. // Model C.V.2

.

. // poisson model

. glm dv `count\_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 = -50008.987

Iteration 1: log pseudolikelihood = -46531.777

Iteration 2: log pseudolikelihood = -46511.141

Iteration 3: log pseudolikelihood = -46511.106

Iteration 4: log pseudolikelihood = -46511.106

Generalized linear models No. of obs = 26,110

Optimization : ML Residual df = 25,943

Scale parameter = 1

Deviance = 47306.63559 (1/df) Deviance = 1.823484

Pearson = 1153200.809 (1/df) Pearson = 44.45133

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

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

AIC = 3.575496

Log pseudolikelihood = -46511.10596 BIC = -216535.6

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

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

| Robust

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

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

sp48\_11\_1lag | .9982804 .0343926 -0.05 0.960 .9330977 1.068017

sp75\_1311\_1lag | 1.106523 .0992755 1.13 0.259 .9280943 1.319256

sp75\_1400\_1\_1lag | .897664 .186789 -0.52 0.604 .5970255 1.349692

sp75\_1404\_1\_1lag | .8649131 .1704342 -0.74 0.461 .5878143 1.272638

sp75\_1405\_1\_1lag | 1.003336 .0889273 0.04 0.970 .843341 1.193686

sp75\_500\_1\_1lag | .7766135 .25716 -0.76 0.445 .4058323 1.486152

sp75\_501\_1lag | 1.087863 .1041732 0.88 0.379 .9017037 1.312457

sp75\_506\_1\_1lag | 1.028173 .0595094 0.48 0.631 .9179092 1.151682

sp75\_507\_1\_1lag | 1.018454 .0248395 0.75 0.453 .9709145 1.068321

sp75\_508\_1\_1lag | .1729127 .0519032 -5.85 0.000 .0960112 .3114096

sp75\_512\_1\_1lag | 1.156958 .1090004 1.55 0.122 .9618853 1.391591

sp75\_811\_1lag | 1.004114 .0483406 0.09 0.932 .9137012 1.103474

sp75\_1002\_1lag | 1.00548 .0219952 0.25 0.803 .9632818 1.049528

sp75\_1003\_2\_1lag | .9493543 .0533199 -0.93 0.355 .8503958 1.059828

sp75\_1322\_1lag | 1.974133 .2571476 5.22 0.000 1.529326 2.548312

sp75\_1719\_2\_1lag | .9787549 .070366 -0.30 0.765 .850116 1.126859

sp75\_212\_1lag | 1.098812 .0412116 2.51 0.012 1.020936 1.182629

sp75\_332\_1lag | .9442368 .0838977 -0.65 0.518 .7933223 1.12386

sp75\_501\_2\_1lag | .9748605 .077695 -0.32 0.749 .8338788 1.139678

sp75\_502\_1lag | 1.00919 .1082423 0.09 0.932 .8178543 1.245288

sp75\_602\_1lag | .9973705 .0259592 -0.10 0.919 .9477675 1.04957

sp75\_812\_1lag | .981636 .1275657 -0.14 0.887 .760913 1.266386

sp75\_1003\_1lag | .9249582 .0279808 -2.58 0.010 .871711 .981458

sp75\_153\_1lag | 1.076673 .2577911 0.31 0.758 .6734079 1.721431

sp75\_203\_1lag | 1.031543 .0138779 2.31 0.021 1.004699 1.059105

sp75\_213\_1lag | 1.226284 .0391784 6.38 0.000 1.15185 1.305527

sp75\_343\_1lag | 1.077889 .0356413 2.27 0.023 1.010249 1.150058

sp75\_373\_1lag | .807122 .2770109 -0.62 0.532 .4119076 1.581534

sp75\_503\_1lag | 1.004005 .00307 1.31 0.191 .9980057 1.01004

sp75\_523\_1lag | .9363738 .0231254 -2.66 0.008 .8921284 .9828136

sp75\_523\_3\_1lag | .9785577 .0083936 -2.53 0.012 .962244 .9951479

sp75\_603\_1lag | 1.050488 .0413338 1.25 0.211 .97252 1.134706

sp75\_703\_3\_1lag | 1.103524 .0594957 1.83 0.068 .9928644 1.226517

sp48\_24\_1lag | 1.125924 .0127234 10.50 0.000 1.101261 1.15114

sp48\_4\_1lag | .2942033 .2444456 -1.47 0.141 .0577307 1.499298

sp75\_1404\_1lag | 1.163368 .1692271 1.04 0.298 .8747794 1.547161

sp75\_1719\_4\_1lag | 1.055799 .034552 1.66 0.097 .9902048 1.125739

sp75\_204\_1lag | 1.012325 .0157761 0.79 0.432 .9818719 1.043723

sp75\_334\_1lag | 1.007389 .0260286 0.28 0.776 .957644 1.059718

sp75\_524\_1lag | 1.240134 .1989802 1.34 0.180 .9055089 1.698417

sp75\_604\_1lag | 1.024465 .0068869 3.60 0.000 1.011056 1.038053

sp75\_703\_4\_1lag | .8507279 .6906334 -0.20 0.842 .1732897 4.176463

sp48\_25\_1lag | .9639301 .0836766 -0.42 0.672 .8131201 1.142711

sp48\_5\_1lag | .8862737 .0968032 -1.11 0.269 .7154766 1.097843

sp75\_1315\_1lag | .6002689 .1000062 -3.06 0.002 .4330456 .8320665

sp75\_1403\_5\_1lag | .9848398 .012841 -1.17 0.241 .9599907 1.010332

sp75\_1405\_1lag | .9738311 .0126568 -2.04 0.041 .9493375 .9989566

sp75\_155\_1lag | 1.112035 .4044421 0.29 0.770 .5451809 2.26828

sp75\_1725\_1lag | .9920247 .0045652 -1.74 0.082 .9831172 1.001013

sp75\_205\_1lag | 1.228116 .3022537 0.83 0.404 .7581392 1.989437

sp75\_215\_1lag | .7646012 .1033553 -1.99 0.047 .5866424 .996544

sp75\_505\_1lag | 1.002167 .1256516 0.02 0.986 .7838206 1.281338

sp75\_605\_1lag | .9911211 .0144651 -0.61 0.541 .9631716 1.019882

sp48\_26\_1lag | 1.082761 .0615183 1.40 0.162 .9686581 1.210304

sp48\_6\_1lag | 1.012707 .0476783 0.27 0.789 .9234408 1.110601

sp75\_1316\_1lag | .6989799 .1620192 -1.55 0.122 .4437736 1.100951

sp75\_1403\_6\_1lag | .9795375 .0056524 -3.58 0.000 .9685214 .9906788

sp75\_156\_1lag | 1.107361 .2580161 0.44 0.662 .7013883 1.748316

sp75\_1906\_1lag | 1.139655 .0496997 3.00 0.003 1.046292 1.241349

sp75\_1916\_1lag | 1.042663 .0300878 1.45 0.148 .9853281 1.103333

sp75\_606\_1lag | 1.010714 .0083102 1.30 0.195 .994557 1.027134

sp75\_816\_1lag | 1.001253 .0236756 0.05 0.958 .9559082 1.048748

sp75\_906\_1lag | .6002095 .0877753 -3.49 0.000 .4506321 .7994357

sp48\_27\_1lag | .9424604 .066163 -0.84 0.399 .8213092 1.081483

sp48\_7\_1lag | .9938007 .0381818 -0.16 0.871 .9217139 1.071525

sp75\_1403\_7\_1lag | 1.04304 .0352588 1.25 0.213 .9761735 1.114486

sp75\_207\_1lag | 1.16654 .1610199 1.12 0.264 .8900337 1.528948

sp75\_327\_1lag | .861669 .1120754 -1.14 0.252 .6677694 1.111871

sp75\_337\_1lag | .9914323 .0343927 -0.25 0.804 .9262644 1.061185

sp75\_507\_1lag | 1.064559 .038412 1.73 0.083 .9918729 1.142571

sp75\_607\_1lag | 1.002709 .0498359 0.05 0.957 .9096388 1.105301

sp75\_807\_1lag | 1.022506 .0098528 2.31 0.021 1.003376 1.042001

sp75\_817\_1lag | .8900264 .0736496 -1.41 0.159 .7567738 1.046742

sp48\_28\_1lag | .9570031 .039953 -1.05 0.292 .8818147 1.038602

sp48\_8\_1lag | 1.092902 .0792562 1.23 0.221 .9480974 1.259823

sp75\_1318\_1lag | 1.393114 .5625621 0.82 0.412 .6313314 3.074084

sp75\_1403\_8\_1lag | .9585889 .0107367 -3.78 0.000 .9377747 .979865

sp75\_208\_1lag | 1.016979 .0180001 0.95 0.341 .982304 1.052877

sp75\_388\_1lag | .9543445 .0617057 -0.72 0.470 .8407531 1.083283

sp75\_209\_1lag | 1.038843 .0612885 0.65 0.518 .9254046 1.166187

sp75\_389\_1lag | 1.045548 .1561668 0.30 0.766 .7801995 1.401143

sp75\_509\_1lag | 1.271436 .1137807 2.68 0.007 1.066892 1.515195

sp75\_100\_1lag | 1.092105 .0969253 0.99 0.321 .9177394 1.299599

sp75\_1400\_1lag | .9811206 .0415747 -0.45 0.653 .9029278 1.066085

sp75\_1403\_10\_1lag | 1.028373 .0132683 2.17 0.030 1.002693 1.05471

sp75\_160\_1lag | 1.002774 .1659128 0.02 0.987 .7250505 1.386876

sp75\_1720\_1lag | 1.028396 .0286085 1.01 0.314 .9738252 1.086024

sp75\_340\_1lag | .9675259 .0108859 -2.93 0.003 .9464234 .9890989

sp75\_500\_1lag | .9668966 .0422932 -0.77 0.442 .8874573 1.053447

sp75\_510\_1lag | .5219656 .0612888 -5.54 0.000 .4146622 .6570363

sp75\_810\_1lag | 1.071294 .0342777 2.15 0.031 1.006174 1.140628

mine\_time | 1.001616 .0013913 1.16 0.245 .9988932 1.004347

onsite\_insp\_hours | .9995428 .0000978 -4.67 0.000 .999351 .9997346

|

state |

AL | 1.012935 .0805689 0.16 0.872 .8667163 1.183822

AR | 1.795402 .0850938 12.35 0.000 1.636133 1.970175

CO | .677538 .0683134 -3.86 0.000 .5560457 .8255756

IL | 1.180089 .0767946 2.54 0.011 1.038777 1.340623

IN | 1.063049 .098979 0.66 0.511 .8857253 1.275873

MD | 1.165524 .1438153 1.24 0.214 .9151463 1.484403

MT | .5153803 .0222159 -15.38 0.000 .4736266 .5608149

NM | .7110804 .0295135 -8.22 0.000 .6555253 .7713437

OH | 1.055639 .0939783 0.61 0.543 .8866197 1.25688

OK | 1.730184 .3094455 3.07 0.002 1.218579 2.456578

PA | 1.091682 .0979025 0.98 0.328 .9157148 1.301465

TN | 1.583837 .1522586 4.78 0.000 1.311844 1.912225

UT | .4538833 .0687644 -5.21 0.000 .3372758 .610806

VA | .8711441 .0648686 -1.85 0.064 .7528465 1.00803

WV | 1.124757 .0517261 2.56 0.011 1.02781 1.230848

WY | .7116078 .0300671 -8.05 0.000 .6550514 .7730472

|

time |

2000.25 | .9270661 .060909 -1.15 0.249 .8150534 1.054473

2000.5 | 1.053295 .0674101 0.81 0.417 .9291244 1.194061

2000.75 | .7792487 .0503792 -3.86 0.000 .6865073 .8845188

2001 | .762268 .0422172 -4.90 0.000 .6838566 .8496701

2001.25 | .8391149 .0458751 -3.21 0.001 .7538511 .9340224

2001.75 | .7717766 .0411412 -4.86 0.000 .6952107 .8567749

2002 | .8007858 .0542202 -3.28 0.001 .7012656 .9144295

2002.25 | .7955515 .0483874 -3.76 0.000 .7061487 .8962734

2002.5 | .8707804 .0540774 -2.23 0.026 .7709871 .9834904

2002.75 | .7764451 .0452014 -4.35 0.000 .6927194 .8702904

2003 | .6755884 .0422773 -6.27 0.000 .5976064 .7637462

2003.25 | .7434321 .0450873 -4.89 0.000 .6601126 .8372681

2003.5 | .8126865 .0530895 -3.18 0.001 .7150189 .923695

2003.75 | .6283148 .039089 -7.47 0.000 .5561885 .7097944

2004 | .6340945 .0433451 -6.66 0.000 .5545848 .7250033

2004.25 | .6891437 .0462643 -5.55 0.000 .6041797 .786056

2004.5 | .7791037 .0505449 -3.85 0.000 .6860771 .8847439

2004.75 | .6062227 .0409232 -7.41 0.000 .5310944 .6919787

2005 | .5976942 .0433572 -7.09 0.000 .5184802 .6890106

2005.25 | .6576002 .0461768 -5.97 0.000 .5730472 .7546289

2005.5 | .6856909 .0487463 -5.31 0.000 .5965074 .7882082

2005.75 | .578621 .0440125 -7.19 0.000 .4984803 .6716458

2006 | .5967219 .0447094 -6.89 0.000 .5152235 .6911118

2006.25 | .5920524 .04307 -7.21 0.000 .5133788 .6827826

2006.5 | .708012 .0547965 -4.46 0.000 .6083617 .823985

2006.75 | .5581937 .0438246 -7.43 0.000 .4785814 .6510494

2007 | .5702776 .0435644 -7.35 0.000 .4909776 .6623856

2007.25 | .5985456 .05322 -5.77 0.000 .5028197 .7124957

2007.5 | .6838797 .0506285 -5.13 0.000 .5915127 .7906701

2007.75 | .5960707 .0442271 -6.97 0.000 .5153954 .6893741

2008 | .5466582 .0400387 -8.25 0.000 .4735563 .6310446

2008.25 | .5409544 .0397831 -8.35 0.000 .46834 .6248274

2008.5 | .6278953 .0511845 -5.71 0.000 .5351793 .7366735

2008.75 | .5111119 .0413732 -8.29 0.000 .4361274 .5989886

2009 | .5090837 .0380663 -9.03 0.000 .4396847 .5894365

2009.25 | .4679656 .0400253 -8.88 0.000 .3957403 .5533724

2009.5 | .5371892 .0457379 -7.30 0.000 .4546251 .6347477

2009.75 | .4644791 .0361857 -9.84 0.000 .3987057 .5411029

2010 | .4655197 .0462451 -7.70 0.000 .383159 .5655841

2010.25 | .4731532 .0426777 -8.30 0.000 .3964831 .5646493

2010.5 | .5517542 .0397184 -8.26 0.000 .4791499 .63536

2010.75 | .4332656 .0363637 -9.97 0.000 .3675474 .5107343

2011 | .4465607 .0364395 -9.88 0.000 .3805592 .524009

2011.25 | .4182755 .0327365 -11.14 0.000 .3587919 .4876207

2011.5 | .4901502 .0376954 -9.27 0.000 .4215672 .5698907

2011.75 | .3814112 .0302579 -12.15 0.000 .3264873 .4455747

2012 | .4140134 .0331603 -11.01 0.000 .353865 .4843855

2012.25 | .3698292 .0295668 -12.44 0.000 .3161915 .4325659

2012.5 | .4180672 .0341056 -10.69 0.000 .3562918 .4905536

2012.75 | .3337951 .0297799 -12.30 0.000 .2802458 .3975765

2013 | .3658389 .0314648 -11.69 0.000 .3090867 .4330116

2013.25 | .3658949 .0341967 -10.76 0.000 .3046511 .4394504

2013.5 | .4139854 .037525 -9.73 0.000 .3466005 .4944709

2013.75 | .316416 .0305755 -11.91 0.000 .261822 .3823937

2014 | .3686612 .035622 -10.33 0.000 .3050561 .4455281

2014.25 | .3801611 .0379477 -9.69 0.000 .3126084 .4623115

2014.5 | .4184427 .0390092 -9.35 0.000 .3485645 .5023298

2014.75 | .3798735 .037398 -9.83 0.000 .3132127 .4607216

2015 | .3589702 .0356528 -10.32 0.000 .2954727 .4361136

2015.25 | .3302991 .0323482 -11.31 0.000 .2726114 .4001942

2015.5 | .4394576 .0419426 -8.61 0.000 .3644826 .5298552

2015.75 | .3175842 .0342301 -10.64 0.000 .2571072 .3922868

2016 | .3734872 .0404754 -9.09 0.000 .3020159 .4618722

|

\_cons | .0001051 6.39e-06 -150.72 0.000 .0000933 .0001184

ln(hours) | 1 (exposure)

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

.

. quietly poisson dv `count\_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 = 47306.64

Prob > chi2(25943) = 0.0000

Pearson goodness-of-fit = 1153201

Prob > chi2(25943) = 0.0000

.

. pause "next"

.

. // negative binomial model

. glm dv `count\_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 = -45215.965

Iteration 1: log pseudolikelihood = -44737.753

Iteration 2: log pseudolikelihood = -44734.911

Iteration 3: log pseudolikelihood = -44734.909

Generalized linear models No. of obs = 26,110

Optimization : ML Residual df = 25,943

Scale parameter = 1

Deviance = 20434.09393 (1/df) Deviance = .7876535

Pearson = 902504.6705 (1/df) Pearson = 34.78798

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

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

AIC = 3.439442

Log pseudolikelihood = -44734.90886 BIC = -243408.1

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

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| Robust

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

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

sp48\_11\_1lag | 1.021711 .0562914 0.39 0.697 .9171303 1.138217

sp75\_1311\_1lag | 1.107782 .1392572 0.81 0.415 .8658677 1.417285

sp75\_1400\_1\_1lag | .9239295 .1796901 -0.41 0.684 .6310927 1.352647

sp75\_1404\_1\_1lag | .8990596 .2137066 -0.45 0.654 .564232 1.432581

sp75\_1405\_1\_1lag | .9131259 .0623431 -1.33 0.183 .7987583 1.043869

sp75\_500\_1\_1lag | .7541072 .2605114 -0.82 0.414 .3831597 1.484179

sp75\_501\_1lag | 1.231386 .277413 0.92 0.356 .7918286 1.914949

sp75\_506\_1\_1lag | 1.013433 .0762782 0.18 0.859 .8744354 1.174526

sp75\_507\_1\_1lag | 1.032168 .033257 0.98 0.326 .9690008 1.099453

sp75\_508\_1\_1lag | .1342554 .0404579 -6.66 0.000 .0743741 .2423494

sp75\_512\_1\_1lag | .9841514 .128929 -0.12 0.903 .7612898 1.272254

sp75\_811\_1lag | 1.012485 .0477475 0.26 0.792 .9230958 1.110529

sp75\_1002\_1lag | .9877108 .0290273 -0.42 0.674 .9324258 1.046274

sp75\_1003\_2\_1lag | .9173833 .0421751 -1.88 0.061 .8383365 1.003883

sp75\_1322\_1lag | 1.724997 .25913 3.63 0.000 1.285051 2.315561

sp75\_1719\_2\_1lag | .9723568 .0993395 -0.27 0.784 .7959098 1.187921

sp75\_212\_1lag | 1.075988 .036009 2.19 0.029 1.007676 1.148931

sp75\_332\_1lag | .8939051 .0845789 -1.19 0.236 .7425967 1.076043

sp75\_501\_2\_1lag | .8767025 .0869613 -1.33 0.185 .7218059 1.064839

sp75\_502\_1lag | .9004501 .1440828 -0.66 0.512 .6580475 1.232146

sp75\_602\_1lag | 1.004812 .0382463 0.13 0.900 .9325789 1.082641

sp75\_812\_1lag | .915031 .147443 -0.55 0.582 .6672336 1.254855

sp75\_1003\_1lag | .8969384 .0324885 -3.00 0.003 .8354698 .9629295

sp75\_153\_1lag | .9134766 .2752547 -0.30 0.764 .5060668 1.648872

sp75\_203\_1lag | 1.037649 .0172937 2.22 0.027 1.004302 1.072104

sp75\_213\_1lag | 1.153956 .1045181 1.58 0.114 .9662569 1.378115

sp75\_343\_1lag | 1.038172 .0470708 0.83 0.409 .9498959 1.134653

sp75\_373\_1lag | .8461074 .4245989 -0.33 0.739 .3164246 2.262459

sp75\_503\_1lag | 1.007021 .0047204 1.49 0.136 .9978114 1.016315

sp75\_523\_1lag | .9017752 .0264169 -3.53 0.000 .8514573 .9550666

sp75\_523\_3\_1lag | .9862936 .010144 -1.34 0.180 .9666107 1.006377

sp75\_603\_1lag | 1.040418 .0577462 0.71 0.475 .9331758 1.159984

sp75\_703\_3\_1lag | 1.112679 .0620057 1.92 0.055 .9975519 1.241093

sp48\_24\_1lag | 1.097987 .0157574 6.51 0.000 1.067533 1.129309

sp48\_4\_1lag | .2735433 .224973 -1.58 0.115 .0545712 1.371161

sp75\_1404\_1lag | 1.059956 .2720322 0.23 0.821 .6409604 1.752848

sp75\_1719\_4\_1lag | 1.027796 .0347538 0.81 0.417 .9618875 1.09822

sp75\_204\_1lag | 1.029538 .0184991 1.62 0.105 .9939114 1.066441

sp75\_334\_1lag | .9707806 .0307212 -0.94 0.349 .9123976 1.0329

sp75\_524\_1lag | .9815236 .1891726 -0.10 0.923 .6727375 1.432042

sp75\_604\_1lag | 1.021529 .0072076 3.02 0.003 1.0075 1.035754

sp75\_703\_4\_1lag | .5484547 .370825 -0.89 0.374 .145754 2.063769

sp48\_25\_1lag | .9392068 .0745332 -0.79 0.429 .8039183 1.097263

sp48\_5\_1lag | 1.056433 .1077027 0.54 0.590 .8650923 1.290094

sp75\_1315\_1lag | .5123735 .1089733 -3.14 0.002 .3377149 .7773616

sp75\_1403\_5\_1lag | .9808629 .0154009 -1.23 0.218 .9511373 1.011517

sp75\_1405\_1lag | .966251 .0152637 -2.17 0.030 .9367931 .9966352

sp75\_155\_1lag | 1.017605 .3929275 0.05 0.964 .4774248 2.168969

sp75\_1725\_1lag | .9999173 .0053583 -0.02 0.988 .9894702 1.010475

sp75\_205\_1lag | 2.330939 .8774493 2.25 0.025 1.114571 4.874766

sp75\_215\_1lag | .704737 .1008487 -2.45 0.014 .5323768 .9328999

sp75\_505\_1lag | .9584084 .1177499 -0.35 0.730 .7533071 1.219352

sp75\_605\_1lag | .9950425 .0202845 -0.24 0.807 .9560693 1.035604

sp48\_26\_1lag | 1.104289 .0780577 1.40 0.160 .9614235 1.268384

sp48\_6\_1lag | .9688951 .0632489 -0.48 0.628 .8525322 1.10114

sp75\_1316\_1lag | .8313447 .2130114 -0.72 0.471 .503132 1.373663

sp75\_1403\_6\_1lag | .9757296 .0080889 -2.96 0.003 .9600038 .991713

sp75\_156\_1lag | 1.007119 .3344742 0.02 0.983 .5252768 1.93096

sp75\_1906\_1lag | 1.184028 .0504908 3.96 0.000 1.08909 1.287241

sp75\_1916\_1lag | 1.067584 .0532493 1.31 0.190 .9681565 1.177223

sp75\_606\_1lag | 1.005404 .0109593 0.49 0.621 .9841526 1.027115

sp75\_816\_1lag | 1.011877 .036203 0.33 0.741 .9433507 1.08538

sp75\_906\_1lag | .587609 .1140353 -2.74 0.006 .401697 .859564

sp48\_27\_1lag | 1.030435 .0766139 0.40 0.687 .8907029 1.192088

sp48\_7\_1lag | 1.053526 .0538435 1.02 0.308 .9531083 1.164524

sp75\_1403\_7\_1lag | 1.03739 .0450228 0.85 0.398 .9527962 1.129495

sp75\_207\_1lag | 1.096137 .1166796 0.86 0.389 .8897291 1.35043

sp75\_327\_1lag | .7393656 .097879 -2.28 0.023 .5703943 .9583923

sp75\_337\_1lag | 1.011424 .0539373 0.21 0.831 .9110464 1.122862

sp75\_507\_1lag | 1.110637 .0578139 2.02 0.044 1.002913 1.229933

sp75\_607\_1lag | 1.032949 .058982 0.57 0.570 .9235802 1.155268

sp75\_807\_1lag | 1.035436 .0112612 3.20 0.001 1.013598 1.057744

sp75\_817\_1lag | .8338484 .0977509 -1.55 0.121 .662677 1.049234

sp48\_28\_1lag | .9449277 .0532637 -1.00 0.315 .8460929 1.055308

sp48\_8\_1lag | 1.296603 .1479591 2.28 0.023 1.03675 1.621586

sp75\_1318\_1lag | 1.413354 .7206896 0.68 0.497 .5202487 3.839643

sp75\_1403\_8\_1lag | .9591355 .0103626 -3.86 0.000 .9390387 .9796624

sp75\_208\_1lag | 1.000423 .0191086 0.02 0.982 .9636631 1.038585

sp75\_388\_1lag | .9855181 .0723575 -0.20 0.843 .8534316 1.138048

sp75\_209\_1lag | 1.045524 .0629218 0.74 0.459 .9291952 1.176416

sp75\_389\_1lag | 1.028321 .256249 0.11 0.911 .630981 1.675872

sp75\_509\_1lag | 1.123485 .104555 1.25 0.211 .9361639 1.348288

sp75\_100\_1lag | 1.069826 .1169148 0.62 0.537 .8635559 1.325366

sp75\_1400\_1lag | .9608153 .0511054 -0.75 0.452 .8656947 1.066387

sp75\_1403\_10\_1lag | 1.034072 .0163648 2.12 0.034 1.00249 1.066649

sp75\_160\_1lag | 1.402223 .4309081 1.10 0.271 .7677855 2.56091

sp75\_1720\_1lag | 1.007363 .0348934 0.21 0.832 .9412429 1.078128

sp75\_340\_1lag | .9786507 .0132546 -1.59 0.111 .9530139 1.004977

sp75\_500\_1lag | 1.045044 .0713548 0.65 0.519 .9141451 1.194687

sp75\_510\_1lag | .5272107 .0889661 -3.79 0.000 .3787433 .7338772

sp75\_810\_1lag | 1.029934 .0389001 0.78 0.435 .9564446 1.109069

mine\_time | 1.001848 .0013412 1.38 0.168 .9992228 1.00448

onsite\_insp\_hours | .9995224 .0001089 -4.38 0.000 .9993089 .9997359

|

state |

AL | 1.075575 .1114207 0.70 0.482 .8779371 1.317705

AR | 1.688018 .076714 11.52 0.000 1.544163 1.845274

CO | .8045215 .1025924 -1.71 0.088 .6266032 1.032958

IL | 1.256773 .0796929 3.60 0.000 1.109894 1.423089

IN | 1.060991 .0783524 0.80 0.423 .9180191 1.226228

MD | 1.31411 .2441324 1.47 0.141 .9130565 1.891325

MT | .5502838 .0214148 -15.35 0.000 .5098724 .5938981

NM | .762521 .0307888 -6.71 0.000 .7045021 .8253181

OH | 1.07601 .1045876 0.75 0.451 .8893649 1.301825

OK | 1.840335 .3092935 3.63 0.000 1.323856 2.558309

PA | 1.385516 .1003943 4.50 0.000 1.202081 1.596943

TN | 1.789458 .1823203 5.71 0.000 1.465535 2.184976

UT | .5306333 .0992193 -3.39 0.001 .3678193 .7655164

VA | .9533741 .0487637 -0.93 0.351 .8624335 1.053904

WV | 1.315285 .0583385 6.18 0.000 1.205772 1.434743

WY | .7587631 .0308989 -6.78 0.000 .7005562 .8218063

|

time |

2000.25 | 1.013807 .0730502 0.19 0.849 .8802817 1.167586

2000.5 | 1.071351 .0734676 1.01 0.315 .9366146 1.22547

2000.75 | .7404971 .0528154 -4.21 0.000 .6438906 .851598

2001 | .7470324 .0511799 -4.26 0.000 .6531649 .8543899

2001.25 | .8874543 .0586962 -1.81 0.071 .7795563 1.010286

2001.75 | .7978685 .0518782 -3.47 0.001 .7024015 .906311

2002 | .8882604 .1001005 -1.05 0.293 .7122231 1.107808

2002.25 | .8416092 .0628034 -2.31 0.021 .7270952 .9741587

2002.5 | .9261919 .0684075 -1.04 0.299 .8013683 1.070458

2002.75 | .7196172 .050021 -4.73 0.000 .6279629 .8246489

2003 | .7172439 .0559504 -4.26 0.000 .6155549 .8357319

2003.25 | .7822788 .0699149 -2.75 0.006 .6565786 .9320439

2003.5 | .8673171 .0640203 -1.93 0.054 .7504939 1.002325

2003.75 | .6168516 .0460671 -6.47 0.000 .5328588 .7140839

2004 | .6545149 .0520573 -5.33 0.000 .5600394 .7649279

2004.25 | .6854034 .0519236 -4.99 0.000 .5908298 .7951152

2004.5 | .7549648 .05482 -3.87 0.000 .6548151 .8704318

2004.75 | .5849503 .0442739 -7.08 0.000 .5043047 .6784923

2005 | .605556 .0473331 -6.42 0.000 .5195417 .7058106

2005.25 | .6426496 .0462082 -6.15 0.000 .5581754 .7399082

2005.5 | .6867223 .0510956 -5.05 0.000 .5935365 .7945384

2005.75 | .5589214 .0440947 -7.37 0.000 .4788477 .6523853

2006 | .6271097 .051495 -5.68 0.000 .5338844 .7366138

2006.25 | .6101737 .0479741 -6.28 0.000 .5230327 .711833

2006.5 | .6879537 .0517522 -4.97 0.000 .5936446 .7972451

2006.75 | .5606665 .045031 -7.20 0.000 .4790035 .6562518

2007 | .5374267 .0414516 -8.05 0.000 .4620258 .6251326

2007.25 | .5939089 .0500666 -6.18 0.000 .5034581 .7006099

2007.5 | .7003157 .0666195 -3.74 0.000 .5811937 .8438531

2007.75 | .5604129 .0465423 -6.97 0.000 .476229 .6594782

2008 | .5298258 .0419396 -8.02 0.000 .4536849 .6187454

2008.25 | .5239057 .0436457 -7.76 0.000 .4449805 .6168298

2008.5 | .5672587 .0476832 -6.74 0.000 .481094 .6688555

2008.75 | .4674638 .0387057 -9.18 0.000 .3974377 .5498281

2009 | .4815986 .0393381 -8.94 0.000 .4103524 .5652147

2009.25 | .4659223 .040808 -8.72 0.000 .3924286 .55318

2009.5 | .5261883 .0452829 -7.46 0.000 .4445169 .6228653

2009.75 | .4489338 .0382653 -9.40 0.000 .3798651 .5305609

2010 | .4432636 .0380904 -9.47 0.000 .3745561 .5245746

2010.25 | .4452008 .0434274 -8.30 0.000 .3677265 .5389977

2010.5 | .5711882 .0463142 -6.91 0.000 .4872597 .6695731

2010.75 | .4471152 .0403603 -8.92 0.000 .374613 .5336494

2011 | .4471822 .0384781 -9.35 0.000 .3777829 .5293304

2011.25 | .4281264 .0355264 -10.22 0.000 .3638633 .5037391

2011.5 | .4856702 .0387531 -9.05 0.000 .4153571 .5678863

2011.75 | .3783537 .0314957 -11.68 0.000 .321396 .4454055

2012 | .4238692 .0373948 -9.73 0.000 .3565633 .5038799

2012.25 | .3710161 .0311623 -11.80 0.000 .3147015 .437408

2012.5 | .4230737 .0400097 -9.10 0.000 .3514946 .5092293

2012.75 | .3196483 .0307758 -11.85 0.000 .2646784 .3860347

2013 | .3765873 .0370504 -9.93 0.000 .3105421 .4566788

2013.25 | .3517238 .0323046 -11.38 0.000 .2937798 .4210965

2013.5 | .4115718 .0389744 -9.37 0.000 .3418533 .4955088

2013.75 | .3079244 .0302481 -11.99 0.000 .2539969 .3733014

2014 | .352685 .0334794 -10.98 0.000 .2928092 .4248046

2014.25 | .3619745 .0361428 -10.18 0.000 .2976367 .4402198

2014.5 | .3850576 .0373683 -9.83 0.000 .3183611 .4657269

2014.75 | .3819997 .0385104 -9.55 0.000 .3135098 .465452

2015 | .3348841 .0328641 -11.15 0.000 .2762875 .4059082

2015.25 | .3230224 .0316407 -11.54 0.000 .2665973 .3913899

2015.5 | .4186239 .0407545 -8.94 0.000 .3459048 .5066306

2015.75 | .3307973 .0358157 -10.22 0.000 .267548 .4089989

2016 | .3464258 .0387348 -9.48 0.000 .2782499 .4313059

|

\_cons | .0000992 5.93e-06 -154.18 0.000 .0000882 .0001115

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. eststo clear

. eststo: nbreg dv `count\_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 = -310835.42

Iteration 1: log pseudolikelihood = -181066.49

Iteration 2: log pseudolikelihood = -101271.82

Iteration 3: log pseudolikelihood = -51474.473

Iteration 4: log pseudolikelihood = -47401.722

Iteration 5: log pseudolikelihood = -46585.803

Iteration 6: log pseudolikelihood = -46513.899

Iteration 7: log pseudolikelihood = -46511.155

Iteration 8: log pseudolikelihood = -46511.106

Iteration 9: log pseudolikelihood = -46511.106

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 = -43752.732

Iteration 1: log pseudolikelihood = -43507.418

Iteration 2: log pseudolikelihood = -43502.179

Iteration 3: log pseudolikelihood = -43502.177

Negative binomial regression Number of obs = 26,110

Wald chi2(166) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -43502.177 Pseudo R2 = 0.0377

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

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

| Robust

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

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

sp48\_11\_1lag | 1.010302 .0416729 0.25 0.804 .9318395 1.095372

sp75\_1311\_1lag | 1.121648 .1247497 1.03 0.302 .9019575 1.394849

sp75\_1400\_1\_1lag | .9240716 .1847773 -0.39 0.693 .6244525 1.367451

sp75\_1404\_1\_1lag | .8767865 .1991879 -0.58 0.563 .561718 1.368578

sp75\_1405\_1\_1lag | .9426107 .0654953 -0.85 0.395 .8225995 1.080131

sp75\_500\_1\_1lag | .7810871 .2726257 -0.71 0.479 .3940955 1.548095

sp75\_501\_1lag | 1.172262 .2062908 0.90 0.366 .8302963 1.65507

sp75\_506\_1\_1lag | 1.018038 .0702207 0.26 0.795 .889306 1.165405

sp75\_507\_1\_1lag | 1.027696 .0312555 0.90 0.369 .9682268 1.090819

sp75\_508\_1\_1lag | .1518705 .043591 -6.57 0.000 .0865277 .2665581

sp75\_512\_1\_1lag | 1.034469 .1207185 0.29 0.772 .8229733 1.300318

sp75\_811\_1lag | 1.019695 .0487135 0.41 0.683 .9285523 1.119785

sp75\_1002\_1lag | .991908 .0262279 -0.31 0.759 .9418117 1.044669

sp75\_1003\_2\_1lag | .9295955 .0439246 -1.55 0.122 .8473711 1.019798

sp75\_1322\_1lag | 1.82998 .2565694 4.31 0.000 1.390289 2.408728

sp75\_1719\_2\_1lag | .9847508 .0872122 -0.17 0.862 .8278309 1.171416

sp75\_212\_1lag | 1.077327 .0344853 2.33 0.020 1.011813 1.147082

sp75\_332\_1lag | .9250179 .0846345 -0.85 0.394 .7731602 1.106702

sp75\_501\_2\_1lag | .8976348 .0815871 -1.19 0.235 .7511608 1.072671

sp75\_502\_1lag | .9167233 .1190874 -0.67 0.503 .710661 1.182535

sp75\_602\_1lag | .9922098 .0309181 -0.25 0.802 .9334249 1.054697

sp75\_812\_1lag | .9403965 .1438943 -0.40 0.688 .6967305 1.269279

sp75\_1003\_1lag | .9049762 .0306474 -2.95 0.003 .8468585 .9670825

sp75\_153\_1lag | .9500321 .2545745 -0.19 0.848 .5618842 1.606311

sp75\_203\_1lag | 1.037262 .0157234 2.41 0.016 1.006898 1.068541

sp75\_213\_1lag | 1.194554 .0824776 2.57 0.010 1.043362 1.367656

sp75\_343\_1lag | 1.051442 .0438565 1.20 0.229 .968905 1.141011

sp75\_373\_1lag | .8212797 .3505723 -0.46 0.645 .3557512 1.895989

sp75\_503\_1lag | 1.005944 .0038454 1.55 0.121 .9984354 1.013509

sp75\_523\_1lag | .9108901 .0242377 -3.51 0.000 .8646026 .9596557

sp75\_523\_3\_1lag | .9843954 .0093433 -1.66 0.098 .9662521 1.002879

sp75\_603\_1lag | 1.047391 .0499376 0.97 0.331 .9539493 1.149986

sp75\_703\_3\_1lag | 1.127481 .0563527 2.40 0.016 1.022269 1.243522

sp48\_24\_1lag | 1.11084 .0140405 8.32 0.000 1.083659 1.138702

sp48\_4\_1lag | .2770907 .2324792 -1.53 0.126 .0535135 1.434764

sp75\_1404\_1lag | 1.116643 .2392946 0.51 0.607 .733674 1.699516

sp75\_1719\_4\_1lag | 1.041963 .0337471 1.27 0.204 .9778755 1.11025

sp75\_204\_1lag | 1.024021 .017722 1.37 0.170 .9898687 1.059351

sp75\_334\_1lag | .984256 .0273756 -0.57 0.568 .932037 1.039401

sp75\_524\_1lag | 1.082507 .190351 0.45 0.652 .7669253 1.527947

sp75\_604\_1lag | 1.023811 .006804 3.54 0.000 1.010561 1.037233

sp75\_703\_4\_1lag | .6741029 .4755812 -0.56 0.576 .1691226 2.686896

sp48\_25\_1lag | .9436225 .0716157 -0.76 0.445 .8131989 1.094964

sp48\_5\_1lag | 1.01505 .1091096 0.14 0.889 .8222242 1.253097

sp75\_1315\_1lag | .5526177 .1053994 -3.11 0.002 .380257 .803105

sp75\_1403\_5\_1lag | .9802059 .0141893 -1.38 0.167 .9527861 1.008415

sp75\_1405\_1lag | .9686819 .0139825 -2.20 0.027 .9416608 .9964784

sp75\_155\_1lag | 1.065428 .4206748 0.16 0.872 .4913999 2.310008

sp75\_1725\_1lag | .996738 .0047341 -0.69 0.492 .9875024 1.00606

sp75\_205\_1lag | 1.907535 .7992232 1.54 0.123 .83914 4.336215

sp75\_215\_1lag | .733583 .1009403 -2.25 0.024 .5601764 .9606689

sp75\_505\_1lag | .9623988 .1041685 -0.35 0.723 .778435 1.189838

sp75\_605\_1lag | .9921038 .0177627 -0.44 0.658 .9578934 1.027536

sp48\_26\_1lag | 1.099781 .0671593 1.56 0.119 .9757229 1.239611

sp48\_6\_1lag | .9783363 .0529344 -0.40 0.686 .8798985 1.087787

sp75\_1316\_1lag | .8123394 .169465 -1.00 0.319 .539716 1.222671

sp75\_1403\_6\_1lag | .9769077 .0072303 -3.16 0.002 .9628388 .9911821

sp75\_156\_1lag | 1.060227 .3316501 0.19 0.852 .5742935 1.957328

sp75\_1906\_1lag | 1.181608 .0488995 4.03 0.000 1.089551 1.281444

sp75\_1916\_1lag | 1.061894 .0462466 1.38 0.168 .9750132 1.156517

sp75\_606\_1lag | 1.008438 .0098831 0.86 0.391 .9892525 1.027996

sp75\_816\_1lag | 1.013858 .0321784 0.43 0.665 .952711 1.078929

sp75\_906\_1lag | .5893558 .1086691 -2.87 0.004 .4106082 .8459164

sp48\_27\_1lag | 1.015309 .0719231 0.21 0.830 .8836902 1.16653

sp48\_7\_1lag | 1.028387 .0447971 0.64 0.520 .9442295 1.120044

sp75\_1403\_7\_1lag | 1.048229 .0419666 1.18 0.239 .9691208 1.133796

sp75\_207\_1lag | 1.138229 .1247617 1.18 0.238 .9181825 1.41101

sp75\_327\_1lag | .7817016 .1072361 -1.80 0.073 .5974075 1.022848

sp75\_337\_1lag | .9925402 .0432539 -0.17 0.864 .9112837 1.081042

sp75\_507\_1lag | 1.093952 .05178 1.90 0.058 .9970299 1.200295

sp75\_607\_1lag | 1.029494 .0552963 0.54 0.588 .9266251 1.143783

sp75\_807\_1lag | 1.031144 .0102412 3.09 0.002 1.011266 1.051413

sp75\_817\_1lag | .8673177 .0895689 -1.38 0.168 .7083919 1.061898

sp48\_28\_1lag | .936817 .0475573 -1.29 0.199 .8480934 1.034822

sp48\_8\_1lag | 1.217513 .1283883 1.87 0.062 .9901779 1.497041

sp75\_1318\_1lag | 1.380346 .5725107 0.78 0.437 .6122725 3.111941

sp75\_1403\_8\_1lag | .9595919 .0098571 -4.02 0.000 .9404656 .9791071

sp75\_208\_1lag | 1.011939 .0179459 0.67 0.503 .97737 1.047731

sp75\_388\_1lag | .9771818 .0644425 -0.35 0.726 .858699 1.112013

sp75\_209\_1lag | 1.043046 .0567834 0.77 0.439 .9374843 1.160494

sp75\_389\_1lag | 1.029548 .2123945 0.14 0.888 .6871393 1.542583

sp75\_509\_1lag | 1.16538 .1034796 1.72 0.085 .9792313 1.386915

sp75\_100\_1lag | 1.072698 .1047543 0.72 0.472 .885836 1.298977

sp75\_1400\_1lag | .9630954 .0504317 -0.72 0.473 .8691543 1.06719

sp75\_1403\_10\_1lag | 1.030067 .0146644 2.08 0.037 1.001722 1.059213

sp75\_160\_1lag | 1.237659 .3702832 0.71 0.476 .6885547 2.224661

sp75\_1720\_1lag | 1.013625 .0321433 0.43 0.670 .9525434 1.078624

sp75\_340\_1lag | .9740856 .0125133 -2.04 0.041 .9498662 .9989226

sp75\_500\_1lag | 1.020225 .0568378 0.36 0.719 .9146912 1.137934

sp75\_510\_1lag | .5198858 .0749563 -4.54 0.000 .3919071 .6896565

sp75\_810\_1lag | 1.050813 .0351256 1.48 0.138 .9841744 1.121963

mine\_time | 1.001651 .0012986 1.27 0.203 .9991089 1.004199

onsite\_insp\_hours | .9995364 .0001045 -4.44 0.000 .9993316 .9997412

|

state |

AL | 1.069267 .0989406 0.72 0.469 .8919149 1.281884

AR | 1.763023 .0784965 12.74 0.000 1.615695 1.923786

CO | .7582235 .0905343 -2.32 0.020 .6000135 .9581498

IL | 1.227743 .0725793 3.47 0.001 1.093422 1.378565

IN | 1.058233 .0812119 0.74 0.461 .9104535 1.23

MD | 1.256367 .1908644 1.50 0.133 .9328328 1.692112

MT | .5428336 .0211595 -15.67 0.000 .5029064 .5859308

NM | .7609828 .0297593 -6.98 0.000 .7048349 .8216035

OH | 1.092885 .1012394 0.96 0.338 .9114299 1.310465

OK | 1.811082 .3032254 3.55 0.000 1.304438 2.514507

PA | 1.334612 .0991842 3.88 0.000 1.153709 1.54388

TN | 1.718823 .1674859 5.56 0.000 1.419999 2.08053

UT | .4992717 .0856679 -4.05 0.000 .3566835 .6988612

VA | .9406908 .0502068 -1.15 0.252 .8472593 1.044425

WV | 1.260364 .0550383 5.30 0.000 1.156979 1.372988

WY | .7562361 .0298623 -7.08 0.000 .6999147 .8170898

|

time |

2000.25 | .9923966 .0632357 -0.12 0.905 .8758839 1.124408

2000.5 | 1.071213 .064638 1.14 0.254 .9517295 1.205697

2000.75 | .7655293 .0497653 -4.11 0.000 .6739491 .8695539

2001 | .7518407 .0457648 -4.69 0.000 .6672873 .847108

2001.25 | .8817589 .0510039 -2.18 0.030 .7872515 .9876116

2001.75 | .7884117 .0442527 -4.24 0.000 .7062785 .8800962

2002 | .8487082 .0656746 -2.12 0.034 .7292742 .9877021

2002.25 | .8310031 .0528468 -2.91 0.004 .7336203 .9413127

2002.5 | .9133958 .0577178 -1.43 0.152 .8069958 1.033824

2002.75 | .7465166 .0449688 -4.85 0.000 .6633834 .8400678

2003 | .7059097 .048442 -5.08 0.000 .6170733 .8075354

2003.25 | .7587694 .0536912 -3.90 0.000 .6605078 .8716489

2003.5 | .8466908 .0535848 -2.63 0.009 .7479189 .9585067

2003.75 | .6282811 .0414231 -7.05 0.000 .5521202 .7149479

2004 | .6587782 .0469391 -5.86 0.000 .5729143 .7575108

2004.25 | .6986533 .0466207 -5.37 0.000 .6130015 .7962728

2004.5 | .7773588 .0503705 -3.89 0.000 .6846463 .8826261

2004.75 | .605004 .0416991 -7.29 0.000 .5285551 .6925102

2005 | .6088111 .0426743 -7.08 0.000 .530662 .698469

2005.25 | .6545966 .0435594 -6.37 0.000 .5745547 .7457891

2005.5 | .698551 .0475065 -5.28 0.000 .6113786 .7981527

2005.75 | .5791108 .0426133 -7.42 0.000 .5013337 .6689543

2006 | .6213301 .0459464 -6.44 0.000 .5374987 .7182364

2006.25 | .6158682 .044258 -6.75 0.000 .534956 .7090183

2006.5 | .706714 .0494024 -4.97 0.000 .6162273 .8104878

2006.75 | .5635614 .0414817 -7.79 0.000 .4878512 .6510211

2007 | .5569686 .0399666 -8.16 0.000 .4838945 .6410778

2007.25 | .603723 .0487837 -6.25 0.000 .5152958 .7073247

2007.5 | .7028243 .0571826 -4.33 0.000 .5992279 .8243308

2007.75 | .5775482 .0423351 -7.49 0.000 .5002579 .66678

2008 | .5386685 .038276 -8.71 0.000 .4686385 .6191633

2008.25 | .5312467 .0401334 -8.37 0.000 .458133 .6160286

2008.5 | .5923326 .0461763 -6.72 0.000 .5084038 .6901167

2008.75 | .4866142 .0372355 -9.41 0.000 .418843 .5653511

2009 | .4878009 .035836 -9.77 0.000 .422386 .5633466

2009.25 | .4673141 .0374812 -9.49 0.000 .3993354 .5468649

2009.5 | .5329086 .0418362 -8.02 0.000 .4569081 .6215508

2009.75 | .4560973 .035437 -10.10 0.000 .391672 .5311199

2010 | .4512894 .037045 -9.69 0.000 .3842222 .5300634

2010.25 | .456565 .0421021 -8.50 0.000 .3810739 .547011

2010.5 | .5663608 .0419799 -7.67 0.000 .4897791 .6549166

2010.75 | .4465533 .036349 -9.90 0.000 .3807031 .5237936

2011 | .4497549 .0351168 -10.23 0.000 .385935 .5241283

2011.25 | .4263817 .0322207 -11.28 0.000 .3676844 .4944495

2011.5 | .4939218 .0360617 -9.66 0.000 .4280664 .5699086

2011.75 | .3809989 .0290341 -12.66 0.000 .3281389 .4423742

2012 | .4212293 .0332135 -10.96 0.000 .3609127 .4916262

2012.25 | .3709319 .0282825 -13.01 0.000 .3194424 .4307208

2012.5 | .4189765 .0353005 -10.33 0.000 .3551995 .4942048

2012.75 | .3268203 .0287791 -12.70 0.000 .2750135 .3883865

2013 | .3705483 .0318566 -11.55 0.000 .3130874 .4385549

2013.25 | .3564572 .0303243 -12.13 0.000 .3017133 .421134

2013.5 | .4100509 .0358785 -10.19 0.000 .3454296 .4867612

2013.75 | .3117247 .0286706 -12.67 0.000 .2603051 .3733015

2014 | .3573262 .0319728 -11.50 0.000 .299848 .4258224

2014.25 | .3655455 .0337283 -10.91 0.000 .305072 .4380064

2014.5 | .393907 .0351756 -10.43 0.000 .3306602 .4692512

2014.75 | .3783974 .0347316 -10.59 0.000 .3160966 .4529774

2015 | .3429421 .0319032 -11.50 0.000 .2857823 .4115345

2015.25 | .3255099 .029941 -12.20 0.000 .2718123 .3898155

2015.5 | .4275386 .03903 -9.31 0.000 .3574943 .5113068

2015.75 | .3282411 .033883 -10.79 0.000 .2681185 .4018455

2016 | .3573045 .0380124 -9.67 0.000 .2900562 .4401441

|

\_cons | .0000994 5.49e-06 -166.81 0.000 .0000892 .0001108

ln(hours) | 1 (exposure)

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

/lnalpha | -1.076102 .0694527 -1.212227 -.9399775

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

alpha | .3409217 .0236779 .2975339 .3906366

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

(est1 stored)

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

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(1) = 6017.86

(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 -46511.11 167 93356.21 94720.61

nbin | 26,110 -45205.22 -43502.18 168 87340.35 88712.93

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

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

.

. pause "next"

.

. // final model + diagnostics/assessment

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

. predict cv2\_yhat

(option n assumed; predicted number of events)

(4,179 missing values generated)

. gen cv2\_res = dv - cv2\_yhat

(4,179 missing values generated)

.

. summ dv cv2\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv | 30,289 2.177721 3.851734 0 71

cv2\_yhat | 26,110 2.542427 3.755518 .0000989 88.80104

. /\*

> pause "next"

>

> scatter dv cv2\_yhat

>

> pause "next"

>

> scatter cv2\_res dv

>

> pause "next"

>

> scatter cv2\_res cv2\_yhat

> \*/

. pause "complete: C.V.2"

.