. // Model C.V.4

.

. // poisson model

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

Iteration 0: log pseudolikelihood = -39943.08

Iteration 1: log pseudolikelihood = -36996.774

Iteration 2: log pseudolikelihood = -36981.434

Iteration 3: log pseudolikelihood = -36981.38

Iteration 4: log pseudolikelihood = -36981.369

Iteration 5: log pseudolikelihood = -36981.367

Iteration 6: log pseudolikelihood = -36981.366

Iteration 7: log pseudolikelihood = -36981.366

Iteration 8: log pseudolikelihood = -36981.366

Generalized linear models No. of obs = 19,291

Optimization : ML Residual df = 19,207

Scale parameter = 1

Deviance = 37616.2571 (1/df) Deviance = 1.958466

Pearson = 1100430.599 (1/df) Pearson = 57.29321

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

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

AIC = 3.842763

Log pseudolikelihood = -36981.36591 BIC = -151906.8

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

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

| Robust

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

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

p48\_c\_lag\_all | 1.001303 .0040779 0.32 0.749 .9933425 1.009328

p75\_c\_lag\_all | .9999905 .0000242 -0.39 0.693 .999943 1.000038

mine\_time | 1.002249 .0019581 1.15 0.250 .9984189 1.006094

onsite\_insp\_hours | .9995478 .0001629 -2.78 0.006 .9992286 .9998671

|

state |

AL | .9771794 .0866218 -0.26 0.795 .821334 1.162596

CO | .6676492 .0721631 -3.74 0.000 .5401892 .8251839

IL | 1.304931 .1084476 3.20 0.001 1.108785 1.535774

IN | 1.145826 .1482485 1.05 0.293 .8891785 1.47655

MD | 1.305632 .1468229 2.37 0.018 1.04737 1.627576

MT | .000028 .000028 -10.46 0.000 3.92e-06 .0001996

NM | .6849376 .0355633 -7.29 0.000 .6186642 .7583104

OH | .9356175 .0691493 -0.90 0.368 .8094463 1.081455

OK | 1.785748 .339385 3.05 0.002 1.230404 2.591748

PA | .9577678 .1013366 -0.41 0.683 .778393 1.178478

TN | 1.473569 .1760329 3.25 0.001 1.165966 1.862324

UT | .4417498 .0482648 -7.48 0.000 .3565952 .5472392

VA | .8351495 .0841228 -1.79 0.074 .6855269 1.017429

WV | 1.015291 .060133 0.26 0.798 .9040157 1.140262

WY | .7058262 .0390316 -6.30 0.000 .6333256 .7866264

|

time |

2000.25 | 1.125407 .0514081 2.59 0.010 1.029028 1.230813

2000.5 | 1.272008 .0559289 5.47 0.000 1.16698 1.386488

2000.75 | .9313194 .0513277 -1.29 0.197 .8359619 1.037554

2001 | .933088 .0512886 -1.26 0.208 .8377898 1.039226

2001.25 | .9860088 .0560551 -0.25 0.804 .8820427 1.102229

2001.5 | 1.218018 .0836239 2.87 0.004 1.064667 1.393457

2001.75 | .9340524 .0608694 -1.05 0.295 .8220551 1.061308

2002 | .9776877 .0568589 -0.39 0.698 .872363 1.095729

2002.25 | .9613082 .0556553 -0.68 0.496 .858187 1.07682

2002.5 | 1.027125 .0703917 0.39 0.696 .8980242 1.174785

2002.75 | .9324441 .0634541 -1.03 0.304 .8160136 1.065487

2003 | .8085254 .0538631 -3.19 0.001 .7095575 .9212972

2003.25 | .8845458 .0654495 -1.66 0.097 .7651351 1.022592

2003.5 | .9446863 .0566698 -0.95 0.343 .8398966 1.06255

2003.75 | .7433033 .0507585 -4.34 0.000 .6501887 .849753

2004 | .7475515 .0495341 -4.39 0.000 .6565064 .8512228

2004.25 | .8275246 .0533526 -2.94 0.003 .7292925 .938988

2004.5 | .8994114 .0592114 -1.61 0.107 .7905345 1.023283

2004.75 | .7077282 .0544346 -4.49 0.000 .6086908 .8228796

2005 | .6892826 .0485855 -5.28 0.000 .6003419 .7914

2005.25 | .7568689 .0549857 -3.83 0.000 .6564199 .872689

2005.5 | .8602781 .0678466 -1.91 0.056 .737069 1.004083

2005.75 | .7013542 .0538698 -4.62 0.000 .6033344 .8152985

2006 | .6982543 .0515512 -4.86 0.000 .6041859 .8069687

2006.25 | .6441804 .0474019 -5.98 0.000 .5576633 .74412

2006.5 | .8105271 .0591688 -2.88 0.004 .7024727 .9352024

2006.75 | .6462073 .0469963 -6.00 0.000 .56036 .7452065

2007 | .6593877 .0482893 -5.69 0.000 .5712212 .7611625

2007.25 | .644391 .0573539 -4.94 0.000 .5412381 .7672034

2007.5 | .7924632 .0608428 -3.03 0.002 .6817522 .9211528

2007.75 | .7280661 .0576518 -4.01 0.000 .6234025 .8503018

2008 | .6656568 .0523476 -5.18 0.000 .5705732 .7765856

2008.25 | .6556008 .0554833 -4.99 0.000 .5553958 .7738849

2008.5 | .8003574 .0705093 -2.53 0.011 .6734346 .9512014

2008.75 | .6304998 .0508089 -5.72 0.000 .5383823 .7383786

2009 | .6409188 .0483109 -5.90 0.000 .5528936 .7429584

2009.25 | .5969654 .0484717 -6.35 0.000 .5091366 .6999451

2009.5 | .6437674 .0524116 -5.41 0.000 .5488194 .7551419

2009.75 | .5595513 .0410699 -7.91 0.000 .4845778 .6461247

2010 | .5264318 .0478272 -7.06 0.000 .440564 .6290355

2010.25 | .5669109 .0530613 -6.06 0.000 .4718942 .6810594

2010.5 | .6594479 .0517255 -5.31 0.000 .5654761 .769036

2010.75 | .5481753 .0446754 -7.38 0.000 .4672485 .6431186

2011 | .5466099 .0464837 -7.10 0.000 .4626912 .645749

2011.25 | .5066729 .0431726 -7.98 0.000 .4287444 .5987656

2011.5 | .5774041 .0466809 -6.79 0.000 .4927919 .6765443

2011.75 | .4582987 .0366053 -9.77 0.000 .3918874 .5359644

2012 | .4931564 .0427706 -8.15 0.000 .4160653 .5845315

2012.25 | .4615842 .0406333 -8.78 0.000 .3884361 .548507

2012.5 | .532745 .0513106 -6.54 0.000 .4411 .6434305

2012.75 | .4107901 .0387923 -9.42 0.000 .3413801 .4943126

2013 | .454253 .0437988 -8.18 0.000 .3760325 .5487445

2013.25 | .4453715 .0446968 -8.06 0.000 .365845 .5421852

2013.5 | .5247313 .0552118 -6.13 0.000 .4269473 .6449109

2013.75 | .3946538 .0382367 -9.60 0.000 .326397 .4771846

2014 | .460697 .0489779 -7.29 0.000 .3740433 .5674256

2014.25 | .4684285 .055701 -6.38 0.000 .3710451 .5913708

2014.5 | .5118792 .0518393 -6.61 0.000 .4197243 .6242677

2014.75 | .4756112 .04891 -7.23 0.000 .3887925 .5818168

2015 | .4422741 .0493834 -7.31 0.000 .3553433 .5504715

2015.25 | .3848627 .0406741 -9.04 0.000 .3128577 .47344

2015.5 | .5302124 .057289 -5.87 0.000 .4290207 .6552717

2015.75 | .3926179 .0499468 -7.35 0.000 .305974 .503797

2016 | .4334872 .0534272 -6.78 0.000 .3404599 .5519333

|

\_cons | .0000903 5.04e-06 -166.76 0.000 .000081 .0001008

ln(hours) | 1 (exposure)

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

.

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

. est store pois

. estat gof

Deviance goodness-of-fit = 37616.26

Prob > chi2(19208) = 0.0000

Pearson goodness-of-fit = 1100440

Prob > chi2(19208) = 0.0000

.

. pause "next"

.

. // negative binomial model

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

Iteration 0: log pseudolikelihood = -35611.016

Iteration 1: log pseudolikelihood = -35237.043

Iteration 2: log pseudolikelihood = -35235.34

Iteration 3: log pseudolikelihood = -35235.307

Iteration 4: log pseudolikelihood = -35235.304

Iteration 5: log pseudolikelihood = -35235.303

Iteration 6: log pseudolikelihood = -35235.303

Iteration 7: log pseudolikelihood = -35235.303

Generalized linear models No. of obs = 19,291

Optimization : ML Residual df = 19,208

Scale parameter = 1

Deviance = 15281.9328 (1/df) Deviance = .7956025

Pearson = 788616.3728 (1/df) Pearson = 41.05666

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

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

AIC = 3.661635

Log pseudolikelihood = -35235.30292 BIC = -174251

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

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

| Robust

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

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

p48\_c\_lag\_all | .9994976 .0039267 -0.13 0.898 .991831 1.007223

p75\_c\_lag\_all | .9999978 .000025 -0.09 0.930 .9999488 1.000047

mine\_time | 1.00273 .0019289 1.42 0.156 .9989567 1.006518

onsite\_insp\_hours | .999486 .0001381 -3.72 0.000 .9992153 .9997567

|

state |

AL | 1.058987 .1131281 0.54 0.592 .8589332 1.305634

CO | .803126 .104194 -1.69 0.091 .6228056 1.035654

IL | 1.380781 .095673 4.66 0.000 1.20544 1.581626

IN | 1.154719 .1278434 1.30 0.194 .9294728 1.434552

MD | 1.589876 .2818504 2.62 0.009 1.123218 2.250416

MT | .0000369 .000037 -10.18 0.000 5.17e-06 .0002636

NM | .7258562 .0357048 -6.51 0.000 .6591436 .7993208

OH | .9829218 .1006469 -0.17 0.866 .8041918 1.201374

OK | 1.886322 .3357162 3.57 0.000 1.330834 2.673668

PA | 1.326048 .1273281 2.94 0.003 1.098566 1.600635

TN | 1.618901 .2108464 3.70 0.000 1.254178 2.089686

UT | .4840326 .0654878 -5.36 0.000 .3712874 .6310139

VA | .938888 .0571161 -1.04 0.300 .8333587 1.057781

WV | 1.279955 .07246 4.36 0.000 1.145532 1.430153

WY | .785386 .0491083 -3.86 0.000 .6947996 .8877829

|

time |

2000.25 | 1.188252 .0714509 2.87 0.004 1.056148 1.336879

2000.5 | 1.283273 .0800919 4.00 0.000 1.135517 1.450255

2000.75 | .8523184 .0569196 -2.39 0.017 .7477508 .9715091

2001 | .9043095 .0614939 -1.48 0.139 .7914702 1.033236

2001.25 | 1.050288 .1054989 0.49 0.625 .8625951 1.27882

2001.5 | 1.212596 .0943903 2.48 0.013 1.041016 1.412456

2001.75 | .9577468 .0755484 -0.55 0.584 .8205532 1.117879

2002 | 1.105022 .142641 0.77 0.439 .8580136 1.42314

2002.25 | 1.027082 .0855927 0.32 0.748 .8723073 1.209318

2002.5 | 1.052287 .0909124 0.59 0.555 .8883718 1.246447

2002.75 | .8467112 .0629167 -2.24 0.025 .731956 .9794576

2003 | .8420659 .0692493 -2.09 0.037 .7167134 .9893424

2003.25 | .9403502 .0878696 -0.66 0.510 .7829795 1.129351

2003.5 | .9670455 .0693486 -0.47 0.640 .8402446 1.112982

2003.75 | .7179967 .0600028 -3.96 0.000 .6095198 .8457795

2004 | .7478775 .0608226 -3.57 0.000 .637683 .8771142

2004.25 | .8021211 .0618763 -2.86 0.004 .6895688 .9330444

2004.5 | .8483457 .065596 -2.13 0.033 .7290479 .9871649

2004.75 | .6692275 .0564233 -4.76 0.000 .5672939 .789477

2005 | .7002847 .0591538 -4.22 0.000 .5934345 .8263737

2005.25 | .7051992 .0560498 -4.39 0.000 .6034726 .8240737

2005.5 | .8377227 .0665403 -2.23 0.026 .7169507 .9788389

2005.75 | .6562237 .0562571 -4.91 0.000 .5547275 .7762903

2006 | .7302414 .0654104 -3.51 0.000 .6126623 .8703856

2006.25 | .6331775 .051929 -5.57 0.000 .5391574 .743593

2006.5 | .7667304 .0621254 -3.28 0.001 .6541433 .8986953

2006.75 | .6487608 .0569703 -4.93 0.000 .5461817 .7706053

2007 | .6140821 .0489356 -6.12 0.000 .5252851 .7178899

2007.25 | .6127108 .0579889 -5.18 0.000 .5089734 .7375917

2007.5 | .8150804 .0937229 -1.78 0.075 .6506151 1.02112

2007.75 | .6802218 .0619544 -4.23 0.000 .5690146 .8131632

2008 | .6337607 .0541283 -5.34 0.000 .5360752 .7492467

2008.25 | .6243657 .0558008 -5.27 0.000 .5240412 .7438968

2008.5 | .7218371 .0673949 -3.49 0.000 .6011267 .8667869

2008.75 | .5793956 .050791 -6.23 0.000 .4879295 .6880077

2009 | .6087809 .0502539 -6.01 0.000 .5178402 .7156923

2009.25 | .6415545 .0650299 -4.38 0.000 .5259605 .7825533

2009.5 | .6397028 .063283 -4.52 0.000 .526954 .7765758

2009.75 | .5467544 .0468059 -7.05 0.000 .4622997 .6466375

2010 | .497353 .0469585 -7.40 0.000 .41333 .5984563

2010.25 | .5564298 .0675084 -4.83 0.000 .4386711 .7058002

2010.5 | .7096433 .0641626 -3.79 0.000 .5943995 .8472309

2010.75 | .580294 .0589897 -5.35 0.000 .4754659 .708234

2011 | .553052 .0520966 -6.29 0.000 .4598161 .6651932

2011.25 | .5043616 .0459558 -7.51 0.000 .4218745 .6029771

2011.5 | .5651543 .0488802 -6.60 0.000 .4770311 .6695568

2011.75 | .457621 .0406195 -8.81 0.000 .3845487 .5445786

2012 | .4908924 .0496526 -7.03 0.000 .4026144 .5985263

2012.25 | .4729576 .0446227 -7.94 0.000 .3931089 .5690251

2012.5 | .5581078 .0593424 -5.48 0.000 .4531183 .6874238

2012.75 | .3848855 .039901 -9.21 0.000 .3141143 .4716018

2013 | .4860016 .0560916 -6.25 0.000 .3876116 .6093665

2013.25 | .4295692 .044404 -8.17 0.000 .3507886 .5260424

2013.5 | .5057496 .054549 -6.32 0.000 .4093802 .6248047

2013.75 | .3699491 .0390045 -9.43 0.000 .3008832 .4548686

2014 | .449622 .0459969 -7.81 0.000 .3679328 .5494481

2014.25 | .436223 .0500715 -7.23 0.000 .3483407 .5462771

2014.5 | .4704524 .0494533 -7.17 0.000 .3828588 .5780865

2014.75 | .4977028 .0566152 -6.13 0.000 .3982386 .6220093

2015 | .4094968 .0426319 -8.58 0.000 .3339132 .5021891

2015.25 | .3584458 .0387131 -9.50 0.000 .2900624 .4429508

2015.5 | .4914254 .0518553 -6.73 0.000 .3996121 .6043334

2015.75 | .3779505 .0460823 -7.98 0.000 .2976121 .4799756

2016 | .3949675 .0506506 -7.24 0.000 .3071873 .5078312

|

\_cons | .0000867 5.04e-06 -160.79 0.000 .0000773 .0000971

ln(hours) | 1 (exposure)

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

.

. pause "next"

.

. eststo clear

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

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -37585.185

Iteration 1: log pseudolikelihood = -36985.355

Iteration 2: log pseudolikelihood = -36981.384

Iteration 3: log pseudolikelihood = -36981.37

Iteration 4: log pseudolikelihood = -36981.367

Iteration 5: log pseudolikelihood = -36981.366

Iteration 6: log pseudolikelihood = -36981.366

Iteration 7: log pseudolikelihood = -36981.366

Iteration 8: log pseudolikelihood = -36981.366

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -36163.905

Iteration 1: log pseudolikelihood = -35503.284

Iteration 2: log pseudolikelihood = -35464.22

Iteration 3: log pseudolikelihood = -35464.069

Iteration 4: log pseudolikelihood = -35464.069

Fitting full model:

Iteration 0: log pseudolikelihood = -34406.189

Iteration 1: log pseudolikelihood = -34213.579

Iteration 2: log pseudolikelihood = -34208.935

Iteration 3: log pseudolikelihood = -34208.933

Negative binomial regression Number of obs = 19,291

Wald chi2(82) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -34208.933 Pseudo R2 = 0.0354

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

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

| Robust

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

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

p48\_c\_lag\_all | .9997828 .0037103 -0.06 0.953 .9925372 1.007081

p75\_c\_lag\_all | .9999972 .0000234 -0.12 0.905 .9999514 1.000043

mine\_time | 1.002192 .0018555 1.18 0.237 .9985625 1.005836

onsite\_insp\_hours | .9995165 .0001342 -3.60 0.000 .9992534 .9997796

|

state |

AL | 1.04517 .1018176 0.45 0.650 .8635055 1.265053

CO | .7534876 .0936021 -2.28 0.023 .5906571 .9612067

IL | 1.341445 .0903751 4.36 0.000 1.175509 1.530804

IN | 1.159022 .1303197 1.31 0.189 .9297862 1.444775

MD | 1.45737 .2188474 2.51 0.012 1.085796 1.956101

MT | 5.06e-07 5.07e-07 -14.46 0.000 7.09e-08 3.61e-06

NM | .7284546 .0349273 -6.61 0.000 .6631164 .8002306

OH | .981614 .0884926 -0.21 0.837 .8226306 1.171323

OK | 1.859179 .3309766 3.48 0.000 1.311559 2.635449

PA | 1.230844 .1248777 2.05 0.041 1.008887 1.501632

TN | 1.572361 .1928428 3.69 0.000 1.236392 1.999623

UT | .4704113 .0564001 -6.29 0.000 .3718971 .5950217

VA | .9194988 .0610161 -1.26 0.206 .8073599 1.047213

WV | 1.195977 .0658756 3.25 0.001 1.073588 1.332318

WY | .7682495 .0436446 -4.64 0.000 .687298 .8587356

|

time |

2000.25 | 1.161357 .0620611 2.80 0.005 1.045873 1.289593

2000.5 | 1.269056 .0685733 4.41 0.000 1.141527 1.410833

2000.75 | .8815076 .0533382 -2.08 0.037 .7829276 .9925

2001 | .9069265 .0542779 -1.63 0.103 .8065462 1.0198

2001.25 | 1.015468 .0764376 0.20 0.838 .8761808 1.176899

2001.5 | 1.196836 .0802766 2.68 0.007 1.049401 1.364986

2001.75 | .9378795 .0627026 -0.96 0.337 .8226959 1.06919

2002 | 1.029283 .0874981 0.34 0.734 .8713154 1.215891

2002.25 | .9922181 .0667803 -0.12 0.908 .8695966 1.132131

2002.5 | 1.031866 .0718353 0.45 0.652 .9002542 1.182718

2002.75 | .8716175 .0581865 -2.06 0.040 .7647198 .993458

2003 | .8170073 .0585605 -2.82 0.005 .7099283 .940237

2003.25 | .8955045 .0670474 -1.47 0.140 .7732811 1.037046

2003.5 | .9505544 .0601992 -0.80 0.423 .839595 1.076178

2003.75 | .7211325 .0533351 -4.42 0.000 .6238211 .8336238

2004 | .7494146 .0545232 -3.96 0.000 .6498206 .8642727

2004.25 | .8149796 .0567675 -2.94 0.003 .710978 .9341944

2004.5 | .8722665 .0612112 -1.95 0.051 .7601796 1.00088

2004.75 | .6880941 .0542581 -4.74 0.000 .5895604 .8030959

2005 | .6912803 .0515142 -4.95 0.000 .5973415 .799992

2005.25 | .7193976 .0519361 -4.56 0.000 .6244785 .8287441

2005.5 | .8460392 .06178 -2.29 0.022 .7332188 .9762194

2005.75 | .6728406 .0535536 -4.98 0.000 .5756549 .7864337

2006 | .7118721 .0564735 -4.28 0.000 .6093619 .8316271

2006.25 | .6413794 .0486535 -5.85 0.000 .5527706 .7441921

2006.5 | .7855274 .0577842 -3.28 0.001 .6800583 .9073536

2006.75 | .6463666 .0507351 -5.56 0.000 .5541991 .7538624

2007 | .6328663 .0470611 -6.15 0.000 .5470349 .732165

2007.25 | .6239561 .0570827 -5.16 0.000 .5215329 .7464941

2007.5 | .8016458 .0753765 -2.35 0.019 .6667244 .9638704

2007.75 | .6952386 .0566398 -4.46 0.000 .5926361 .8156046

2008 | .6398858 .0497721 -5.74 0.000 .5494063 .7452659

2008.25 | .6308684 .0531726 -5.47 0.000 .534805 .7441871

2008.5 | .7459888 .0665888 -3.28 0.001 .626256 .8886131

2008.75 | .5970629 .0488607 -6.30 0.000 .5085831 .7009357

2009 | .6122948 .045938 -6.54 0.000 .528565 .7092881

2009.25 | .6150599 .0548109 -5.45 0.000 .516491 .73244

2009.5 | .6333261 .0559721 -5.17 0.000 .5325984 .753104

2009.75 | .545752 .0424352 -7.79 0.000 .4686081 .6355956

2010 | .4998731 .0442655 -7.83 0.000 .420226 .594616

2010.25 | .5585408 .0627177 -5.19 0.000 .448203 .6960413

2010.5 | .6881039 .0578726 -4.44 0.000 .5835313 .8114166

2010.75 | .5623574 .0504202 -6.42 0.000 .4717314 .6703939

2011 | .5469001 .0475133 -6.95 0.000 .4612728 .6484227

2011.25 | .5018527 .0430617 -8.04 0.000 .4241686 .5937641

2011.5 | .5681786 .0456402 -7.04 0.000 .4854117 .6650579

2011.75 | .4539806 .0367589 -9.75 0.000 .3873605 .5320582

2012 | .4869353 .0436913 -8.02 0.000 .4084092 .5805599

2012.25 | .4627668 .0399242 -8.93 0.000 .3907748 .5480217

2012.5 | .5410782 .0513301 -6.47 0.000 .4492724 .651644

2012.75 | .3912719 .0374834 -9.80 0.000 .3242908 .4720877

2013 | .4611736 .04559 -7.83 0.000 .3799424 .5597721

2013.25 | .428575 .0409852 -8.86 0.000 .3553246 .516926

2013.5 | .5035894 .0505405 -6.84 0.000 .4136658 .6130609

2013.75 | .3759412 .0368524 -9.98 0.000 .3102267 .455576

2014 | .4472817 .0441019 -8.16 0.000 .3686827 .5426371

2014.25 | .4363997 .0474381 -7.63 0.000 .3526598 .5400238

2014.5 | .4756016 .0465121 -7.60 0.000 .392644 .5760864

2014.75 | .4751706 .0481354 -7.35 0.000 .3896025 .5795319

2015 | .4137134 .0414306 -8.81 0.000 .3399832 .503433

2015.25 | .3616424 .0367624 -10.01 0.000 .2963134 .4413745

2015.5 | .5007409 .0494527 -7.00 0.000 .412619 .6076829

2015.75 | .3802816 .0451845 -8.14 0.000 .3012776 .4800027

2016 | .4034434 .0486748 -7.52 0.000 .3184831 .5110681

|

\_cons | .0000882 4.67e-06 -176.19 0.000 .0000795 .0000978

ln(hours) | 1 (exposure)

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

/lnalpha | -1.082952 .0809091 -1.241531 -.9243735

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

alpha | .3385944 .0273954 .2889414 .3967799

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

(est1 stored)

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

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

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

. est store nbin

.

. pause "next"

.

. // test for over-dispersion

. lrtest pois nbin, stats force

Likelihood-ratio test LR chi2(1) = 5544.87

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

Akaike's information criterion and Bayesian information criterion

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

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

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

pois | 19,291 -40650.43 -36981.37 83 74128.73 74781.73

nbin | 19,291 -35464.07 -34208.93 84 68585.87 69246.73

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

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

.

. pause "next"

.

. // final model + diagnostics/assessment

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

. predict cv4\_yhat

(option n assumed; predicted number of events)

(10,998 missing values generated)

. gen cv4\_res = dv - cv4\_yhat

(10,998 missing values generated)

.

. summ dv cv4\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

dv | 30,289 2.177721 3.851734 0 71

cv4\_yhat | 19,291 2.949608 4.079084 8.18e-08 37.00988

. /\*

> pause "next"

>

> scatter dv cv4\_yhat

>

> pause "next"

>

> scatter cv4\_res dv

>

> pause "next"

>

> scatter cv4\_res cv4\_yhat

> \*/

. pause "complete: C.V.4"