.20 0.232 .7985586 1.055977

2002.75 | .7068207 .0511234 -4.80 0.000 .6133989 .814471

2003 | .7084797 .0576321 -4.24 0.000 .6040674 .8309394

2003.25 | .76817 .0719654 -2.82 0.005 .6393126 .9229995

2003.5 | .8673435 .0663811 -1.86 0.063 .7465268 1.007713

2003.75 | .608451 .0471866 -6.41 0.000 .5226526 .7083339

2004 | .6503473 .0537354 -5.21 0.000 .5531135 .7646741

2004.25 | .6709162 .0530771 -5.04 0.000 .574551 .7834441

2004.5 | .7434863 .0564722 -3.90 0.000 .6406476 .8628331

2004.75 | .5808635 .0443247 -7.12 0.000 .5001731 .6745713

2005 | .5983682 .0481196 -6.39 0.000 .5111126 .7005198

2005.25 | .6360817 .0475867 -6.05 0.000 .5493292 .7365345

2005.5 | .6890478 .0525306 -4.89 0.000 .5934125 .8000957

2005.75 | .5589758 .0458509 -7.09 0.000 .4759615 .6564691

2006 | .6308019 .0540697 -5.38 0.000 .5332509 .7461985

2006.25 | .6011181 .0496396 -6.16 0.000 .5112916 .7067258

2006.5 | .6841778 .0543984 -4.77 0.000 .5854511 .7995531

2006.75 | .5541904 .0465503 -7.03 0.000 .470068 .6533672

2007 | .5308581 .0430379 -7.81 0.000 .4528658 .6222821

2007.25 | .5949045 .0523009 -5.91 0.000 .500742 .7067738

2007.5 | .7085744 .0697114 -3.50 0.000 .5843083 .8592684

2007.75 | .5662748 .0490063 -6.57 0.000 .4779285 .6709521

2008 | .5367853 .0441524 -7.56 0.000 .4568634 .6306885

2008.25 | .5389245 .046025 -7.24 0.000 .4558625 .637121

2008.5 | .5829 .0507275 -6.20 0.000 .491493 .6913068

2008.75 | .4764241 .0407897 -8.66 0.000 .4028254 .5634697

2009 | .4979197 .041417 -8.38 0.000 .4230155 .5860872

2009.25 | .483991 .0438908 -8.00 0.000 .4051782 .5781342

2009.5 | .5383942 .0480574 -6.94 0.000 .4519824 .6413264

2009.75 | .4569227 .0397069 -9.01 0.000 .3853654 .5417672

2010 | .4584036 .041036 -8.71 0.000 .3846352 .5463199

2010.25 | .456667 .0475749 -7.52 0.000 .3723254 .5601143

2010.5 | .5864839 .0494945 -6.32 0.000 .4970746 .6919753

2010.75 | .452531 .0420831 -8.53 0.000 .3771298 .5430075

2011 | .4614357 .0410109 -8.70 0.000 .3876674 .5492412

2011.25 | .4412871 .0380644 -9.48 0.000 .3726478 .5225693

2011.5 | .4992091 .0414235 -8.37 0.000 .4242788 .5873726

2011.75 | .3871511 .0333052 -11.03 0.000 .3270806 .4582539

2012 | .4377264 .0395931 -9.13 0.000 .3666148 .5226313

2012.25 | .3813814 .0329975 -11.14 0.000 .3218939 .4518624

2012.5 | .4396716 .0426246 -8.48 0.000 .3635862 .5316789

2012.75 | .3322564 .0324567 -11.28 0.000 .2743615 .4023681

2013 | .3919009 .0389954 -9.41 0.000 .3224623 .4762924

2013.25 | .3671831 .034679 -10.61 0.000 .3051336 .4418505

2013.5 | .4332295 .0421006 -8.61 0.000 .358096 .524127

2013.75 | .3186705 .031837 -11.45 0.000 .2620004 .3875982

2014 | .366248 .0356461 -10.32 0.000 .3026424 .4432214

2014.25 | .3803791 .0388774 -9.46 0.000 .3113277 .4647458

2014.5 | .4013778 .0394984 -9.28 0.000 .3309704 .486763

2014.75 | .4000032 .041026 -8.93 0.000 .3271604 .4890645

2015 | .348752 .0348097 -10.55 0.000 .286785 .4241085

2015.25 | .3398873 .0342126 -10.72 0.000 .279032 .4140147

2015.5 | .440701 .0443036 -8.15 0.000 .361887 .5366796

2015.75 | .3504892 .0387149 -9.49 0.000 .2822612 .4352092

2016 | .3647108 .041732 -8.81 0.000 .2914406 .4564018

|

\_cons | .000102 6.37e-06 -147.15 0.000 .0000902 .0001153

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. eststo clear

. eststo: nbreg dv `ss\_lag\_1\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -48222.299

Iteration 1: log pseudolikelihood = -47093.899

Iteration 2: log pseudolikelihood = -47085.908

Iteration 3: log pseudolikelihood = -47085.903

Iteration 4: log pseudolikelihood = -47085.903

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -45952.202

Iteration 1: log pseudolikelihood = -45236.026

Iteration 2: log pseudolikelihood = -45205.288

Iteration 3: log pseudolikelihood = -45205.217

Iteration 4: log pseudolikelihood = -45205.217

Fitting full model:

Iteration 0: log pseudolikelihood = -43893.556

Iteration 1: log pseudolikelihood = -43664.502

Iteration 2: log pseudolikelihood = -43659.422

Iteration 3: log pseudolikelihood = -43659.419

Negative binomial regression Number of obs = 26,110

Wald chi2(81) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -43659.419 Pseudo R2 = 0.0342

(Std. Err. adjusted for 1,475 clusters in mineid)

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

| Robust

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

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

p48\_ss\_1lag | 1.004109 .0290885 0.14 0.887 .9486848 1.062771

p75\_ss\_1lag | 1.004425 .0012905 3.44 0.001 1.001899 1.006958

mine\_time | 1.001094 .0013246 0.83 0.409 .9985014 1.003694

onsite\_insp\_hours | .9994225 .0001212 -4.76 0.000 .999185 .9996601

|

state |

AL | 1.011588 .095892 0.12 0.903 .8400699 1.218126

AR | 1.772475 .0786072 12.91 0.000 1.624914 1.933437

CO | .7628314 .0920911 -2.24 0.025 .6021008 .9664691

IL | 1.297641 .0790724 4.28 0.000 1.151559 1.462255

IN | 1.109429 .1066761 1.08 0.280 .918868 1.33951

MD | 1.233567 .186059 1.39 0.164 .9178589 1.657866

MT | .5487283 .0217879 -15.11 0.000 .5076442 .5931374

NM | .7439016 .0286802 -7.67 0.000 .6897607 .8022921

OH | .9554542 .0713165 -0.61 0.542 .8254199 1.105974

OK | 1.777317 .3119365 3.28 0.001 1.26 2.507027

PA | 1.288786 .1052425 3.11 0.002 1.098175 1.512481

TN | 1.672399 .1653097 5.20 0.000 1.377851 2.029914

UT | .4961238 .0842002 -4.13 0.000 .3557357 .691915

VA | .9146807 .0494016 -1.65 0.099 .8228041 1.016817

WV | 1.208564 .0568089 4.03 0.000 1.102195 1.325197

WY | .7487996 .0285937 -7.58 0.000 .6948029 .8069926

|

time |

2000.25 | .9822381 .0644992 -0.27 0.785 .8636189 1.11715

2000.5 | 1.057948 .065259 0.91 0.361 .937472 1.193906

2000.75 | .7517029 .0494607 -4.34 0.000 .6607523 .8551726

2001 | .7515323 .0441117 -4.87 0.000 .6698627 .8431591

2001.25 | .8724387 .0553954 -2.15 0.032 .7703497 .9880568

2001.75 | .7891748 .0431435 -4.33 0.000 .7089878 .878431

2002 | .8417323 .0662367 -2.19 0.029 .7214266 .9821004

2002.25 | .8240795 .052958 -3.01 0.003 .7265545 .9346953

2002.5 | .908117 .0574154 -1.52 0.127 .802278 1.027919

2002.75 | .7328368 .0453377 -5.02 0.000 .6491527 .827309

2003 | .7003515 .0489922 -5.09 0.000 .6106203 .8032687

2003.25 | .7462656 .0548184 -3.98 0.000 .6461997 .8618271

2003.5 | .850343 .0546386 -2.52 0.012 .7497222 .9644683

2003.75 | .6204312 .0417885 -7.09 0.000 .5437031 .7079873

2004 | .6560811 .047604 -5.81 0.000 .5691097 .7563434

2004.25 | .6849216 .0468641 -5.53 0.000 .5989622 .7832174

2004.5 | .7654183 .0511104 -4.00 0.000 .6715221 .8724435

2004.75 | .6015482 .0416887 -7.33 0.000 .5251462 .6890657

2005 | .6010983 .0428637 -7.14 0.000 .5226936 .6912637

2005.25 | .6497661 .0439201 -6.38 0.000 .5691428 .7418104

2005.5 | .7041953 .0481232 -5.13 0.000 .6159192 .8051234

2005.75 | .5809991 .0432353 -7.30 0.000 .5021494 .6722301

2006 | .6285035 .0477089 -6.12 0.000 .5416192 .7293254

2006.25 | .6060372 .044848 -6.77 0.000 .524214 .7006321

2006.5 | .705739 .0509656 -4.83 0.000 .6125956 .8130447

2006.75 | .5581129 .0420945 -7.73 0.000 .4814176 .6470266

2007 | .55128 .0407708 -8.05 0.000 .4768923 .6372711

2007.25 | .6054827 .0501466 -6.06 0.000 .5147596 .7121952

2007.5 | .7101467 .0588664 -4.13 0.000 .6036555 .8354241

2007.75 | .5849571 .0441361 -7.11 0.000 .5045442 .678186

2008 | .5502882 .039668 -8.29 0.000 .4777829 .6337964

2008.25 | .5482678 .0416613 -7.91 0.000 .4724027 .6363163

2008.5 | .611963 .0486602 -6.18 0.000 .523651 .7151686

2008.75 | .4950742 .0384926 -9.04 0.000 .4250973 .5765702

2009 | .5070844 .0372246 -9.25 0.000 .4391312 .585553

2009.25 | .4874342 .0396315 -8.84 0.000 .4156308 .571642

2009.5 | .5497415 .044038 -7.47 0.000 .4698633 .6431993

2009.75 | .4674248 .0362653 -9.80 0.000 .4014865 .5441924

2010 | .4690424 .0394379 -9.00 0.000 .3977788 .5530732

2010.25 | .4697402 .0452501 -7.84 0.000 .3889211 .5673538

2010.5 | .5862078 .0443496 -7.06 0.000 .5054217 .6799067

2010.75 | .4585096 .0379102 -9.43 0.000 .389915 .5391715

2011 | .4676046 .0372236 -9.55 0.000 .4000544 .5465608

2011.25 | .443647 .0343669 -10.49 0.000 .3811533 .5163872

2011.5 | .5109052 .0381849 -8.99 0.000 .4412876 .5915056

2011.75 | .3923539 .0304537 -12.05 0.000 .3369841 .4568215

2012 | .4394581 .0351196 -10.29 0.000 .3757449 .5139749

2012.25 | .3836714 .0297582 -12.35 0.000 .3295633 .4466629

2012.5 | .4395424 .0377822 -9.56 0.000 .3713925 .5201976

2012.75 | .3415579 .0300283 -12.22 0.000 .287495 .4057871

2013 | .3898733 .0336344 -10.92 0.000 .3292231 .4616966

2013.25 | .3734869 .032368 -11.36 0.000 .3151422 .4426334

2013.5 | .4344856 .0387628 -9.34 0.000 .3647834 .5175064

2013.75 | .3253238 .0300407 -12.16 0.000 .2714658 .389867

2014 | .3718549 .0337808 -10.89 0.000 .3112054 .4443243

2014.25 | .3867958 .0367861 -9.99 0.000 .3210173 .4660528

2014.5 | .4117976 .037245 -9.81 0.000 .344903 .4916666

2014.75 | .3988441 .0372575 -9.84 0.000 .3321156 .4789797

2015 | .3587323 .0337896 -10.88 0.000 .2982596 .431466

2015.25 | .3438398 .0323445 -11.35 0.000 .2859465 .4134543

2015.5 | .4519166 .0426146 -8.42 0.000 .3756576 .5436562

2015.75 | .3508412 .0367319 -10.00 0.000 .2857542 .4307533

2016 | .3773246 .0409836 -8.97 0.000 .3049726 .4668414

|

\_cons | .0001028 5.78e-06 -163.27 0.000 .0000921 .0001148

ln(hours) | 1 (exposure)

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

/lnalpha | -1.019571 .0672183 -1.151316 -.8878252

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

alpha | .3607498 .024249 .3162203 .4115498

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

(est1 stored)

. esttab using `"`directory'Model.`injury\_label'.`time\_label'.`violation\_level\_label'.C.SSV.2.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.2.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.2.csv)

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(2) = 6852.97

(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 | 26,110 -51293.53 -47085.9 81 94333.81 94995.58

nbin | 26,110 -45205.22 -43659.42 83 87484.84 88162.95

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

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

.

. pause "next"

.

. // final model + diagnostics/assessment

. quietly nbreg dv `ss\_lag\_1\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr

. predict cssv2\_yhat

(option n assumed; predicted number of events)

(4,179 missing values generated)

. gen cssv2\_res = dv - cssv2\_yhat

(4,179 missing values generated)

.

. summ dv cssv2\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv | 30,289 2.177721 3.851734 0 71

cssv2\_yhat | 26,110 2.5696 3.804257 .0000987 41.49125

. /\*

> pause "next"

>

> scatter dv cssv2\_yhat

>

> pause "next"

>

> scatter cssv2\_res dv

>

> pause "next"

>

> scatter cssv2\_res cssv2\_yhat

> \*/

. pause "complete: C.SSV.2"