Internet Appendix
for
Is Public Equity Deadly? Evidence from Workplace Safety and Productivity Tradeoffs in the Coal Industry

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This Internet Appendix reports results that are mentioned but not tabulated in the main paper. In Section I, we examine whether our results could be from an "IPO effect." Then in Section II, we report 11 tables and 1 figure, as outlined below:

1. Table IA.1: Withdrawn IPO Results

   Reference in the main paper: "Even with the challenges in obtaining random assignment in public listing status, most papers in this literature do not use an instrumental variables research design. Bernstein (2015), a notable exception, uses plausibly exogenous variation in the NASDAQ to predict IPO completion or withdrawal. Internet Appendix Table IA.1 reports results applying a similar framework in our setting. Though the results are very similar to those in our main analysis, it is difficult to make strong inferences as there are only four withdrawn coal IPOs in our sample." (Section 1 Footnote 3)

2. Table IA.2: Production Portfolio Results

   Reference in the main paper: "Internet Appendix Table IA.2 shows similar results among subsamples of mines making up very small portions of a firm's total production." (Section 1 Footnote 4)

3. Table IA.3: Alternative Specifications of Safety Violations

   Reference in the main paper: "Beyond simply inducing noise in our empirical tests, these types of inspections suffer from an additional issue. The firms know when to expect the regulators in accident investigations or compliance follow-ups, which can

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create additional strategic safety behavior. However, in Internet Appendix Table IA.3, we verify our results are robust to scaling by total inspections rather than only safety inspections. Further, we control for non-safety inspections in our main analysis. Finally, Internet Appendix Table IA.3 reports additional specifications of our main safety violation regressions, including using the simple count of safety violations, and choosing employees and employee hours as alternative scaling variables." (Section 2.2 Footnote 9)

4. Table IA.4: Cross-Sectional Differences in a Matched Sample.

   Reference in the main paper: "In an alternative approach, Internet Appendix Table IA.4 reports pure cross-sectional average treatment effects for a sample of public mines matched to three private neighbors on production, employees and employee hours. The inference from this matching exercise is qualitatively similar to our main results below." (Section 3 Footnote 13)

5. Table IA.5: Robustness to the Consol Energy and ICGO IPOs, and ICG's Acquisition of Horizon Natural Resources

   Reference in the main paper: "Internet Appendix Table IA.5 verifies that our results remain similar if we (a) exclude the years 1999 and 2005, or (b) exclude all mine-year observations for Consol Energy, ICG, and Horizon Natural Resources from our sample." (Section 3.1 Footnote 14)

6. Table IA.6: Alternative Specifications for Public Listing Status and Fatalities

   Reference in the main paper: "First, rather than scaling by the number of safety inspections, we use both the number of employee hours and the number of mine employees to reduce the skewness in the dependent variable, though Internet Appendix Table IA.6 shows similar results without scaling." (Section 3.2)

   Reference in the main paper: "The coefficient in Column (2) from Internet Appendix Table IA.6 suggests public firms experience 0.098 additional fatalities per year, thus carrying an expected additional annual cost of $\$31.57 \times 0.098 = \$3.09$ million." (Section 3.3)

7. Table IA.7: Robustness to the Dodd-Frank Act

   Reference in the main paper: "Our results suggest that disclosure is not the main driver of differences between public and private firms. Specifically, in Internet Appendix Table IA.7, we show our results remain very similar after controlling for the Dodd-Frank act among publicly held mines." (Section 3.3 Footnote 16)

8. Table IA.8: Subsample Splits Among Other Measures of Workplace Safety

Reference in the main paper: "Nonetheless, in Internet Appendix Table IA.8, we report subsample splits for fatalities and several other measures of workplace safety, including explosions, fines, and coal dust concentration." (Section 3.3 Footnote 18)

9. Table IA.9 :Public Listing Status and Labor Utilization

   Reference in the main paper: "If the number of employee-hours remains constant surrounding a listing change (Internet Appendix Table IA.9 suggests they do), this gives us the total increase in coal production due to the change in listing status – 99,945 short tons of coal." (Section 3.3 Footnote 19)

   Reference in the main paper: "Inconsistent with this mechanism, Internet Appendix Table IA.9 shows no change in labor utilization surrounding a listing status change." (Section 3 Footnote 20)

10. Table IA.10: Stock Price Reaction to Fatal Accidents Among Public Firms

    Reference in the main paper: "The mean (0,10) day CAR using a market-model is -1.41% and is significant at the 1% level (see Internet Appendix Table IA.10)." (Section 3.3)

11. Table IA.11: Placebo Coal Price Drops: Assigning Price Two Years Before Actual Drop

    Reference in the main paper: "Consistent with this, we find no support that coal prices are related to acquisition or IPO decisions. Further, Internet Appendix Table IA.11 shows the results of a placebo price shock design that is akin to testing for parallel trends in the coal price analysis. In particular, we construct empirical tests that are identical to those in Table 7 below, but use price shocks from two years prior (rather than the contemporaneous year). We no significant differences between the coefficients for public firm ownership in the two subsamples." (Section 4.1 Footnote 21)

12. Table IA.12: Robustness to Other Classifications of Large Changes in Inspector Proximity

    Reference in the main paper: "Internet Appendix Table IA.12 analyzes different classifications for the size of the change and shows similar results." (Section 4.2.2)

13. Table IA.13: Private-to-Public Acquisitions and Mine-Level Productivity, Fatalities, and Safety Violations

    Reference in the main paper: "For example, Section I of the IA considers whether our findings are simply an IPO effect by restricting the analysis to a sample of matched private-to-public and private-to-private acquisitions." (Section 5)

14. Figure IA.1: Annual Number of Private-to-Public Transactions

Reference in the main paper: "For example, Section I of the IA shows once again that our findings are not simply an IPO effect by restricting the analysis to a sample of matched private-to-public and private-to-private acquisitions." (Section 5)

1 Is it an IPO effect?

Though the extant literature has identified many potential explanations for why firms go public (e.g., see Brau (2012)), one such theory suggests that the controlling shareholders wish to create greater dispersion of ownership (Chemmanur and Fulghieri, 1999; Benninga et al., 2005; Pastor et al., 2009). There is also some empirical evidence to support this theory. For example, Bodnaruk et al. (2008) find less diversified firms are more likely to go public. Further, Pagano et al. (1996), Pagano et al. (1998), Mikkelson et al. (1997), and Brennan and Franks (1997) each find some evidence of divestiture following an IPO. As Pagano (1993) notes, greater dispersion of ownership leads to greater risk-sharing opportunities among shareholders. Pagano et al. (1998) take this a step further and hypothesize that riskier firms are more likely to go public. Because a large portion of our identification strategy depends on listing status changes through IPOs, one may worry that our findings are merely an IPO effect. That is, as firms become riskier, their workplace safety deteriorates, productivity increases, and they go public simultaneously. There may be additional IPO effects that could impact our findings. For example, upon IPO, firms' access to capital increases, and thus realized or optimal capital structure may also change. As Cohn and Wardlaw (2016) document, leverage and workplace injuries are closely linked.

Figures 3 through 5 of the main paper ease this concern significantly, as each shows similar impacts for acquistions (both public and private) and IPOs. However, we further address this concern by analyzing a small number of listing status changes made through the acquisition of privately-held mines by publicly-traded firms. Figure IA.1 displays the prevalence of both private-to-public and private-to-private transactions throughout our sample period.

In order to compare similar acquisitions of privately-held mines by public and private companies, we employ a nearest neighbor matching methodology, with up to five matches, on the three-year pre-acquisition averages of total production, total employees, and the total number of employee hours. After excluding poor matches (those with a matched distance

of greater than one), we are left with 113 private-to-public transactions matched to 246 private-to-private transactions over our sample period of 1985-2018. While the three-year pre-acquisition average of total production for the private-to-public and private-to-private transactions is statistically indistinguishable, mines acquired by public firms tend to employ more miners and work more hours, both significant at the 5%, than those acquired by private firms. These differences suggest that public firms are more likely to acquire mines with a larger operational scale, at least as it pertains to employees and employee hours. This is perhaps unsurprising given the likely large discrepancy in size between public and private firms. However, these differences should make it more difficult for us to find significant changes post-acquisition.

Table IA.13 reports the results of the matched regressions. In order for an observation to be included in the analysis, it must satisfy the filters of the main sample, as well as be in the five years before or after the acquisition, be owned by the actual target or acquirer, and be actively producing coal. These restrictions produce a sample size of 1,668 mine-year observations for productivity and fatalities, and 1,105 for safety violations. We utilize year, event-year, and mine fixed effects in each model, and also include inspection office fixed effects in the safety violations regressions. We cluster our standard errors at the mine level. Though we lose a significant amount of power, by and large, the results in Table IA.13 match the results in the main sample. That is, upon being acquired by a public firm, previously privately-held mines increase productivity, but also see a deterioration in workplace safety through low-probability safety violations. There is no significant change in medium- and high-probability safety violations. The coefficient on Private-to-Public owner in Column (5) for fatalities per employee hour is insignificant and close to zero. We infer that there are too few fatalities in our small samples to identify a statistically significant effect.

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Table IA.1: Withdrawn IPOs. This table reports an alternative specification for the results in the main paper following in the spirit of Bernstein (2015). In particular, this table focuses on a sample of firms that register for an initial public offering between 1985 and 2018. The main comparison of interest is an indicator for whether the firm ultimately withdraws the IPO rather than completing it in the five years before and after the filing. There are 4 such firms in our sample. The independent variable of interest is *Withdrawn IPO*$_s \times$ *Post*$_{st}$. In each of the first four columns, the safety violations for constructing the dependent variables are split by the probability of an accident actually occurring, as deemed by the Mine Safety and Health Administration (MSHA) at the time of the citation for the safety violation. All variable definitions appear in Appendix Table A.1 in the main paper. Data on mining safety violations, inspections, fatalities, production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Data on withdrawn IPOs are from Thomson Reuters SDC. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Dependent variable =	$\frac{\text{Safety Violations}}{\text{Safety Inspections}}_{ist}$				$\frac{\text{Fatalities}}{\text{100,000 Hours}}_{ist}$	$\frac{\text{Production}}{\text{Hours}}_{ist}$	$\frac{\text{Production}}{\text{Employees}}_{ist}$
MSHA Prob. of Accident =	All	Low	Medium	High		N/A	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Withdrawn IPO$_s \times$ Post$_{st}$	-3.629*	-2.456	-0.541	-0.015	-0.019***	-1.571***	-2305.2***
	(1.915)	(1.808)	(0.440)	(0.077)	(0.003)	(0.311)	(826.8)
Event Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspection office FE	Yes	Yes	Yes	Yes	No	No	No
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	18	18	18	18	32	32	32
Observations	733	733	733	733	932	932	932
R^2	0.764	0.764	0.773	0.405	0.238	0.911	0.871

Table IA.2: Production Portfolio Results. This table reports the results of linear regression models in which the dependent variable is the number of safety violations divided by safety inspections (Models (1) through (4)), the number of fatalities divided by 100,000 employee hours (Model(5)), or the total short tons of clean coal produced divided by employee hours (Model (6)) or average employees (Model (7)) at mine i, owned by ultimate parent s, during year t. This table further explores whether mines that make up a small percentage of the firm's total production portfolio experience similar results upon a listing status change. In particular, Panel (A) restricts the sample to mines that make up less than 15% of total firm production for at least 2 years, while Panels (B) and (C) restrict the sample to mines that make up less than 10% and 5%, respectively. The sample consists of publicly and privately owned U.S. coal mines over a sample period of 1985 through 2018 for productivity and fatalities, and 1993 through 2018 for safety violations. The independent variable of interest is Public owner$_{ist}$. In each of the first four columns, the safety violations for constructing the dependent variables are split by the probability of an accident actually occurring, as deemed by the Mine Safety and Health Administration (MSHA) at the time of the citation for the safety violation. All variable definitions appear in Appendix Table A.1 in the main paper. Data on mining safety violations, inspections, fatalities, production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Dependent variable =	$\frac{\text{Safety Violations}}{\text{Safety Inspections}_{ist}}$				$\frac{\text{Fatalities}}{\text{100,000 Hours}_{ist}}$	$\frac{\text{Production}}{\text{Hours}_{ist}}$	$\frac{\text{Production}}{\text{Employees}_{ist}}$
MSHA Prob. of Accident =	All	Low	Medium	High		N/A	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Mines with less than 15% of total firm production for at least 2 years							
Public owner$_{ist}$	6.937***	4.831***	1.409**	0.016	0.009	0.677**	1491.4**
	(1.781)	(1.719)	(0.581)	(0.023)	(0.006)	(0.282)	(667.6)
Number of firms	137	137	137	137	221	221	221
Observations	5,137	5,137	5,137	5,137	8,076	8,076	8,076
R^2	0.781	0.812	0.748	0.332	0.171	0.757	0.714
Panel B: Mines with less than 10% of total firm production for at least 2 years							
Public owner$_{ist}$	6.855***	4.877***	1.291**	0.011	0.010*	0.786**	1656.2**
	(1.912)	(1.754)	(0.617)	(0.026)	(0.006)	(0.305)	(743.5)
Number of firms	107	107	107	107	166	166	166
Observations	4,352	4,352	4,352	4,352	6,682	6,682	6,682
R^2	0.783	0.813	0.753	0.340	0.178	0.750	0.704
Panel C: Mines with less than 5% of total firm production for at least 2 years							
Public owner$_{ist}$	5.880***	4.347**	1.189	0.014	0.014***	0.849**	1724.6*
	(2.141)	(1.768)	(0.715)	(0.027)	(0.005)	(0.350)	(921.2)
Number of firms	65	65	65	65	94	94	94
Observations	3,243	3,243	3,243	3,243	4,741	4,741	4,741
R^2	0.782	0.810	0.745	0.335	0.175	0.739	0.686
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspection Office FE	Yes	Yes	Yes	Yes	No	No	No
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table IA.3: Alternative Specifications of Safety Violations. This table reports alternative specifications of the results of Table 3 in the main paper. In particular, Columns (1) through (4) of Panel A report the results of linear regressions models in which the dependent variable is the number of safety violations divided by *total* inspections at mine i, owned by ultimate parent s, during year t. Additionally, Columns (5) through (8) of Panel A report the results of linear regressions models in which the dependent variable is the total number of safety violations. Finally, Panel B report results in which the number of safety violations is normalized by employees, and employee-hours, respectively. The sample consists of publicly- and privately-owned U.S. coal mines over a sample period of 1993 through 2018. The independent variable of interest is *Public owner*$_{ist}$. In each set of four columns, the safety violations for constructing the dependent variables are split by the probability of an accident actually occurring, as deemed by the Mine Safety and Health Administration (MSHA) at the time of the citation for the safety violation. All variable definitions appear in Appendix Table A.1 in the main paper. Data on mining safety violations, inspections, production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A

Dependent variable =	Safety violations$_{ist}$				Safety violations/inspections$_{ist}$			
MSHA Prob. of Accident =	All	Low	Med.	High	All	Low	Med.	High
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Public owner$_{ist}$	107.706**	86.197**	21.868	-0.539	0.756	0.606***	0.165	-0.007
	(46.596)	(33.934)	(14.944)	(1.174)	(0.474)	(0.228)	(0.257)	(0.012)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspection office FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	728	728	728	728	728	728	728	728
Observations	11,373	11,373	11,373	11,373	11,373	11,373	11,373	11,373
R^2	0.817	0.802	0.744	0.353	0.658	0.669	0.592	0.318

Table IA.1 —*continued*

Panel B

Dependent variable =	Safety violations/100 employees$_{ist}$				Safety violations/100,000 employee-hours$_{ist}$			
MSHA Prob. of Accident =	All	Low	Med.	High	All	Low	Med.	High
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Public owner$_{ist}$	20.738***	14.888***	4.799	-0.095	8.868***	6.420***	2.614	-0.035
	(6.998)	(4.594)	(4.538)	(0.357)	(3.433)	(2.139)	(2.551)	(0.179)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspection office FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	728	728	728	728	728	728	728	728
Observations	11,373	11,373	11,373	11,373	11,373	11,373	11,373	11,373
R^2	0.685	0.685	0.637	0.374	0.699	0.681	0.670	0.394

Table IA.4: Cross-Sectional Differences in a Matched Sample. This table reports cross-sectional average treatment affects in a sample of public mines matched to three private neighbors on production, employees and employee hours. In each of the first four columns, the safety violations for constructing the dependent variables are split by the probability of an accident actually occurring, as deemed by the Mine Safety and Health Administration (MSHA) at the time of the citation for the safety violation. All variable definitions appear in Appendix Table A.1 in the main paper. Data on mining safety violations, inspections, fatalities, production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Data on withdrawn IPOs are from Thomson Reuters SDC. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Dependent variable =	$\frac{\text{Safety Violations}}{\text{Safety Inspections}_{ist}}$				$\frac{\text{Fatalities}}{\text{100,000 Hours}_{ist}}$	$\frac{\text{Production}}{\text{Hours}_{ist}}$	$\frac{\text{Production}}{\text{Employees}_{ist}}$
MSHA Prob. of Accident =	All	Low	Medium	High		N/A	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Public_{ist}	0.962***	0.950***	0.035	-0.004	-0.001	0.492***	1067.8**
	(0.171)	(0.119)	(0.070)	(0.003)	(0.001)	(0.038)	(94.8)
Year FE	No	No	No	No	No	No	No
Mine FE	No	No	No	No	No	No	No
Inspection office FE	No	No	No	No	No	No	No
Ultimate Parent FE	No	No	No	No	No	No	No
Nearest Neighbors used	3	3	3	3	3	3	3
Observations	12,870	12,870	12,870	15,909	24,053	24,053	24,053

Table IA.5: Robustness to the Consol Energy and ICGO IPOs and ICG's acquistion of Horizon Natural Resources. This table reports the results of linear regression models in which the dependent variable is the number of safety violations divided by safety inspections (Models (1) through (4)), the number of fatalities divided by 100,000 employee hours (Model(5)), or the total short tons of clean coal produced divided by employee hours (Model (6)) or average employees (Model (7)) at mine i, owned by ultimate parent s, during year t. This table further explores the sensitivity of our main results to two large IPOs (Consol Energy and ICGO) and one large acquisition (ICG's acquisition of Horizon Natural Resources) in 1999 and 2005. The sample consists of publicly and privately owned U.S. coal mines over a sample period of 1985 through 2018 for productivity and fatalities, and 1993 through 2018 for safety violations. The independent variable of interest is Public owner$_{ist}$. Data on mining fatalities, safety violations, inspections, production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Robust standard errors, clustered at the ultimate parent level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Dependent variable =	$\frac{\text{Safety Violations}}{\text{Safety Inspections}_{ist}}$				$\frac{\text{Fatalities}}{\text{100,000 Hours}_{ist}}$	$\frac{\text{Production}}{\text{Hours}_{ist}}$	$\frac{\text{Production}}{\text{Employees}_{ist}}$
MSHA Prob. of Accident =	All	Low	Medium	High		N/A	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Excluding the years 1999 and 2005							
Public owner$_{ist}$	8.169***	6.729***	1.885***	-0.007	0.012***	0.530***	1055.5***
	(1.783)	(1.694)	(0.538)	(0.050)	(0.004)	(0.199)	(407.4)
Number of firms	716	716	716	716	1,391	1,391	1,391
Observations	10,325	10,325	10,325	10,325	19,888	19,888	19,888
R^2	0.778	0.784	0.696	0.352	0.214	0.839	0.793
Panel B: Excluding Consol Energy, ICG, and Horizon Natural Resources							
Public owner$_{ist}$	6.076***	4.139***	1.862**	-0.063	0.011*	0.451*	1046.7*
	(1.684)	(1.227)	(0.893)	(0.058)	(0.006)	(0.272)	(616.2)
Number of firms	725	725	725	725	1,400	1,400	1,400
Observations	10,772	10,772	10,772	10,772	20,062	20,062	20,062
R^2	0.761	0.773	0.669	0.338	0.207	0.841	0.796
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspection office FE	Yes	Yes	Yes	Yes	No	No	No
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table IA.6: Alternative Specifications of Public Listing Status and Fatalities. This table reports alternative specifications of the results of Table 4 in the main paper. In particular, Columns (1) and (2) report the results of linear regressions models in which the dependent variable is the number of fatalities at mine i, owned by ultimate parent s, during year t. Additionally, Columns (3) through (4) report results in which only single-miner accident fatalities are included. The sample consists of publicly- and privately-owned U.S. coal mines over a sample period of 1985 through 2018. The independent variable of interest is Public owner$_{ist}$. All variable definitions appear in Appendix Table A.1 in the main paper. Data on mining fatalities, production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Robust standard errors, clustered at the firm level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Sample =	All fatalities$_{ist}$		Single-miner fatalities$_{ist}$	
	(1)	(2)	(3)	(4)
Public owner$_{ist}$	0.097**	0.098**	0.062***	0.061***
	(0.040)	(0.040)	(0.022)	(0.021)
log(Production$_{ist}$)		0.002		0.003
		(0.003)		(0.002)
log(Mines$_{st}$)		-0.007		-0.006
		(0.011)		(0.010)
Ultimate parent age$_{st}$		-0.016**		-0.013**
		(0.007)		(0.006)
Operator age$_{ist}$		0.011**		0.006
		(0.005)		(0.006)
Unionized$_{ist}$		-0.027**		-0.013
		(0.013)		(0.009)
Year FE	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes
Ultimate Parent FE	Yes	Yes	Yes	Yes
Number of firms	1,403	1,403	1,403	1,403
Observations	20,968	20,968	20,968	20,968
R^2	0.162	0.164	0.204	0.206

Table IA.7: Robustness to the Dodd-Frank Act. This table reports the results of linear regression models in which the dependent variable is the number of safety violations divided by safety inspections (Models (1) through (4)), the number of fatalities divided by 100,000 employee hours (Model(5)), or the total short tons of clean coal produced divided by employee hours (Model (6)) or average employees (Model (7)) at mine i, owned by ultimate parent s, during year t. This table further explores the effect of the 2011 Dodd-Frank Act, which required mine safety records to be included in financial reports. The sample consists of publicly and privately owned U.S. coal mines over a sample period of 1985 through 2018 for productivity and fatalities, and 1993 through 2018 for safety violations. The independent variable of interest is Public owner$_{ist}$. Data on mining fatalities, safety violations, inspections, production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Robust standard errors, clustered at the ultimate parent level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Dependent variable =	$\frac{\text{Safety Violations}}{\text{Safety Inspections}_{ist}}$				$\frac{\text{Fatalities}}{\text{100,000 Hours}_{ist}}$	$\frac{\text{Production}}{\text{Hours}_{ist}}$	$\frac{\text{Production}}{\text{Employees}_{ist}}$
MSHA Prob. of Accident =	All	Low	Medium	High		N/A	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Public owner$_{ist}$	8.030***	6.335***	2.010***	-0.002	0.014***	0.626***	1241.5***
	(1.601)	(1.530)	(0.495)	(0.045)	(0.004)	(0.213)	(466.5)
Dodd-Frank Act	-1.856**	-0.353	-1.292*	-0.005	-0.004	-0.553	-983.1
	(0.835)	(0.741)	(0.713)	(0.016)	(0.003)	(0.361)	(832.8)
log(Production$_{ist}$)	0.313	0.298	0.019	-0.007	0.002***		
	(0.259)	(0.182)	(0.095)	(0.004)	(0.001)		
log(Employees$_{ist}$)	2.629***	1.495***	1.031***	0.024***			
	(0.471)	(0.320)	(0.183)	(0.007)			
log(Hours$_{ist}$)	0.291	-0.056	0.342***	0.012**			
	(0.299)	(0.216)	(0.119)	(0.005)			
log(Mines$_{ist}$)	1.001	0.731	0.235	0.002	-0.005	-0.110	-89.7
	(0.869)	(0.849)	(0.291)	(0.010)	(0.004)	(0.132)	(293.6)
Ultimate parent age$_{ist}$	-1.150***	-0.092	-0.934***	-0.039***	-0.003	1.000***	453.8
	(0.407)	(0.340)	(0.280)	(0.007)	(0.002)	(0.344)	(763.9)
Operator age$_{ist}$	0.398	0.039	0.409	0.010*	0.001	-0.069	-128.5
	(0.374)	(0.174)	(0.294)	(0.006)	(0.001)	(0.082)	(201.3)
Unionized$_{ist}$	-0.331	-0.063	-0.246	-0.027**	-0.005	0.255***	535.9**
	(0.622)	(0.387)	(0.446)	(0.013)	(0.004)	(0.088)	(218.3)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspection office FE	Yes	Yes	Yes	Yes	No	No	No
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	728	728	728	728	1,403	1,403	1,403
Observations	11,373	11,373	11,373	11,373	20,968	20,968	20,968
R^2	0.771	0.777	0.689	0.337	0.207	0.837	0.791

Table IA.8: Subsample Splits Among Other Measures of Workplace Safety. This table reports the results of linear regression models for additional dependent variables at mine i, owned by ultimate parent s, during year t for the subsample analysis in the main paper. In Panel A, we split the sample into two subsamples based on the change in productivity (total tons of clean coal produced divided by employee hours per mine-year observation) over the life of the mine (the average productivity in the mine's last five producing years minus the average productivity in the mine's first five producing years). In Panel B, we split the sample into two subsamples based on whether the average annual coal price for each state and mine type increases or decreases from the previous year. Finally, in Panel C, we split the sample into two subsamples based on the distance (in miles) the mine is located from the ultimate parent headquarters. The independent variable of interest is *Public owner*$_{ist}$. All variable definitions appear in Appendix Table A.1 in the main paper. Data on average annual coal sale prices are available from the U.S. Energy Information Administration (EIA) back to 1993. Data on mining fatalities, safety violations, production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Robust standard errors, clustered at the ultimate level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A: Productivity Splits

Dependent variable =	$\frac{\text{Fatalities}}{100{,}000\ \text{Hours}}_{ist}$		$\frac{\text{Explosions}}{100{,}000\ \text{Hours}}_{ist}$		$\frac{\text{Days Lost}}{\text{Injury}}_{ist}$		$\log(1+\text{Fines}_{ist})$		Coal Dust Concentration$_{ist}$	
Productivity gain =	Big	Small	Big	Small	Big	Small	Big	Small	Big	Small
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Public owner$_{ist}$	0.019***	0.012	0.014*	-0.028	93.662***	93.214***	1.182***	0.056	-0.427	0.045
	(0.005)	(0.010)	(0.008)	(0.028)	(30.198)	(27.181)	(0.229)	(0.208)	(0.306)	(0.072)
log(Production$_{ist}$)	0.003***	0.002**	0.003**	0.002***	12.324	9.161	0.365	0.373***	1.059	-0.005
	(0.001)	(0.001)	(0.001)	(0.000)	(12.028)	(9.328)	(0.284)	(0.123)	(1.000)	(0.053)
log(Employees$_{ist}$)					8.515	24.405	-0.398	-0.152	0.059	0.459
					(21.906)	(14.944)	(0.248)	(0.222)	(0.566)	(0.555)
log(Hours$_{ist}$)					17.789	1.037	1.212***	1.134***	-0.896	-0.168
					(18.869)	(14.032)	(0.380)	(0.217)	(1.341)	(0.224)
log(Mines$_{st}$)	0.005	-0.015**	-0.004	0.002	-29.823	-62.326**	-0.301	0.186	1.159	-0.001
	(0.005)	(0.006)	(0.006)	(0.003)	(29.693)	(26.303)	(0.242)	(0.187)	(0.875)	(0.106)
Ultimate parent age$_{st}$		-0.002		0.003**		39.732***		-0.296**		-0.173
		(0.002)		(0.001)		(14.199)		(0.121)		(0.231)
Operator age$_{ist}$	0.001	0.001	0.002	0.004***	-2.516	9.968	0.016	-0.091	-2.342**	0.059*
	(0.001)	(0.002)	(0.003)	(0.001)	(6.417)	(9.608)	(0.060)	(0.152)	(1.017)	(0.035)
Unionized$_{ist}$	-0.006	0.001	-0.007	-0.005	-41.080**	-19.005	0.706	0.991	-0.901	0.285***
	(0.008)	(0.007)	(0.008)	(0.006)	(19.381)	(21.049)	(1.434)	(2.153)	(0.769)	(0.051)
F-stat (big—small)		0.33		3.36*		0.00		13.64***		1.95
(p-Value)		(0.567)		(0.067)		(0.993)		(0.000)		(0.164)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspection Office FE	No	No	No	No	No	No	Yes	Yes	No	No
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	203	646	203	646	203	646	102	340	101	316
Observations	4,306	10,246	4,306	10,246	4,306	10,246	1,407	4,192	1,345	3,872
R^2	0.120	0.218	0.585	0.428	0.142	0.209	0.802	0.769	0.147	0.345

Table IA.5 —*continued*

Panel B: Coal Price Splits

Dependent variable =	$\frac{\text{Fatalities}}{\text{100,000 Hours}}_{ist}$		$\frac{\text{Explosions}}{\text{100,000 Hours}}_{ist}$		$\frac{\text{Days Lost}}{\text{Injury}}_{ist}$	
Coal price (YOY) =	Increase (1)	Decrease (2)	Increase (3)	Decrease (4)	Increase (5)	Decrease (6)
Public owner$_{ist}$	0.008	0.023***	-0.009	0.012	99.718***	133.924**
	(0.013)	(0.006)	(0.015)	(0.008)	(36.335)	(61.102)
log(Production$_{ist}$)	0.003***	0.002	0.001*	-0.000	21.007	5.940
	(0.001)	(0.002)	(0.001)	(0.001)	(12.951)	(18.127)
log(Employees$_{ist}$)					64.881**	29.947
					(26.994)	(46.920)
log(Hours$_{ist}$)					-24.008	22.451
					(16.861)	(38.440)
log(Mines$_{st}$)	-0.008	-0.006	0.005	-0.004	-72.543**	-56.682
	(0.006)	(0.012)	(0.007)	(0.016)	(34.171)	(72.411)
Ultimate parent age$_{st}$	-0.002		-0.004*		22.996	
	(0.002)		(0.002)		(15.907)	
Operator age$_{ist}$	0.001	0.001	0.012***	0.000	19.369	-2.283
	(0.002)	(0.001)	(0.004)	(0.003)	(13.792)	(8.786)
Unionized$_{ist}$	0.004	-0.012	-0.002	-0.017	4.243	-34.673
	(0.025)	(0.010)	(0.019)	(0.016)	(35.234)	(31.818)
F-stat (decrease—increase)		1.12		3.30*		0.01
(p-Value)		(0.290)		(0.070)		(0.922)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	398	316	398	316	398	316
Observations	4,740	2,699	4,740	2,699	4,739	2,699
R^2	0.275	0.303	0.586	0.646	0.283	0.322

Table IA.5 —*continued*

Panel C: Headquarter Proximity Splits

Dependent variable =	$\frac{\text{Fatalities}}{100{,}000\ \text{Hours}_{ist}}$		$\frac{\text{Explosions}}{100{,}000\ \text{Hours}_{ist}}$		$\frac{\text{Days Lost}}{\text{Injury}_{ist}}$		$\log(1+\text{Fines}_{ist})$		Coal Dust Concentration$_{ist}$	
Distance from HQ =	Far	Near	Far	Near	Far	Near	Far	Near	Far	Near
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Public owner$_{ist}$	0.014**	0.020***	-0.009	0.013***	93.139***	111.723***	0.312	0.023	0.158	-0.325
	(0.007)	(0.005)	(0.018)	(0.003)	(24.841)	(22.356)	(0.323)	(0.265)	(0.207)	(0.269)
log(Production$_{ist}$)	0.004***	0.001*	0.004***	0.001**	6.523	12.229	0.313**	0.361**	0.093	0.479
	(0.001)	(0.001)	(0.001)	(0.000)	(12.549)	(9.126)	(0.153)	(0.179)	(0.236)	(0.463)
log(Employees$_{ist}$)					1.211	28.363	-0.227	-0.149	0.954	-0.012
					(12.563)	(17.298)	(0.325)	(0.212)	(1.342)	(0.143)
log(Hours$_{ist}$)					29.762	-4.326	1.268***	1.119***	-0.410	-0.582
					(19.185)	(13.893)	(0.324)	(0.241)	(0.715)	(0.611)
log(Mines$_{st}$)	-0.009	-0.004	-0.002	0.001	-36.539	-50.298	0.032	0.053	-0.163	0.755
	(0.006)	(0.006)	(0.006)	(0.002)	(22.600)	(32.647)	(0.220)	(0.416)	(0.256)	(0.980)
Ultimate parent age$_{st}$	-0.005		-0.002		6.165		-0.087		-0.413	
	(0.004)		(0.004)		(39.320)		(0.202)		(0.483)	
Operator age$_{ist}$	0.014	0.001	0.005	0.004	136.002	3.689	-0.367	0.071	0.007	-1.901
	(0.012)	(0.001)	(0.009)	(0.003)	(113.407)	(6.751)	(0.579)	(0.075)	(0.161)	(1.210)
Unionized$_{ist}$	-0.003	-0.005	-0.009	-0.007	-9.545	-42.707**	0.641	1.489	-0.371	0.326
	(0.008)	(0.007)	(0.010)	(0.004)	(18.534)	(20.026)	(1.338)	(2.269)	(0.626)	(0.240)
F-stat (near—far)		0.44		1.45		0.26		0.46		1.92
(p-Value)		(0.509)		(0.230)		(0.609)		(0.498)		(0.167)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspection Office FE	No	No	No	No	No	No	Yes	Yes	No	No
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	221	560	221	560	221	560	113	289	105	270
Observations	4,844	9,697	4,844	9,697	4,844	9,697	2,021	3,569	1,865	3,342
R^2	0.202	0.182	0.582	0.407	0.196	0.188	0.811	0.739	0.331	0.114

Table IA.9: Public Listing Status and Labor Utilization. This table reports the results of linear regression models in which the dependent variables are various specifications of labor utilization at mine i, owned by ultimate parent s, during year t. In particular, the dependent variables are the natural log of mine employees (Columns (1) and (2)), the natural log of employee-hours (Column (3) and (4)), and the number of employee-hours divided by employees (Columns (5) and (6)). The sample consists of publicly and privately owned U.S. coal mines over a sample period of 1985 through 2018. The independent variable of interest is *Public owner*$_{ist}$. All variable definitions appear in Appendix Table A.1 in the main paper. Data on mining production and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration (MSHA) published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Robust standard errors, clustered at the ultimate parent level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Dependent variable =	log(Employees$_{ist}$)		log(Hours$_{ist}$)		$\frac{\text{Hours}}{\text{Employees}}_{ist}$	
	(1)	(2)	(3)	(4)	(5)	(6)
Public owner$_{ist}$	0.083	0.008	0.103	-0.054	14.7	-75.8
	(0.087)	(0.056)	(0.078)	(0.039)	(54.2)	(82.4)
log(Production$_{ist}$)		0.323***		0.703***		413.4***
		(0.010)		(0.013)		(16.1)
log(Mines$_{st}$)		0.038		0.059**		15.7
		(0.031)		(0.026)		(36.5)
Ultimate parent age$_{st}$		0.468***		0.044*		-503.1***
		(0.107)		(0.026)		(58.6)
Operator age$_{ist}$		-0.023		0.013		29.8*
		(0.024)		(0.020)		(17.9)
Unionized$_{ist}$		-0.011		-0.068***		-56.2**
		(0.022)		(0.020)		(24.1)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of firms	1,403	1,403	1,403	1,403	1,403	1,403
Observations	20,968	20,968	20,968	20,968	20,968	20,968
R^2	0.887	0.943	0.791	0.955	0.508	0.747

Table IA.10: Stock Price Reaction to Fatal Accidents Among Public Firm. This table reports cumulative abnormal returns (CARs) for a variety of event windows around the announcement of a fatal accident. CARs are estimated using a market model. Daily raw excess returns are calculated from daily price data taken from CRSP and data on the return of the market portfolio from Ken French's website. Data on the dates of fatal accidents are from the Mine Safety and Health Administration (MSHA). *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Event Window	CAR	T-Statistic	p-Value
[0]	-0.003	-1.57	0.116
[-1,1]	-0.006^{**}	-2.20	0.028
[-2,2]	-0.008^{**}	-2.34	0.019
[0,5]	-0.011^{***}	-2.76	0.006
[0,10]	-0.014^{***}	-2.64	0.008

Table IA.11: Placebo Coal Price Drops: Assigning Price Drops Two Years Before Actual Drop. This table reports the results of linear regression models in which the dependent variable is either the total number of fatalities or the natural log of one plus the number of safety violations at mine i, owned by ultimate parent s, during year t (Panel A), or the natural log of the total tons of clean coal produced divided by employee hours or the natural log of the total tons of clean coal produced divided by the average number of employees at mine i, owned by ultimate parent s, during year t (Panel B). The sample consists of publicly- and privately-owned U.S. coal mines over a sample period of 1993 through 2018. Similar to Table 7 in the main paper, we split the sample into two subsamples based on whether the average annual coal price for each state and mine type increases or decreases from the previous year. However, in order to test the parallel trends, we assign each observation the coal price change from two years prior. To avoid conflating tradeoff effects from large price increases, we drop observations in which the year-over-year price increase is larger than 30%. This is equivalent to winsorizing (without replacement) at the 99% level. The independent variable of interest is Public owner$_{ist}$. In Columns (3) through (8), the safety violations for constructing the dependent variables are split by the probability of an accident actually occurring, as deemed by the Mine Safety and Health Administration (MSHA) at the time of the citation for the safety violation. All variable definitions appear in Appendix Table A.1 in the main paper. Data on average annual coal sale prices are available from the U.S. Energy Information Administration (EIA) back to 1993. Data on mining fatalities, safety violations, production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Robust standard errors, clustered at the ultimate level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Panel A

Dependent variable =	$\frac{\text{Safety Violations}}{\text{Safety Inspections}_{ist}}$							
MSHA Prob. of Accident =	All		Low		Medium		High	
Coal price (YOY) =	Increase	Decrease	Increase	Decrease	Increase	Decrease	Increase	Decrease
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Public owner$_{ist}$	5.437***	7.119**	4.937***	6.097***	1.084	1.268	-0.019	0.041*
	(1.574)	(3.139)	(1.107)	(1.345)	(1.136)	(1.571)	(0.046)	(0.024)
log(Production$_{ist}$)	0.365	0.357	0.265*	0.508**	0.141	-0.148	-0.005	-0.002
	(0.225)	(0.400)	(0.156)	(0.250)	(0.107)	(0.188)	(0.004)	(0.007)
log(Employees$_{ist}$)	2.249***	1.951***	1.255***	0.726	0.953***	1.098***	0.021***	0.027**
	(0.548)	(0.624)	(0.358)	(0.455)	(0.223)	(0.298)	(0.007)	(0.012)
log(Hours$_{ist}$)	0.401	0.359	0.032	-0.119	0.309**	0.440*	0.013**	0.003
	(0.309)	(0.491)	(0.214)	(0.324)	(0.151)	(0.227)	(0.006)	(0.010)
log(Mines$_{st}$)	1.705**	0.983	0.620	0.953	0.811	-0.051	0.024	-0.038***
	(0.795)	(1.613)	(0.767)	(0.958)	(0.528)	(0.626)	(0.015)	(0.012)
Ultimate parent age$_{st}$	-34.306***		-3.667		-30.096***		-0.644***	
	(12.021)		(8.530)		(4.870)		(0.185)	
Operator age$_{ist}$	0.149	0.657	-0.109	0.485	0.248	0.234	0.009*	0.006
	(0.272)	(1.105)	(0.294)	(0.605)	(0.157)	(0.600)	(0.005)	(0.005)
Unionized$_{ist}$	0.231	-1.337	0.692*	-0.378	-0.380	-0.727	-0.039*	-0.016
	(0.935)	(0.828)	(0.417)	(0.799)	(0.680)	(0.682)	(0.021)	(0.021)
Non-safety inspections$_{st}$	0.160***	0.184***	0.092***	0.138***	0.063***	0.058***	0.001***	0.001**
	(0.023)	(0.044)	(0.016)	(0.032)	(0.011)	(0.021)	(0.000)	(0.001)
F-stat (decrease—increase)		0.20		0.67		0.01		1.54
(p-Value)		(0.656)		(0.413)		(0.938)		(0.215)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspection Office FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ultimate Parent FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Number of firms	489	473	489	473	489	473	489	473
Observations	5,840	3,369	5,840	3,369	5,840	3,369	5,840	3,369
R^2	0.774	0.845	0.773	0.859	0.709	0.766	0.385	0.449

Table IA.7 —*continued*

Panel B

Dependent variable =	$\frac{\text{Production}}{\text{Hours}}_{ist}$		$\frac{\text{Production}}{\text{Employees}}_{ist}$	
Coal price placebo (YOY) =	Increase	Decrease	Increase	Decrease
	(1)	(2)	(3)	(4)
Public owner$_{ist}$	0.274	-0.216	390.9	-159.9
	(0.3)	(0.3)	(720.5)	(666.1)
log(Mines$_{st}$)	-0.006	-0.093	34.7	156.0
	(0.2)	(0.2)	(755.4)	(531.9)
Ultimate parent age$_{st}$	77.437***		168239.8***	
	(2.6)		(7293.7)	
Operator age$_{ist}$	-0.081	-0.014	-152.8	160.9
	(0.1)	(0.2)	(206.9)	(441.3)
Unionized$_{ist}$	0.584***	0.173	1921.2***	1897.0***
	(0.2)	(0.3)	(724.9)	(720.7)
Non-safety inspections$_{st}$				
F-stat (decrease—increase)		1.32		0.27
(p-Value)		(0.251)		(0.605)
Year FE	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes
Ultimate Parent FE	Yes	Yes	Yes	Yes
Number of firms	489	473	489	473
Observations	5,841	3,369	5,841	3,369
R^2	0.794	0.823	0.737	0.775

Table IA.12 Robustness to Other Classifications of Large Changes in Inspector Proximity. This table reports additional results of stacked linear regression difference-in-difference models surrounding changes in the inspection office assigned for overseeing mine safety. In particular, this table examines alternative classifications of what constitutes a large proximity change. The dependent variable is either number of safety violations divided by the number of safety inspections, or the total short tons of clean coal produced divided by employee hours (Model (5)) or the number of employees (Model (6)) at mine i, owned by ultimate parent s, during year t. The sample consists of publicly- and privately-owned U.S. coal mines over a sample period of 1993 through 2018 for safety violations, and 1985 through 2018 for productivity. $Post_t$ is equal to 1 if a mine's inspection office has changed as of time t, and 0 otherwise. In Panel A, $Change_i$ is equal to -1 for an inspection office change to an office at least 50 miles closer to the mine, 1 for an inspection office change to an office at least 70 miles further from the mine, and 0 otherwise. In Panel B, $Change_i$ is equal to -1 for an inspection office change to an office at least 70 miles closer to the mine, 1 for an inspection office change to an office at least 50 miles further from the mine, and 0 otherwise. The independent variable of interest is $MSHA\ proximity\ change_i t \times public\ owner_{ist}$. All variable definitions appear in Appendix Table A.1 in the main paper. Data on mining safety violations, inspections production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration (MSHA) published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. Robust standard errors, clustered at the ultimate level, are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Dependent variable =	$\frac{\text{Safety Violations}}{\text{Safety Inspections}}_{ist}$				$\frac{\text{Production}}{\text{Hours}}_{ist}$	$\frac{\text{Production}}{\text{Employees}}_{ist}$
MSHA Prob. of Accident =	All	Low	Medium	High	N/A	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Indicator if /proximity change/ $\geq$ 50 miles						
MSHA proximity change$_{it}$	10.136***	6.953***	3.172***	-0.039	1.523	2042.4
$\times$ post$_t$ $\times$ public owner$_{ist}$	(2.278)	(1.503)	(0.808)	(0.039)	(1.566)	(3005.2)
Number of firms	467	467	467	467	475	475
Observations	63,906	63,906	63,906	63,906	65,080	65,080
R^2	0.817	0.827	0.741	0.363	0.858	0.797
Panel B: Indicator if /proximity change/ $\geq$ 70 miles						
MSHA proximity change$_{it}$	5.872**	4.328***	1.555*	-0.011	1.760	2275.9
$\times$ post$_t$ $\times$ public owner$_{ist}$	(2.287)	(1.431)	(0.872)	(0.021)	(1.821)	(3495.3)
Number of firms	467	467	467	467	475	475
Observations	65,246	65,246	65,246	65,246	66,448	66,448
R^2	0.817	0.828	0.741	0.363	0.856	0.794
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year $\times$ Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Mine $\times$ Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Inspection Office $\times$ Cohort FE	Yes	Yes	Yes	Yes	No	No
Ultimate Parent $\times$ Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes

Table IA.13 Private-to-Public Acquisitions and Mine-Level Productivity, Fatalities, and Safety Violations. This table reports the results of linear regression models in which the dependent variable is the number of safety violations divided by safety inspections (Models (1) through (4)), the number of fatalities divided by 100,000 employee hours (Model(5)), or the total short tons of clean coal produced divided by employee hours (Model (6)) or average employees (Model (7)) at mine i, owned by ultimate parent s, during year t. The sample consists of publicly- and privately-owned U.S. coal mines over a sample period of 1985 through 2018 for productivity and fatalities, and 1993 through 2018 for safety violations. The dependent variable of interest is $Private\text{-}to\text{-}public_{is} \times post_t$. The matched sample is created using a nearest neighboring procedure on the average production, employees, and employee hours in the three years prior to acquisition. In Columns (1) through (4), the safety violations for constructing the dependent variables are split by the probability of an accident actually occurring, as deemed by the Mine Safety and Health Administration (MSHA) at the time of the citation for the safety violation. We require mine-year observations (1) to be in the five years before or after the acquisition, (2) to be owned by either the target or the acquirer (i.e., if the mine is acquired and quickly resold, we exclude the new owner's mine-year observations), (3) be from matches under a matched distance of 1, and (4) be actively producing coal. All variable definitions appear in Appendix Table A.1 in the main paper. Data on safety violations, inspections, fatalities production, and employment, as well as ultimate mine ownership and mining acquisitions, are from the Mine Safety and Health Administration (MSHA) published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Dependent variable =	$\frac{\text{Safety Violations}}{\text{Safety Inspections}_{ist}}$				$\frac{\text{Fatalities}}{\text{100,000 Hours}_{ist}}$	$\frac{\text{Production}}{\text{Hours}_{ist}}$	$\frac{\text{Production}}{\text{Employees}_{ist}}$
MSHA Prob. of Accident =	All	Low	Medium	High		N/A	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Private-to-Public × Post	1.719	1.635*	0.046	0.008	0.002	0.445*	1658.2**
	(1.339)	(0.932)	(0.550)	(0.028)	(0.006)	(0.255)	(835.5)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Event Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mine FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspection office FE	Yes	Yes	Yes	Yes	No	No	No
Number of mines	185	185	185	185	294	294	294
Observations	937	937	937	937	1,472	1,472	1,472
R^2	0.757	0.771	0.705	0.362	0.234	0.804	0.767

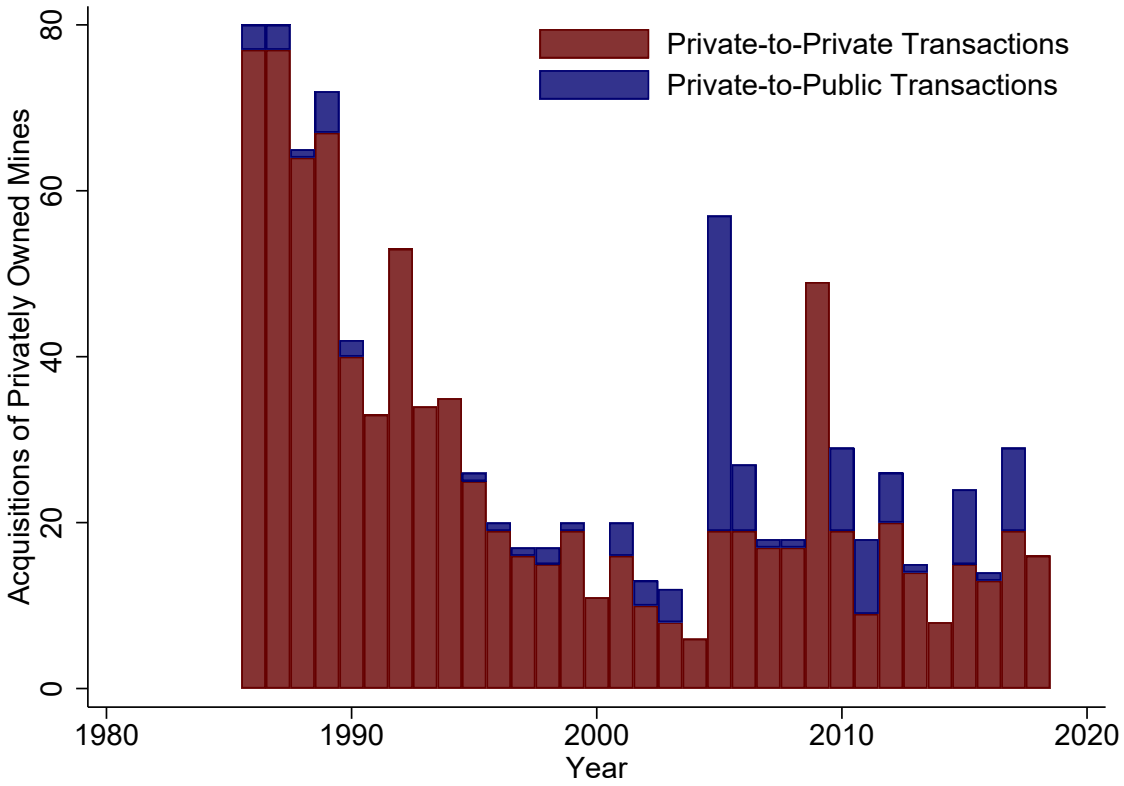

Figure IA.1: Annual Number of Private-to-Public Transactions. This figure displays the annual number of mines changing ownership via acquisition over a sample period of 1985 through 2018. The blue bars depict mines that change ownership from a private to a public firm, while the red bars depict mines that change ownership from a private firm to a different private firm. Data on ultimate mine ownership and mining acquisitions are from the Mine Safety and Health Administration (MSHA) published through an Open Government Initiative. Data on listing status are hand-collected from firm filings, CRSP, CapitalIQ, and data on IPO dates from Jay Ritter's website.