**. logit MR\_indicator `part\_count\_lag\_1\_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 = -2914.499

Iteration 2: log pseudolikelihood = -2902.751

Iteration 3: log pseudolikelihood = -2902.6511

Iteration 4: log pseudolikelihood = -2902.6511

Logistic regression Number of obs = 6,242

Wald chi2(35) = .

Log pseudolikelihood = -2902.6511 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\_1lag | .9953437 .1316037 -0.04 0.972 .7681177 1.289788

p48\_1lag | 1.04092 .0401491 1.04 0.298 .9651306 1.122662

p71\_1lag | 1.346416 .2678299 1.50 0.135 .9117124 1.988387

p72\_1lag | .9871774 .1220264 -0.10 0.917 .7747775 1.257805

p75\_1lag | 1.005164 .0014089 3.67 0.000 1.002406 1.007929

p77\_1lag | 1.035762 .018341 1.98 0.047 1.000431 1.072341

mine\_time | .9959182 .0139176 -0.29 0.770 .9690104 1.023573

onsite\_insp\_hours | 1.000781 .0001967 3.97 0.000 1.000395 1.001166

|

state |

1 | 1.562189 .6318862 1.10 0.270 .7070219 3.451708

2 | 2.524455 .2414736 9.68 0.000 2.092893 3.045007

3 | .6477151 .2311978 -1.22 0.224 .3217755 1.303812

4 | 1.914173 .595906 2.09 0.037 1.0399 3.523473

5 | .8272389 .2263468 -0.69 0.488 .4838688 1.414277

6 | .7224976 .0652074 -3.60 0.000 .6053593 .8623026

7 | .8308582 .2697177 -0.57 0.568 .4397494 1.569815

8 | 1.395543 .1178001 3.95 0.000 1.182747 1.646624

9 | 2.432048 .2309022 9.36 0.000 2.0191 2.929453

10 | .6136519 .2308562 -1.30 0.194 .2935618 1.282758

11 | .6149781 .1551865 -1.93 0.054 .3750278 1.008453

12 | 1.050402 .181741 0.28 0.776 .7483076 1.474452

13 | 2.014583 .7455173 1.89 0.058 .9754143 4.160841

14 | .6824654 .2115594 -1.23 0.218 .3717185 1.252989

15 | .5710555 .0611501 -5.23 0.000 .4629451 .7044126

17 | 1 (empty)

|

time |

2000 | 1.02367 .1435631 0.17 0.868 .777651 1.347521

2002 | .747135 .110653 -1.97 0.049 .5588993 .9987681

2003 | .8126382 .1366151 -1.23 0.217 .5845196 1.129784

2004 | .5360012 .086001 -3.89 0.000 .3913732 .7340749

2005 | .5531264 .0827056 -3.96 0.000 .4126193 .7414797

2006 | .5940032 .0907048 -3.41 0.001 .4403619 .8012498

2007 | .5730761 .093059 -3.43 0.001 .4168597 .7878339

2008 | .4475527 .0729208 -4.93 0.000 .325204 .6159314

2009 | .222199 .0389645 -8.58 0.000 .157571 .3133341

2010 | .3080197 .0566725 -6.40 0.000 .2147662 .4417647

2011 | .3824033 .0684384 -5.37 0.000 .2692668 .5430758

2012 | .331594 .0636965 -5.75 0.000 .2275609 .4831874

2013 | .2327706 .0486042 -6.98 0.000 .1545934 .3504816

2014 | .1923732 .0424013 -7.48 0.000 .1248906 .2963188

2015 | .2504715 .0553037 -6.27 0.000 .1624854 .3861022

|

\_cons | .0000222 2.84e-06 -83.68 0.000 .0000172 .0000285

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) = 6081.63

Prob > chi2 = 0.8281

**. linktest**

Iteration 0: log likelihood = -4293.1367

Iteration 1: log likelihood = -2900.7971

Iteration 2: log likelihood = -2894.1111

Iteration 3: log likelihood = -2893.9569

Iteration 4: log likelihood = -2893.9566

Iteration 5: log likelihood = -2893.9566

Logistic regression Number of obs = 6,242

LR chi2(2) = 2798.36

Prob > chi2 = 0.0000

Log likelihood = -2893.9566 Pseudo R2 = 0.3259

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

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

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

\_hat | 1.12362 .0320977 35.01 0.000 1.06071 1.18653

\_hatsq | -.0338368 .0150167 -2.25 0.024 -.0632691 -.0044046

\_cons | .0293157 .0361956 0.81 0.418 -.0416263 .1002577

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

**. estat classification**

Logistic model for MR\_indicator

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

Classified | D ~D | Total

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

+ | 2764 750 | 3514

- | 680 2048 | 2728

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

Total | 3444 2798 | 6242

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

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

Sensitivity Pr( +| D) 80.26%

Specificity Pr( -|~D) 73.20%

Positive predictive value Pr( D| +) 78.66%

Negative predictive value Pr(~D| -) 75.07%

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

False + rate for true ~D Pr( +|~D) 26.80%

False - rate for true D Pr( -| D) 19.74%

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

False - rate for classified - Pr( D| -) 24.93%

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

Correctly classified 77.09%

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

**. summ MR\_indicator pbv2\_yhat**

Variable | Obs Mean Std. Dev. Min Max

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

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

pbv2\_yhat | 6,242 .5517462 .2919261 .0003718 .9999903