**. logit MR\_indicator `part\_sigandsub\_lag\_all\_vars' `covariates' ib(freq).state ib(freq).time, vce(cl mineid) offset(lnhours) iter(50) or**

note: 17.state != 0 predicts success perfectly

17.state dropped and 11 obs not used

Iteration 0: log pseudolikelihood = -3080.1072

Iteration 1: log pseudolikelihood = -2920.1369

Iteration 2: log pseudolikelihood = -2907.5274

Iteration 3: log pseudolikelihood = -2907.3854

Iteration 4: log pseudolikelihood = -2907.3854

Logistic regression Number of obs = 6,242

Wald chi2(35) = .

Log pseudolikelihood = -2907.3854 Prob > chi2 = .

(Std. Err. adjusted for 1,237 clusters in mineid)

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| Robust

MR\_indicator | Odds Ratio Std. Err. z P>|z| [95% Conf. Interval]

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

p47\_ss\_c\_lag\_all | .964119 .0731468 -0.48 0.630 .8309038 1.118692

p48\_ss\_c\_lag\_all | 1.005917 .0147843 0.40 0.688 .9773539 1.035315

p71\_ss\_c\_lag\_all | 1.104962 .1004519 1.10 0.272 .9246235 1.320474

p72\_ss\_c\_lag\_all | .9466233 .0282305 -1.84 0.066 .8928785 1.003603

p75\_ss\_c\_lag\_all | 1.000078 .0001387 0.56 0.572 .9998066 1.00035

p77\_ss\_c\_lag\_all | 1.022119 .0085524 2.61 0.009 1.005493 1.039019

mine\_time | .9868603 .0151804 -0.86 0.390 .9575513 1.017066

onsite\_insp\_hours | 1.001213 .0001716 7.07 0.000 1.000877 1.001549

|

state |

1 | 1.56394 .6341951 1.10 0.270 .7063966 3.462516

2 | 2.899174 .2869066 10.76 0.000 2.38802 3.519739

3 | .7034155 .2624539 -0.94 0.346 .3385455 1.461527

4 | 1.804301 .5441323 1.96 0.050 .9990973 3.258444

5 | .7981876 .2211156 -0.81 0.416 .4637707 1.373747

6 | .7171244 .0647553 -3.68 0.000 .6008032 .8559664

7 | .9674284 .2455989 -0.13 0.896 .5882016 1.591151

8 | 1.365767 .1025272 4.15 0.000 1.178902 1.582253

9 | 2.715147 .272951 9.94 0.000 2.229579 3.306463

10 | .5812866 .2203428 -1.43 0.152 .2765244 1.221933

11 | .6307678 .1562254 -1.86 0.063 .3881934 1.024922

12 | .9663847 .1683108 -0.20 0.844 .6869105 1.359565

13 | 2.063931 .7719023 1.94 0.053 .9916289 4.295773

14 | .7414964 .2536473 -0.87 0.382 .3792577 1.449719

15 | .5893005 .0622836 -5.00 0.000 .479041 .7249381

17 | 1 (empty)

|

time |

2000 | .9782582 .1353665 -0.16 0.874 .7458791 1.283035

2002 | .7267707 .1069756 -2.17 0.030 .5446362 .9698138

2003 | .780988 .129953 -1.49 0.137 .5636483 1.082133

2004 | .5168383 .0830686 -4.11 0.000 .3771775 .7082125

2005 | .5263829 .0780598 -4.33 0.000 .3936162 .7039317

2006 | .5870875 .0893956 -3.50 0.000 .4356029 .7912522

2007 | .5829884 .0940203 -3.35 0.001 .4249953 .7997158

2008 | .4664039 .0759987 -4.68 0.000 .3388927 .6418923

2009 | .2349559 .0415966 -8.18 0.000 .1660695 .3324168

2010 | .3159569 .0580034 -6.28 0.000 .2204775 .4527845

2011 | .3837075 .0696269 -5.28 0.000 .2688702 .547593

2012 | .3270894 .063229 -5.78 0.000 .2239352 .4777609

2013 | .2200801 .0461246 -7.22 0.000 .1459436 .3318763

2014 | .1769607 .0391851 -7.82 0.000 .1146548 .2731251

2015 | .2317806 .0521268 -6.50 0.000 .1491572 .3601718

|

\_cons | .000024 3.07e-06 -83.31 0.000 .0000187 .0000309

lnhours | 1 (offset)

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

. lfit

Logistic model for MR\_indicator, goodness-of-fit test

number of observations = 6242

number of covariate patterns = 6226

Pearson chi2(6187) = 6248.95

Prob > chi2 = 0.2874

. linktest

Iteration 0: log likelihood = -4293.1367

Iteration 1: log likelihood = -2903.9048

Iteration 2: log likelihood = -2898.261

Iteration 3: log likelihood = -2898.0651

Iteration 4: log likelihood = -2898.0645

Iteration 5: log likelihood = -2898.0645

Logistic regression Number of obs = 6,242

LR chi2(2) = 2790.14

Prob > chi2 = 0.0000

Log likelihood = -2898.0645 Pseudo R2 = 0.3250

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

MR\_indicator | Coef. Std. Err. z P>|z| [95% Conf. Interval]

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

\_hat | 1.126639 .0322758 34.91 0.000 1.063379 1.189898

\_hatsq | -.0373195 .0148197 -2.52 0.012 -.0663656 -.0082734

\_cons | .0319753 .0359988 0.89 0.374 -.038581 .1025316

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

. estat classification

Logistic model for MR\_indicator

-------- True --------

Classified | D ~D | Total

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

+ | 2787 756 | 3543

- | 657 2042 | 2699

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

Total | 3444 2798 | 6242

Classified + if predicted Pr(D) >= .5

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

Sensitivity Pr( +| D) 80.92%

Specificity Pr( -|~D) 72.98%

Positive predictive value Pr( D| +) 78.66%

Negative predictive value Pr(~D| -) 75.66%

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False + rate for true ~D Pr( +|~D) 27.02%

False - rate for true D Pr( -| D) 19.08%

False + rate for classified + Pr(~D| +) 21.34%

False - rate for classified - Pr( D| -) 24.34%

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Correctly classified 77.36%

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

. summ MR\_indicator pbssv4\_yhat

Variable | Obs Mean Std. Dev. Min Max

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

MR\_indicator | 6,253 .5525348 .4972722 0 1

pbssv4\_yhat | 6,242 .5517462 .2912751 .000379 .9999924