**. glm MR `part\_violation\_count\_vars' `covariates' ib(freq).state ib(freq).time, family(poisson) link(log) vce(cl mineid) exposure(hours) iter(50) eform**

Iteration 0: log pseudolikelihood = -21013.825

Iteration 1: log pseudolikelihood = -19511.443

Iteration 2: log pseudolikelihood = -19499.47

Iteration 3: log pseudolikelihood = -19499.462

Iteration 4: log pseudolikelihood = -19499.462

Generalized linear models No. of obs = 28,337

Optimization : ML Residual df = 28,251

Scale parameter = 1

Deviance = 22086.17962 (1/df) Deviance = .781784

Pearson = 369310.2269 (1/df) Pearson = 13.07247

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

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

AIC = 1.382324

Log pseudolikelihood = -19499.46194 BIC = -267540.9

(Std. Err. adjusted for 1,544 clusters in mineid)

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| Robust

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

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

p47 | .9711743 .0959817 -0.30 0.767 .8001518 1.178751

p48 | .9960152 .0131604 -0.30 0.763 .9705524 1.022146

p71 | .8900637 .0767765 -1.35 0.177 .7516174 1.054012

p72 | 1.071616 .0420164 1.76 0.078 .99235 1.157213

p75 | 1.002708 .0008731 3.11 0.002 1.000998 1.004421

p77 | .987686 .0089682 -1.36 0.172 .9702642 1.005421

mine\_time | .9986019 .0020852 -0.67 0.503 .9945234 1.002697

onsite\_insp\_hours | .9995635 .0001714 -2.55 0.011 .9992276 .9998995

|

state |

AL | 1.071531 .0833573 0.89 0.374 .9199988 1.248021

AR | 2.014251 .1172977 12.02 0.000 1.796986 2.257784

CO | .6888586 .1121568 -2.29 0.022 .5006581 .9478047

IL | 1.165531 .1069843 1.67 0.095 .9736254 1.395262

IN | .8998816 .1414845 -0.67 0.502 .6612332 1.224662

MD | .9757935 .1610772 -0.15 0.882 .7060695 1.348554

MT | .821566 .041733 -3.87 0.000 .7437107 .9075716

NM | .778568 .0366166 -5.32 0.000 .7100091 .853747

OH | 1.139916 .1468697 1.02 0.309 .8855268 1.467384

OK | .8462372 .225877 -0.63 0.532 .5015221 1.427888

PA | .9181788 .0911601 -0.86 0.390 .7558175 1.115418

TN | 1.278621 .1696787 1.85 0.064 .9857879 1.658441

UT | .6007331 .0770963 -3.97 0.000 .4671334 .7725422

VA | .670674 .060151 -4.45 0.000 .5625607 .7995645

WV | .9618463 .0555124 -0.67 0.500 .8589722 1.077041

WY | 1.067454 .0521708 1.34 0.182 .969946 1.174765

|

time |

2000 | 1.139757 .1228802 1.21 0.225 .9226606 1.407935

2000.25 | 1.238981 .1404416 1.89 0.059 .9921532 1.547214

2000.5 | 1.455005 .1401737 3.89 0.000 1.204649 1.757391

2000.75 | 1.080794 .1146299 0.73 0.464 .877938 1.330522

2001 | 1.088304 .1049474 0.88 0.380 .90088 1.31472

2001.5 | 1.258121 .1294305 2.23 0.026 1.028381 1.539184

2001.75 | 1.030642 .097885 0.32 0.751 .855589 1.241511

2002 | 1.106959 .1174062 0.96 0.338 .8991896 1.362735

2002.25 | 1.010561 .1114387 0.10 0.924 .8141359 1.254376

2002.5 | 1.221157 .1245001 1.96 0.050 .9999757 1.491261

2002.75 | 1.109809 .1140509 1.01 0.311 .9073471 1.357448

2003 | .9049026 .0993098 -0.91 0.363 .7297692 1.122065

2003.25 | 1.039081 .1125361 0.35 0.723 .8403519 1.284805

2003.5 | 1.126654 .12556 1.07 0.285 .905583 1.401692

2003.75 | .8402926 .0889886 -1.64 0.100 .6827891 1.034128

2004 | 1.044548 .1145634 0.40 0.691 .8425014 1.295048

2004.25 | 1.016235 .1078397 0.15 0.879 .825405 1.251183

2004.5 | .9937672 .1067155 -0.06 0.954 .8051533 1.226565

2004.75 | .8924492 .0943199 -1.08 0.282 .7254758 1.097853

2005 | .7733541 .0798925 -2.49 0.013 .6316024 .9469193

2005.25 | 1.00134 .0941098 0.01 0.989 .8328795 1.203873

2005.5 | .9169231 .104168 -0.76 0.445 .7338905 1.145604

2005.75 | .8096333 .0868273 -1.97 0.049 .6561501 .9990185

2006 | .8306829 .0876053 -1.76 0.079 .6755633 1.02142

2006.25 | .8288832 .0956918 -1.63 0.104 .6610358 1.03935

2006.5 | .9200959 .0987592 -0.78 0.438 .7455361 1.135527

2006.75 | .7551189 .0854521 -2.48 0.013 .6049091 .9426284

2007 | .8003212 .0864266 -2.06 0.039 .6476541 .9889754

2007.25 | .7425249 .0926581 -2.39 0.017 .5814218 .9482671

2007.5 | .8200323 .0870377 -1.87 0.062 .6660165 1.009664

2007.75 | .7969635 .0934491 -1.94 0.053 .6333293 1.002876

2008 | .6872943 .0818688 -3.15 0.002 .544189 .8680321

2008.25 | .7129646 .078499 -3.07 0.002 .5745777 .8846819

2008.5 | .8200355 .0949274 -1.71 0.087 .653578 1.028888

2008.75 | .6780922 .0804293 -3.28 0.001 .5374359 .8555606

2009 | .6594072 .0780074 -3.52 0.000 .5229464 .8314769

2009.25 | .6238779 .0748297 -3.93 0.000 .4931785 .7892146

2009.5 | .7598737 .092433 -2.26 0.024 .5986859 .964459

2009.75 | .57164 .0660013 -4.84 0.000 .4558724 .7168065

2010 | .6151842 .0771899 -3.87 0.000 .4810621 .7867

2010.25 | .6273242 .0782981 -3.74 0.000 .4911918 .8011853

2010.5 | .7263023 .0890276 -2.61 0.009 .5711894 .9235378

2010.75 | .5964357 .0749393 -4.11 0.000 .466245 .7629797

2011 | .6642694 .0814457 -3.34 0.001 .5223708 .8447139

2011.25 | .6769626 .0794814 -3.32 0.001 .5378066 .852125

2011.5 | .7392395 .093011 -2.40 0.016 .5776798 .9459827

2011.75 | .6178796 .077031 -3.86 0.000 .4839323 .7889021

2012 | .7587602 .090464 -2.32 0.021 .6006467 .9584952

2012.25 | .6595476 .0806744 -3.40 0.001 .5189543 .8382301

2012.5 | .7282191 .0868759 -2.66 0.008 .5763874 .9200462

2012.75 | .621477 .0798174 -3.70 0.000 .4831742 .7993672

2013 | .6643872 .0884714 -3.07 0.002 .5117682 .8625203

2013.25 | .5657342 .0794773 -4.05 0.000 .4295673 .7450641

2013.5 | .7613635 .104186 -1.99 0.046 .582254 .9955697

2013.75 | .5987164 .0827639 -3.71 0.000 .4566199 .7850321

2014 | .5703701 .0826774 -3.87 0.000 .4293107 .7577777

2014.25 | .641779 .0932518 -3.05 0.002 .4827298 .8532315

2014.5 | .6623497 .0854051 -3.19 0.001 .5144358 .8527928

2014.75 | .6688523 .092172 -2.92 0.004 .5105395 .8762562

2015 | .6191317 .0899123 -3.30 0.001 .4657671 .8229952

2015.25 | .6573036 .1013591 -2.72 0.007 .4858553 .8892524

2015.5 | .8350512 .1249343 -1.20 0.228 .62282 1.119602

2015.75 | .5141487 .0853327 -4.01 0.000 .3713776 .7118061

2016 | .7025378 .1059124 -2.34 0.019 .5228116 .9440483

|

\_cons | .0000148 1.28e-06 -127.99 0.000 .0000124 .0000175

ln(hours) | 1 (exposure)

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

**. estat gof**

Deviance goodness-of-fit = 22086.18

Prob > chi2(28251) = 1.0000

Pearson goodness-of-fit = 369310.2

Prob > chi2(28251) = 0.0000

**. glm MR `part\_violation\_count\_vars' `covariates' ib(freq).state ib(freq).time, family(nbinomial) link(log) vce(cl mineid) exposure(hours) iter(50) eform**

Iteration 0: log pseudolikelihood = -20009.199

Iteration 1: log pseudolikelihood = -19756.196

Iteration 2: log pseudolikelihood = -19755.847

Iteration 3: log pseudolikelihood = -19755.847

Generalized linear models No. of obs = 28,337

Optimization : ML Residual df = 28,251

Scale parameter = 1

Deviance = 15228.55691 (1/df) Deviance = .5390449

Pearson = 344298.4075 (1/df) Pearson = 12.18712

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

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

AIC = 1.40042

Log pseudolikelihood = -19755.84708 BIC = -274398.5

(Std. Err. adjusted for 1,544 clusters in mineid)

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| Robust

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

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

p47 | .9903066 .1016414 -0.09 0.924 .8098517 1.210971

p48 | .988582 .0162744 -0.70 0.485 .9571938 1.020999

p71 | .8842217 .0743021 -1.46 0.143 .7499525 1.04253

p72 | 1.024198 .0465153 0.53 0.599 .9369695 1.119547

p75 | 1.003876 .000958 4.05 0.000 1.002 1.005756

p77 | .9913681 .0109786 -0.78 0.434 .9700823 1.013121

mine\_time | .9987466 .0017218 -0.73 0.467 .9953776 1.002127

onsite\_insp\_hours | .9995107 .0001698 -2.88 0.004 .9991779 .9998436

|

state |

AL | 1.132954 .103209 1.37 0.171 .9476987 1.354424

AR | 1.971871 .1043475 12.83 0.000 1.777602 2.187371

CO | .7407985 .125259 -1.77 0.076 .5318307 1.031874

IL | 1.186306 .0929417 2.18 0.029 1.017441 1.383199

IN | .9441349 .1503674 -0.36 0.718 .6909835 1.290032

MD | 1.02947 .1722952 0.17 0.862 .7415729 1.429135

MT | .9497052 .0434649 -1.13 0.260 .8682246 1.038832

NM | .8393111 .0372144 -3.95 0.000 .7694517 .9155132

OH | 1.020473 .1492147 0.14 0.890 .766193 1.359143

OK | .8843856 .2297815 -0.47 0.636 .531474 1.471639

PA | 1.037709 .0879324 0.44 0.662 .8789161 1.225192

TN | 1.387963 .1859458 2.45 0.014 1.067437 1.804736

UT | .6438035 .0869573 -3.26 0.001 .494064 .8389256

VA | .7244991 .0521834 -4.47 0.000 .6291127 .8343481

WV | 1.080348 .0533635 1.56 0.118 .9806604 1.190168

WY | 1.171312 .0580656 3.19 0.001 1.06286 1.290831

|

time |

2000 | 1.063471 .1267657 0.52 0.606 .8419036 1.343349

2000.25 | 1.105457 .1283964 0.86 0.388 .8803931 1.388056

2000.5 | 1.410531 .1618187 3.00 0.003 1.1265 1.766176

2000.75 | .9870458 .1180907 -0.11 0.913 .7807269 1.247888

2001 | .9942603 .1136352 -0.05 0.960 .7947221 1.243898

2001.5 | 1.150978 .1315566 1.23 0.219 .9199722 1.439989

2001.75 | .9919753 .1096266 -0.07 0.942 .7987883 1.231885

2002 | 1.004544 .1217849 0.04 0.970 .7920898 1.273983

2002.25 | .9218751 .1082948 -0.69 0.489 .7322839 1.160552

2002.5 | 1.145533 .1343844 1.16 0.247 .910231 1.441662

2002.75 | 1.075996 .1312922 0.60 0.548 .847125 1.366701

2003 | .8819364 .1106797 -1.00 0.317 .6896278 1.127872

2003.25 | .9770491 .1258328 -0.18 0.857 .7590865 1.257597

2003.5 | 1.065042 .1314486 0.51 0.610 .8362011 1.35651

2003.75 | .7346058 .0897375 -2.52 0.012 .5781943 .9333293

2004 | .9966333 .1264577 -0.03 0.979 .7771964 1.278027

2004.25 | .90496 .1096213 -0.82 0.410 .7137071 1.147463

2004.5 | .9278353 .1176335 -0.59 0.555 .7236912 1.189566

2004.75 | .8181627 .0998634 -1.64 0.100 .6440857 1.039287

2005 | .7205159 .0900992 -2.62 0.009 .5639004 .9206291

2005.25 | .9423851 .1053197 -0.53 0.595 .7570059 1.173161

2005.5 | .7929111 .0970991 -1.89 0.058 .6237165 1.008003

2005.75 | .7556163 .0984764 -2.15 0.032 .5852854 .9755172

2006 | .8068841 .0971243 -1.78 0.075 .6373125 1.021574

2006.25 | .8060202 .1051613 -1.65 0.098 .6241512 1.040883

2006.5 | .8714719 .1057501 -1.13 0.257 .68701 1.105462

2006.75 | .7090563 .089258 -2.73 0.006 .5540246 .9074703

2007 | .7208012 .0894133 -2.64 0.008 .5652315 .9191886

2007.25 | .6906302 .0922286 -2.77 0.006 .5315864 .8972578

2007.5 | .7750827 .0953956 -2.07 0.038 .6089531 .9865344

2007.75 | .7390773 .0941351 -2.37 0.018 .5758027 .9486501

2008 | .6215798 .0784406 -3.77 0.000 .4853768 .7960031

2008.25 | .6764111 .0852904 -3.10 0.002 .5282998 .8660459

2008.5 | .7395802 .093248 -2.39 0.017 .5776486 .9469058

2008.75 | .599063 .0778685 -3.94 0.000 .4643336 .7728851

2009 | .5730991 .0725747 -4.40 0.000 .4471336 .7345512

2009.25 | .5607374 .0728182 -4.45 0.000 .4347316 .7232658

2009.5 | .6737413 .0904995 -2.94 0.003 .5177935 .8766572

2009.75 | .5124099 .0669507 -5.12 0.000 .396644 .6619637

2010 | .5463606 .0740947 -4.46 0.000 .4188357 .7127137

2010.25 | .5688563 .07391 -4.34 0.000 .4409691 .7338326

2010.5 | .7104772 .0964631 -2.52 0.012 .5444783 .9270852

2010.75 | .5475331 .0744885 -4.43 0.000 .4193818 .7148438

2011 | .6445482 .0837345 -3.38 0.001 .4996595 .831451

2011.25 | .6287348 .0801825 -3.64 0.000 .4896817 .8072743

2011.5 | .6900563 .0895739 -2.86 0.004 .5350483 .8899715

2011.75 | .5549412 .0741185 -4.41 0.000 .4271295 .7209985

2012 | .6830693 .0869562 -2.99 0.003 .5322368 .8766466

2012.25 | .5885889 .0760727 -4.10 0.000 .4568754 .7582744

2012.5 | .6954192 .0927047 -2.72 0.006 .5355191 .9030637

2012.75 | .549163 .0753795 -4.37 0.000 .4196268 .7186862

2013 | .5613709 .0766544 -4.23 0.000 .4295558 .7336353

2013.25 | .488181 .0700115 -5.00 0.000 .3685593 .6466277

2013.5 | .6233137 .0860128 -3.43 0.001 .4756057 .8168951

2013.75 | .5326632 .0761159 -4.41 0.000 .4025489 .7048338

2014 | .4699742 .0700886 -5.06 0.000 .3508584 .6295294

2014.25 | .5432067 .0767793 -4.32 0.000 .4117678 .7166017

2014.5 | .5617324 .0774067 -4.19 0.000 .4287794 .7359105

2014.75 | .5693431 .0817057 -3.93 0.000 .4297532 .7542737

2015 | .5384322 .079137 -4.21 0.000 .4036679 .7181875

2015.25 | .5853273 .0906931 -3.46 0.001 .4320261 .7930262

2015.5 | .7388662 .1055216 -2.12 0.034 .5584714 .9775312

2015.75 | .4498955 .0741144 -4.85 0.000 .3257522 .6213495

2016 | .6270867 .0988593 -2.96 0.003 .4604017 .8541187

|

\_cons | .0000152 1.42e-06 -118.33 0.000 .0000126 .0000182

ln(hours) | 1 (exposure)

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

**. nbreg MR `part\_violation\_count\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) exposure(hours) iter(50) irr**

Fitting Poisson model:

Iteration 0: log pseudolikelihood = -20843.089

Iteration 1: log pseudolikelihood = -19525.615

Iteration 2: log pseudolikelihood = -19500.139

Iteration 3: log pseudolikelihood = -19499.471

Iteration 4: log pseudolikelihood = -19499.462

Iteration 5: log pseudolikelihood = -19499.462

Fitting constant-only model:

Iteration 0: log pseudolikelihood = -20107.698

Iteration 1: log pseudolikelihood = -19847.991

Iteration 2: log pseudolikelihood = -19841.286

Iteration 3: log pseudolikelihood = -19841.282

Iteration 4: log pseudolikelihood = -19841.282

Fitting full model:

Iteration 0: log pseudolikelihood = -19385.44

Iteration 1: log pseudolikelihood = -19356.222

Iteration 2: log pseudolikelihood = -19355.316

Iteration 3: log pseudolikelihood = -19355.315

Negative binomial regression Number of obs = 28,337

Wald chi2(85) = .

Dispersion = mean Prob > chi2 = .

Log pseudolikelihood = -19355.315 Pseudo R2 = 0.0245

(Std. Err. adjusted for 1,544 clusters in mineid)

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| Robust

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

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

p47 | .9785419 .0983324 -0.22 0.829 .8036063 1.191559

p48 | .9922559 .0139872 -0.55 0.581 .9652168 1.020053

p71 | .887247 .0739512 -1.44 0.151 .753525 1.0447

p72 | 1.04836 .0431606 1.15 0.251 .9670898 1.13646

p75 | 1.003134 .0009118 3.44 0.001 1.001349 1.004923

p77 | .9884689 .0098581 -1.16 0.245 .9693349 1.00798

mine\_time | .9986238 .0018973 -0.72 0.469 .994912 1.002349

onsite\_insp\_hours | .9995405 .0001713 -2.68 0.007 .9992047 .9998763

|

state |

AL | 1.100494 .0927217 1.14 0.256 .9329754 1.298092

AR | 2.015909 .1115338 12.67 0.000 1.808742 2.246804

CO | .7094839 .1177401 -2.07 0.039 .5124886 .9822023

IL | 1.163156 .0961887 1.83 0.068 .9891149 1.367821

IN | .9212272 .1452524 -0.52 0.603 .6763251 1.25481

MD | .9987023 .1663984 -0.01 0.994 .720466 1.384391

MT | .86942 .0428267 -2.84 0.005 .7894059 .9575443

NM | .8045974 .0367698 -4.76 0.000 .7356632 .8799909

OH | 1.093264 .1475194 0.66 0.509 .8392058 1.424236

OK | .863543 .2261789 -0.56 0.575 .5168178 1.442881

PA | .9675111 .0899785 -0.36 0.722 .8062955 1.160961

TN | 1.317787 .1741554 2.09 0.037 1.017074 1.70741

UT | .6172059 .0800446 -3.72 0.000 .478673 .7958316

VA | .6935085 .0570498 -4.45 0.000 .5902416 .8148428

WV | 1.01353 .0546821 0.25 0.803 .9118274 1.126577

WY | 1.107452 .0540209 2.09 0.036 1.006477 1.218558

|

time |

2000 | 1.106118 .1220371 0.91 0.361 .8910233 1.373137

2000.25 | 1.183987 .1315031 1.52 0.128 .9523696 1.471933

2000.5 | 1.43901 .1494881 3.50 0.000 1.173921 1.763961

2000.75 | 1.044169 .1153105 0.39 0.696 .8409499 1.296496

2001 | 1.050345 .108034 0.48 0.633 .8585804 1.28494

2001.5 | 1.20039 .1253789 1.75 0.080 .9781734 1.47309

2001.75 | 1.008166 .1005208 0.08 0.935 .8292044 1.225751

2002 | 1.067089 .1184513 0.58 0.559 .8584478 1.32644

2002.25 | .9775776 .1104351 -0.20 0.841 .7834163 1.21986

2002.5 | 1.186852 .1269834 1.60 0.109 .9623317 1.463754

2002.75 | 1.101944 .1208709 0.89 0.376 .8887762 1.36624

2003 | .895627 .1026505 -0.96 0.336 .7154322 1.121207

2003.25 | 1.003716 .1137982 0.03 0.974 .803719 1.25348

2003.5 | 1.095955 .1250626 0.80 0.422 .8763141 1.370648

2003.75 | .7943455 .0888687 -2.06 0.040 .6379402 .9890972

2004 | 1.026545 .1166065 0.23 0.818 .8216538 1.282528

2004.25 | .9775495 .10915 -0.20 0.839 .7854099 1.216693

2004.5 | .9688864 .1109475 -0.28 0.783 .7741079 1.212674

2004.75 | .8640126 .0968208 -1.30 0.192 .6936411 1.07623

2005 | .7535259 .0835324 -2.55 0.011 .6063702 .9363936

2005.25 | .9785353 .098337 -0.22 0.829 .8035924 1.191564

2005.5 | .8616535 .0999663 -1.28 0.199 .6864027 1.081649

2005.75 | .7898224 .0919311 -2.03 0.043 .6287155 .9922126

2006 | .8248859 .0913248 -1.74 0.082 .6639809 1.024784

2006.25 | .8221444 .0979357 -1.64 0.100 .6509551 1.038353

2006.5 | .9082608 .1020127 -0.86 0.392 .728797 1.131917

2006.75 | .7384303 .0866067 -2.59 0.010 .5867816 .9292713

2007 | .7697911 .0877075 -2.30 0.022 .6157291 .962401

2007.25 | .7245528 .0927025 -2.52 0.012 .5638499 .9310577

2007.5 | .8005421 .0896655 -1.99 0.047 .6427536 .9970658

2007.75 | .7777057 .093536 -2.09 0.037 .6143839 .9844434

2008 | .6641812 .0800276 -3.40 0.001 .5244749 .8411015

2008.25 | .6936747 .0798398 -3.18 0.001 .5535861 .8692135

2008.5 | .7911426 .0937607 -1.98 0.048 .627157 .9980061

2008.75 | .6432762 .0781481 -3.63 0.000 .5069786 .8162164

2009 | .6239623 .0752172 -3.91 0.000 .4926608 .7902576

2009.25 | .6014766 .0731822 -4.18 0.000 .4738625 .763458

2009.5 | .7282896 .0915483 -2.52 0.012 .569253 .9317575

2009.75 | .5494432 .066397 -4.96 0.000 .4335709 .6962825

2010 | .5868185 .0747185 -4.19 0.000 .4572166 .7531572

2010.25 | .6065422 .0760115 -3.99 0.000 .4744484 .7754129

2010.5 | .720328 .0909522 -2.60 0.009 .5624104 .9225868

2010.75 | .5749947 .0730513 -4.36 0.000 .448251 .7375753

2011 | .6596281 .0817104 -3.36 0.001 .5174374 .8408925

2011.25 | .6572668 .0788441 -3.50 0.000 .5195575 .8314761

2011.5 | .7235559 .0909348 -2.57 0.010 .5655813 .925655

2011.75 | .5888631 .073852 -4.22 0.000 .4605335 .7529523

2012 | .7313177 .0878749 -2.60 0.009 .5778644 .9255208

2012.25 | .6268293 .0767255 -3.82 0.000 .4931284 .7967802

2012.5 | .7153522 .0882278 -2.72 0.007 .5617423 .910967

2012.75 | .5930567 .0770852 -4.02 0.000 .4596821 .7651294

2013 | .6241826 .0827103 -3.56 0.000 .4814145 .80929

2013.25 | .535427 .074846 -4.47 0.000 .4071111 .7041863

2013.5 | .7025641 .09558 -2.59 0.009 .5381268 .917249

2013.75 | .5704491 .0784161 -4.08 0.000 .43572 .7468379

2014 | .5301299 .0769618 -4.37 0.000 .3988492 .7046214

2014.25 | .5969367 .0829215 -3.71 0.000 .4546597 .7837366

2014.5 | .6218779 .0812303 -3.64 0.000 .4814158 .8033226

2014.75 | .628197 .0868081 -3.36 0.001 .4791501 .8236071

2015 | .5826364 .0831216 -3.79 0.000 .4405156 .7706088

2015.25 | .6220828 .0928609 -3.18 0.001 .4642862 .8335096

2015.5 | .79155 .1130084 -1.64 0.102 .5983476 1.047136

2015.75 | .4863732 .0790907 -4.43 0.000 .3536332 .6689387

2016 | .6755414 .1032979 -2.57 0.010 .5006032 .9116125

|

\_cons | .0000149 1.31e-06 -126.47 0.000 .0000126 .0000177

ln(hours) | 1 (exposure)

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

/lnalpha | -1.458469 .1251072 -1.703675 -1.213264

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

alpha | .232592 .0290989 .1820134 .2972256

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**. lrtest pois nbin, stats force**

Likelihood-ratio test LR chi2(1) = 288.29

(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 | 28,337 -20154.17 -19499.46 86 39170.92 39880.59

nbin | 28,337 -19841.28 -19355.31 87 38884.63 39602.55

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

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

**. summ MR pcv1\_yhat**

Variable | Obs Mean Std. Dev. Min Max

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

MR | 30,289 .4096207 .9550592 0 14

pcv1\_yhat | 28,337 .4407763 .6887992 .0000154 8.265242