Product Market Threats and Stock Crash Risk

Internet Appendix

November 2017

Abstract

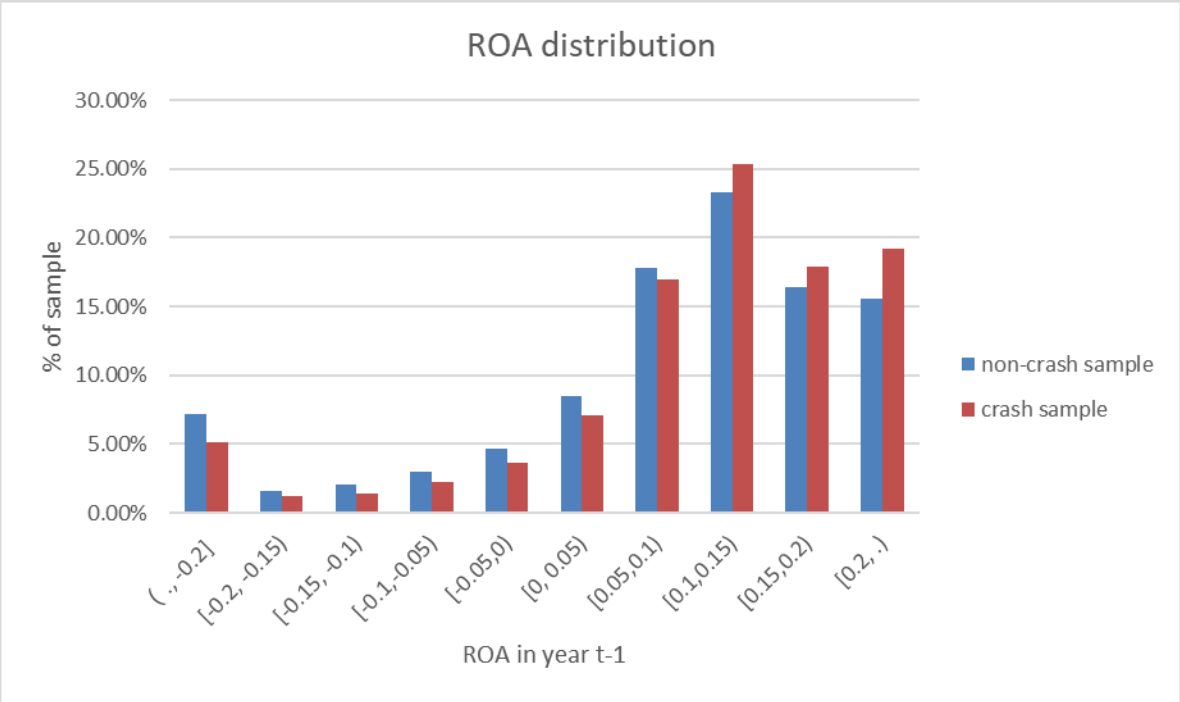
This online appendix presents additional figures and tables analyzed in the paper. Figure A1 plots the earnings distributions of sample firms, emphasizing the distributional differences between the crash sample and the non-crash sample. The graphs find that the earnings of the crash sample are inflated before crash and then shifted downward after crash. Table A1 includes the detailed definitions of all the variables used in the paper. Tables A2, A3, and A4 provide some summary statistics of the variables used in the main test, the IV test, and the natural experiment. Tables A5 and A6 include the robustness tests based on different model specifications and variable definitions. Table A7 contains the subsample analysis conditional on institutional ownership, finding that the impact of competition on crash risk is stronger in firms with lower institutional holdings. Table A8 investigates the long-run impact of competition on crash risk, and finds that competition impacts not only shorter-term (such as one-year-ahead) crash risk (as in Tables 2 and 3), but also longer-term (for example, three-year-ahead) crash risk. The effect, however, diminishes over the years. The result emphasizes a lasting impact of competitive threats on crash risk.

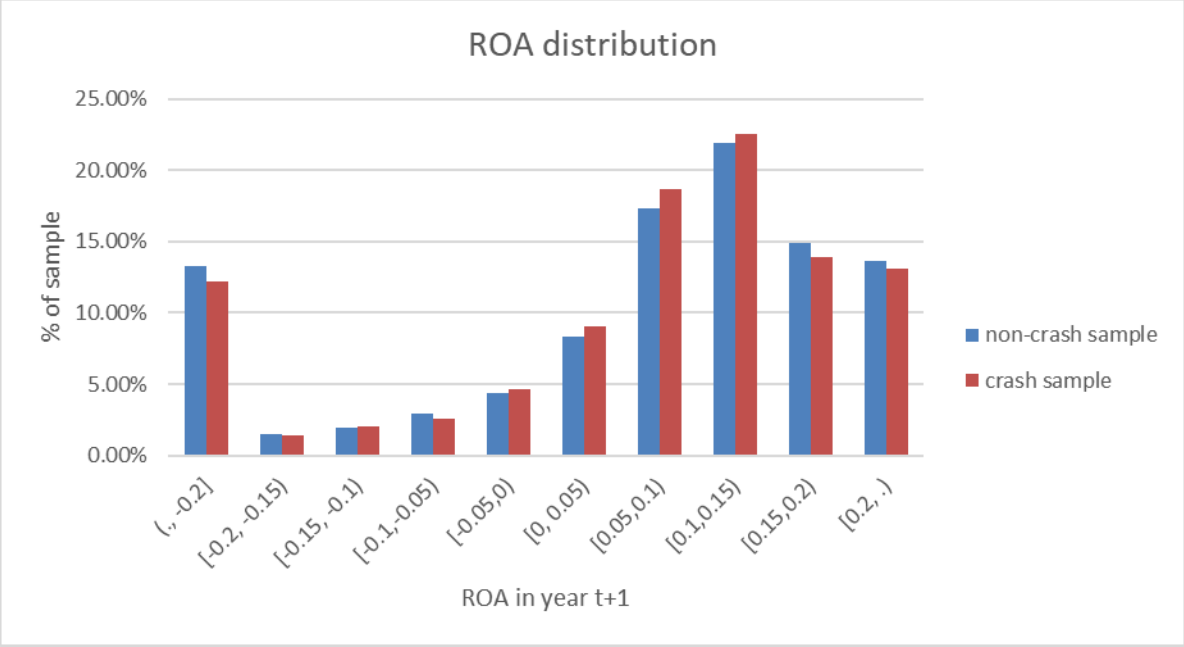
Online Appendix Figure A1

Roa Distributions

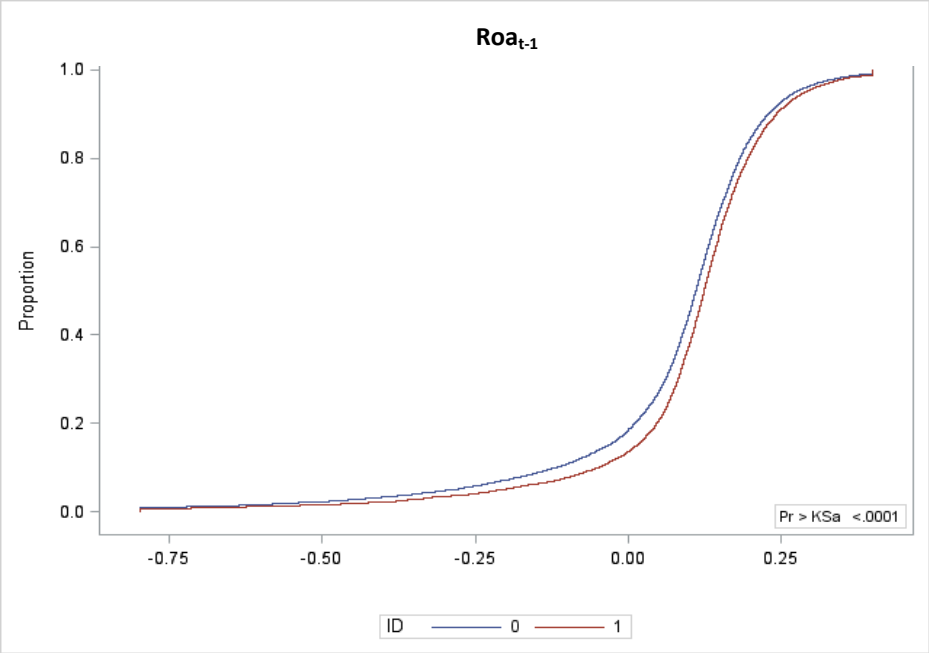
The figure presents the Roa distributions of the sample.

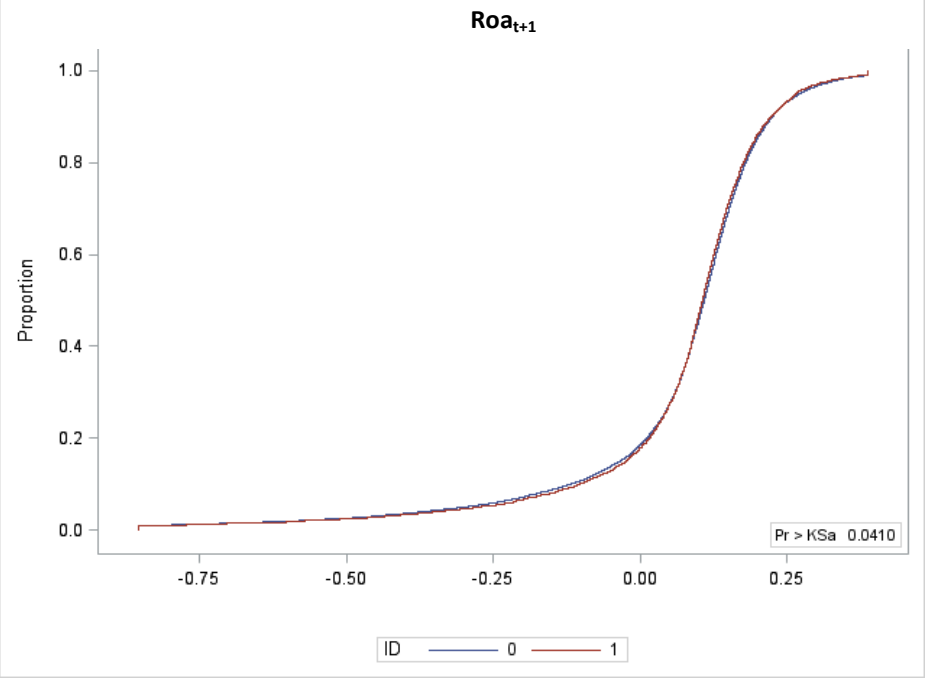
Panel A: Roa distributions of crash versus non-crash groups





Panel B: Cumulative distribution functions of Roa of crash (ID=1) versus non-crash (ID=0) groups





Online Appendix Table A1
Variable Definitions

Variables Used in Regression Analysis

	Variable Type	Definition
Ncskew	Main dependent variable	The negative skewness of firm-specific weekly returns over the year ending three months after fiscal year end. The firm-specific weekly return is $W_{i,t} = \ln(1+\varepsilon_{i,t})$, with the residual $\varepsilon_{i,t}$ estimated from the expanded market model regression: $r_{i,t} = \alpha_i + \beta_{1i} r_{m,t-2} + \beta_{2i} r_{m,t-1} + \beta_{3i} r_{m,t} + \beta_{4i} r_{m,t+1} + \beta_{5i} r_{m,t+2} + \varepsilon_{it}$, where $r_{i,t}$is the return on stock i in week t, and $r_{m,t}$ is the return on the CRSP value weighted market index in week t. Ncskew for year s is then computed below: $Ncskew_{is} = -\frac{n(n-1)^{3/2}\sum W_{it}^3}{(n-1)(n-2)(\sum W_{it}^2)^{3/2}}$, where n is the number of observations on weekly returns during year s.
Crash	Main dependent variable	An indicator variable equaling one for a firm-year (the year ending 3 months after fiscal year end) that experiences one or more crash weeks. We define the crash week as the week in which the firm's weekly return $W_{i,t}$ is 3.2 standard deviations below the mean firm-specific weekly returns over the entire fiscal year for this firm. Following Kim, Li, and Zhang (2011a,b), 3.2 is chosen so that the crash events account for 0.07% of frequency in the normal distribution.
Fluidity	Main independent variable	The product market fluidity variable obtained from Hoberg-Phillips Data Library. Fluidity is a "cosine" similarity between a firm's products and the changes in the rivals' products and is scaled between 0 and 1. Larger fluidity indicates greater product market threats. Details are in Hoberg, Phillips, and Prabhala (2014).
r_Fluidity	Alternative independent variable	The decile rank of *Fluidity*. In each fiscal year, we obtain the decile rank of the sample firms based on their *Fluidity* levels and scale the ranks to be in the interval (0,1].
Pctcomp	Alternative independent variable	Number of occurrences of competition-related words per 1,000 total words in the 10-K. This variable is from Feng Li's website at http://webuser.bus.umich.edu/feng/.
r_comp	Alternative independent variable	The decile rank of *Pctcomp*, computed each year and scaled to be in (0,1].
Exrt	IV	Industry-level (three-digit SIC) foreign exchange rate (dollar amount of foreign currency in U.S. dollars), computed as the source-weighted average of real exchange rates across all exporting countries, divided by 1,000 (Xu, 2012). For example, if one U.S. dollar is worth 1.09 Canadian dollars, then we use 0.00109 in calculating *Exrt*. An increase in *Exrt* indicates depreciation in foreign currency. Raw exchange rate data come from the International Financial Statistics of the International Monetary Fund (IMF), and is converted into the real rate using the exchanging countries' consumer price indices obtained from the IMF. The weights are the share of each exporting country in the three-digit SIC industry in 1997. We choose 1997 as the base year as our sample begins in 1998. The

		weights are fixed over time because according to Xu (2012), most industries have stable import shares by country.
Tariff	IV	Industry-level tariff rate. This variable is the yearly average of ad valorem tariff rate, which is the duties collected by the U.S. customs divided by the free-on-board value of imports at three-digit SIC level.
Dturn	Control variable	Average monthly share turnover over the current fiscal year period minus average monthly share turnover over the previous fiscal year period. Monthly share turnover is calculated as the monthly trading volume divided by the total number of shares outstanding during the month.
Sigma	Control variable	Standard deviation of firm-specific weekly returns during the fiscal year.
Ret	Control variable	Average firm-specific weekly returns over the fiscal year period, times 100.
Size	Control variable	Log of a firm's total assets.
Mb	Control variable	Market value of equity divided by book value of equity.
Lev	Control variable	Total debt divided by market value of assets.
Roa	Control variable	Income before extraordinary items divided by total assets.
Fog	Analysis on information withholding	The Fog index of annual financial report. Fog is equal to 0.4×(words per sentence + percent of complex words), where complex words are words with three syllables or more. A higher Fog index indicates less readable financial report. This measure is developed by Li (2008) and available from Feng Li's website.
NegFlesch	Analysis on information withholding	The negative of the Flesch Reading Ease Index. The Flesch Reading Ease index is calculated as 206.835-(1.015×words per sentence)-(84.6×syllables per word). The higher the Flesch index, the easier the text is. This measure is available from Feng Li's website. See Li (2008) for details on the measure. We use the negative of the Flesch index so that a higher NegFlesch indicates lower readability.
Kincaid	Analysis on information withholding	The Kincaid index is calculated as (11.8×syllables per word) + (0.39×words per sentence) – 15.59. The higher the Kincaid index, the more difficult the text is. This measure is available from Feng Li's website. See Li (2008) for details on the measure.
Length	Analysis on information withholding	Log of the number of words in the annual report. This measure is developed by Li (2008) and available from Feng Li's website.
Pos_num	Analysis on information withholding	We obtain managers' forecasts of quarterly EPS from First Call, and compare these forecasts with analyst consensus for the same period. We categorize managers' earnings forecasts as positive (negative) if managers' forecasts are higher (lower) than analyst consensus. Pos_num is defined as the number of managers' positive forecasts for the year.
Neg_num	Analysis on information withholding	Neg_num is defined as the number of managers' negative forecasts for the year. Managers' earnings forecasts are categorized as negative if managers' forecasts are lower than analyst consensus.

Neg_pct	Analysis on information withholding	Neg_pct is defined as the percent of managers' negative forecasts out of the total number of managers' earnings forecasts for the year. Managers' earnings forecasts are categorized as negative if managers' forecasts are lower than analyst consensus.
EPS_t/P_{t-1}	Basu (1997) regression	Dependent variable in Basu (1997) regression. Defined as earnings per share (before extraordinary items) scaled by fiscal-year-beginning share price.
Aret	Basu (1997) regression	Annual stock returns, measured as 12-month compound returns beginning 9 months prior to fiscal year end.
NegD	Basu (1997) regression	Negative return indicator, defined as one if annual stock returns are less than zero.
Market Share	Subsample analysis	Proportion of a firm's sales in the three-digit SIC industry.
TNIC3HHI	Subsample analysis	Herfindahl index based on text-based network industry classifications (TNIC), from Hoberg-Phillips Data Library (http://cwis.usc.edu/projects/industrydata/). A higher TNIC3HHI indicates a greater concentration in the text-based network industry.
HP Index	Subsample analysis	Hadlock and Pierece (2010) financial constraint index. HP Index for firm i in fiscal year t is computed below: $HP_{i,t} = -0.737 \times Size_{i,t} - 0.043 \times Size_{i,t}^2 - 0.040 \times Age_{i,t}$, where *Size* is log(inflation-adjusted book assets) (capped at log($4.5 billion), and *Age* is the current year minus the first year that the firm has a non-missing stock price on Compustat (winsorized at 37 years). The cap of log($4.5 billion) and the winsorization of 37 years follow from footnote 2 in Hadlock and Pierece (2010). Higher HP index indicates more financial constraints.
WW Index	Subsample analysis	Whited and Wu (2006) financial constraint index. WW Index for firm i in fiscal year t is computed below: $WW_{i,t} = -0.091 \times \frac{CashFlow_{i,t}}{Asset_{i,t-1}} - 0.062 \times Dividend_{i,t} + 0.021 \times Leverage_{i,t} - 0.044 \times Log(AT_{i,t}) + 0.102 \times IndustrySalesGrowth_{i,t} - 0.035 \times FirmSalesGrowth_{i,t}$, where *CashFlow* is operating cash flows, *dividend* is an indicator that equals one if the firm pays cash dividends, *leverage* is the ratio of long term debt to total assets, *AT* is total assets, and *industry sales growth* is the average sales growth of all firms in the same 3-digit SIC industry. Higher WW index indicates more financial constraints.
Dividend	Subsample analysis	An indicator variable equal to 1 if the firm has a non-zero cash dividend in the year and zero otherwise.
Old	Subsample analysis	An indicator variable equal to 1 if the firm's age is greater than the sample median, and zero otherwise.
Large	Subsample analysis	An indicator variable equal to 1 if the firm is larger than the sample median, and zero otherwise.

High Ret_vol	Subsample analysis	An indicator variable equal to 1 if the firm's stock return volatility is higher than the sample median, and zero otherwise.

Variables Used in Natural Experiment

Ncskew_Dif	Main dependent variable	The difference between the average of *Ncskew* three years after the tariff reduction (Ncskew_Post) and the average of *Ncskew* three years before (Ncskew_Pre).
Crash_Dif	Main dependent variable	The difference between the proportion of crash years during the three years after the tariff reduction (Crash_Post) and that during the three years before (Crash_Pre).
lag_dturn	Matching variable	*Dturn* averaged over the three years before the tariff reduction.
lag_sigma	Matching variable	*Sigma* averaged over the three years before the tariff reduction.
lag_ret	Matching variable	*Ret* averaged over the three years before the tariff reduction.
lag_size	Matching variable	*Size* averaged over the three years before the tariff reduction.
lag_mb	Matching variable	*MB* averaged over the three years before the tariff reduction.
lag_lev	Matching variable	*Lev* averaged over the three years before the tariff reduction.
lag_roa	Matching variable	*Roa* averaged over the three years before the tariff reduction.
Ncskew_Pre	Matching variable	*Ncskew* averaged over the three years before the tariff reduction.

Online Appendix Table A2
Correlations of Main Variables

The table reports the correlation matrix for crash risk, product market threats, and control variables. The measures of crash risk are *Crash* and *Ncskew*. The main measure for product market threats is *Fluidity* developed by Hoberg, Phillips, and Prabhala (2014). The alternative competition measures include *r_Fluidity*, *pctcomp*, and *r_comp*. The sample contains 27,995 unique firm-years for 4,759 publicly traded U.S. firms over the period from 1998 to 2009. Variable definitions are in the Appendix of the paper. All variables are winsorized at 1% and 99%. In Panel B, p-values are in parentheses.

Pairwise Correlations

	Crash	Ncskew	Fluiditiy	r_Fluidity	Pctcomp	r_comp	Dturn	Ncskew	Sigma	Ret	Size	MB	Lev
$Crash_t$	1												
$Ncskew_t$	0.64	1											
	(0.00)												
$Fluidity_{t-1}$	0.03	0.05	1										
	(0.00)	(0.00)											
$r\_Fluidity_{t-1}$	0.03	0.05	0.95	1									
	(0.00)	(0.00)	(0.00)										
$Pctcomp_{t-1}$	0.00	0.00	0.12	0.14	1								
	(0.69)	(0.94)	(0.00)	(0.00)									
r_comp_{t-1}	0.03	0.01	0.16	0.18	0.77	1							
	(0.00)	(0.18)	(0.00)	(0.00)	(0.00)								
$Dturn_{t-1}$	0.03	0.07	-0.01	-0.01	-0.05	-0.04	1						
	(0.00)	(0.00)	(0.17)	(0.24)	(0.00)	(0.00)							
$Ncskew_{t-1}$	0.02	0.04	0.04	0.05	-0.02	0.01	0.02	1					
	(0.00)	(0.00)	(0.00)	(0.00)	(0.02)	(0.38)	(0.01)						
$Sigma_{t-1}$	-0.05	-0.05	0.27	0.29	0.32	0.17	0.12	0.02	1				
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)					
Ret_{t-1}	0.05	0.06	-0.23	-0.25	-0.28	-0.14	-0.14	0.03	-0.96	1			
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)				
$Size_{t-1}$	0.05	0.12	-0.08	-0.08	-0.29	-0.26	0.07	0.14	-0.47	0.41	1		
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)			
Mb_{t-1}	0.06	0.11	0.29	0.27	0.11	0.11	0.16	-0.01	0.12	-0.12	-0.11	1	
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.26)	(0.00)	(0.00)	(0.00)		
Lev_{t-1}	-0.05	-0.07	-0.19	-0.19	-0.11	-0.21	-0.01	-0.02	-0.01	0.02	0.21	-0.40	1
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.21)	(0.00)	(0.03)	(0.00)	(0.00)	(0.00)	
Roa_{t-1}	0.06	0.09	-0.37	-0.32	-0.08	-0.11	0.08	0.06	-0.39	0.38	0.36	-0.14	0.10
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)

Online Appendix Table A3
Summary Statistics of the Sample Used in IV Regressions

Because the instrumental variables used are available for manufacturing firms (SIC 2000-3999) only, the 2SLS regressions are conducted on manufacturing firms. This table summarizes this sample and the statistics can be compared with those of the full sample. Variable definitions are in the Appendix of the paper.

Variable	Obs	Mean	Std	p25	Median	p75
$Crash_t$	11955	0.183	0.387	0	0	0
$Ncskew_t$	11955	-0.016	0.822	-0.488	-0.047	0.403
$Fluidity_{t-1}$	11955	0.394	0.212	0.232	0.351	0.513
$Dturn_{t-1}$	11955	0.004	0.104	-0.024	0	0.027
$Sigma_{t-1}$	11955	0.069	0.035	0.043	0.062	0.088
Ret_{t-1}	11955	-0.296	0.311	-0.383	-0.191	-0.09
$Size_{t-1}$	11955	5.469	1.931	4.024	5.296	6.757
Mb_{t-1}	11955	2.215	1.871	1.135	1.566	2.512
Lev_{t-1}	11955	0.132	0.147	0.004	0.084	0.212
Roa_{t-1}	11955	0.06	0.199	0.027	0.11	0.167
$Tariff_{t-1}$	11955	0.011	0.019	0.001	0.004	0.012
$Exrt_{t-1}$	11955	0.108	0.089	0.052	0.076	0.135

Online Appendix Table A4
Balance Test Results from Natural Experiments

In the difference-in-differences analysis of the impact of reduced tariff rates on stock crash risk using, whe sample contains 1,456 unique firm-year observations that experience exogenous reduction in industry tariff rate. The firms are matched with control firms by year, size, market-to-book, leverage and ROA, based on the nearest-neighbor matching method. After matching, the sample contains 695 unique treatment firms and 620 unique control firms from 1990 to 2005. This table is the balance test results and shows that the matched firms do not differ significantly from the treatment firms. Variable definitions are in the Appendix of the paper. All variables are winsorized at 1% and 99% level.

	Mean Treatment (# of Obs = 1,456)	Mean Matched (# of Obs = 1,456)	Difference	T-stat
lag_size	5.31	5.54	-0.23	-0.57
lag_mb	2.35	2.59	-0.24	-1.46
lag_lev	0.19	0.19	0.00	-1.09
lag_roa	0.10	0.08	0.02	0.62
lag_ret	-0.27	-0.28	0.01	0.71
lag_sigma	0.06	0.07	0.00	0.98
lag_dturn	0.01	0.01	0.00	0.62
lag_ncskew	-0.09	-0.08	-0.01	-1.02

Online Appendix Table A5

Crash Risk Measures Controlling for Industry Returns

The table reports the regression results on the effect of the competitive pressure *Fluidity* on firm crash risk. In Column (1) and (2), the crash variables are constructed using market-adjusted returns (Equation 1). These are the baseline regression results from Table 2 Panel A, Column (1) and Panel B, Column (1). In Column (3) and Column (4), we control for industry returns besides market returns in Equation (1) and use the residuals to construct the crash risk variables. The resulting crash measures are thus more likely to be firm-specific, with the industry-level factors being removed. This better captures the firm-level competitive effect (where one firm in an industry faces more competitive threats than another firm in the same industry), rather than an industry-level effect (where there is more competition in one industry than another). Variable definitions are in the Appendix of the paper. Standard errors adjusting for heteroskedasticity and within-firm clustering are in brackets. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

	Main regression results (crash measure based on the residuals from the market model)		Crash measure based on the residuals from the model controlling for Fama French 48 industry portfolios	
Variables	(1) Crash	(2) Ncskew	(3) Crash	(4) Ncskew
$Fluidity_{t-1}$	0.066***	0.166***	0.045***	0.156***
	[0.015]	[0.033]	[0.016]	[0.033]
$Dturn_{t-1}$	0.093***	0.298***	0.121***	0.295***
	[0.023]	[0.048]	[0.023]	[0.049]
$Ncskew_{t-1}$	0.003	0.008	0.004	0.008
	[0.003]	[0.007]	[0.003]	[0.007]
$Sigma_{t-1}$	0.947***	4.633***	1.172***	4.720***
	[0.305]	[0.600]	[0.314]	[0.603]
Ret_{t-1}	0.131***	0.502***	0.138***	0.483***
	[0.032]	[0.059]	[0.033]	[0.059]
$Size_{t-1}$	0.008***	0.055***	0.010***	0.054***
	[0.002]	[0.004]	[0.002]	[0.003]
Mb_{t-1}	0.007***	0.037***	0.007***	0.035***
	[0.002]	[0.003]	[0.002]	[0.003]
Lev_{t-1}	-0.047**	-0.286***	-0.074***	-0.246***
	[0.019]	[0.038]	[0.019]	[0.038]
Roa_{t-1}	0.146***	0.325***	0.118***	0.305***
	[0.018]	[0.035]	[0.019]	[0.036]
Constant		-0.747***		-0.678***
		[0.044]		[0.044]
Year FEs	Yes	Yes	Yes	Yes
Industry FEs	Yes	Yes	Yes	Yes
# Observations	27,995	27,995	27,664	27,667
Adj. / Pseudo R^2	0.0273	0.057	0.0221	0.051

Online Appendix Table A6

Controlling for Industry-Year and Firm Fixed Effects

The table reports the regression results on the effect of competition pressure *Fluidity* on crash risk. Column (1) and (2) controls for industry-year paired fixed effects (i.e., industry×year effects) to deal with the possibility that certain industries may cluster during certain years. Column (3) and (4) control for firm fixed effects as well as year effects. One technical note is that based on Greene (2004) and Hsiao (2003, p.194-198), there does not exist a consistent estimator of model coefficients for fixed-effects Probit models. The conditional logit model is often used to obtain model estimates in fixed effect discrete choice models. As a result, when the dependent variable is the crash indicator, we use the conditional logit model (instead of the Probit model, as used in Tables 2 and 3 of the paper) to obtain the firm fixed effects results in Column (4). Variable definitions are in the Appendix of the paper. Standard errors adjusting for heteroskedasticity and within-firm clustering are in brackets. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

	Industry-year fixed effects		Firm fixed effects	
VARIABLES	(1) Ncskew	(2) Crash (marginal effects reported)	(3) Ncskew	(4) Crash (marginal effects reported)
$Fluidity_{t-1}$	0.165***	0.053***	0.117**	0.028*
	[0.038]	[0.019]	[0.052]	[0.015]
$Dturn_{t-1}$	0.323***	0.123***	0.266***	0.113*
	[0.051]	[0.026]	[0.055]	[0.046]
$Ncskew_{t-1}$	0.008	0.003	-0.133***	0.005
	[0.007]	[0.003]	[0.008]	[0.005]
$Sigma_{t-1}$	4.926***	1.193***	1.609*	1.965***
	[0.657]	[0.346]	[0.839]	[0.585]
Ret_{t-1}	0.530***	0.155***	0.248***	0.291***
	[0.064]	[0.036]	[0.082]	[0.078]
$Size_{t-1}$	0.056***	0.010***	0.184***	0.006**
	[0.004]	[0.002]	[0.016]	[0.002]
Mb_{t-1}	0.036***	0.007***	0.068***	0.022***
	[0.004]	[0.002]	[0.005]	[0.004]
Lev_{t-1}	-0.259***	-0.045**	-0.588***	-0.059*
	[0.042]	[0.022]	[0.076]	[-0.025]
Roa_{t-1}	0.336***	0.160***	0.414***	0.155***
	[0.038]	[0.020]	[0.068]	[0.0396]
Constant	-0.620***		-1.353***	
	[0.042]		[0.111]	
# Observations	27,995	24,673	27,995	17,732
Adjusted R-squared	0.067	0.071	0.104	0.097

Online Appendix Table A7

Effect of Competition on Crash Risk: Conditional on Institutional Ownership

The table reports the regression results on the effect of the competitive pressure *Fluidity* on firm crash risk conditional on institutional ownership. We split our sample according to whether the firm's institutional ownership is in the top quartile of the sample. Variable definitions are in the Appendix of the paper. Standard errors adjusting for heteroskedasticity and within-firm clustering are in brackets. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

	High Institutional Ownership		Low Institutional Ownership	
	LHS = $Crash_t$	LHS = $Ncskew_t$	LHS = $Crash_t$	LHS = $Ncskew_t$
$Fluidity_{t-1}$	0.035	0.099	0.063***	0.177***
	[0.033]	[0.066]	[0.017]	[0.038]
$Dturn_{t-1}$	0.058	0.274***	0.090***	0.282***
	[0.049]	[0.100]	[0.027]	[0.055]
$Ncskew_{t-1}$	0.008	0.002	-0.002	0.003
	[0.006]	[0.014]	[0.003]	[0.008]
$Sigma_{t-1}$	1.061	5.107***	0.951***	4.793***
	[0.770]	[1.565]	[0.343]	[0.690]
Ret_{t-1}	0.155	0.630***	0.126***	0.502***
	[0.097]	[0.197]	[0.035]	[0.068]
$Size_{t-1}$	-0.007	0.012	0.008***	0.056***
	[0.005]	[0.009]	[0.002]	[0.004]
Mb_{t-1}	0.003	0.026***	0.007***	0.039***
	[0.004]	[0.009]	[0.002]	[0.004]
Lev_{t-1}	0.058	-0.104	-0.071***	-0.320***
	[0.047]	[0.093]	[0.020]	[0.041]
Roa_{t-1}	0.178***	0.273**	0.143***	0.336***
	[0.056]	[0.116]	[0.018]	[0.038]
		-0.384***		-0.679***
Constant		[0.142]		[0.050]
Year fixed effect	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes
# of Observations	7,345	7,345	20,650	20,650
Pseudo /Adjusted R^2	0.0260	0.032	0.0289	0.059

Online Appendix Table A8

Long-Run Impact of Competitive Threats on Crash Risk

The table presents the impact of year t-1 competition on crash risk in years t, t+1, and t+2. For fair comparisons, all the regressions require that the sample has non-missing information on the year t, t+1, and t+2 crash risk. Variable definitions are in Appendix. Standard errors adjusting for heteroskedasticity and within-firm clustering are in brackets. *, **, and *** denote statistical significance at 10%, 5%, and 1% level.

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	$Crash_t$	$Crash_{t+1}$	$Crash_{t+2}$	$Ncskew_t$	$Ncskew_{t+1}$	$Ncskew_{t+2}$
$Fluidity_{t-1}$	0.065***	0.048**	0.029	0.161***	0.110***	0.081**
	[0.018]	[0.019]	[0.019]	[0.039]	[0.040]	[0.040]
$Dturn_{t-1}$	0.095***	0.044	0.021	0.362***	0.037	0.061
	[0.028]	[0.029]	[0.028]	[0.058]	[0.060]	[0.060]
$Ncskew_{t-1}$	0.000	0.002	0.001	0.007	0.005	0.016**
	[0.004]	[0.004]	[0.004]	[0.008]	[0.008]	[0.008]
$Sigma_{t-1}$	1.538***	1.291***	1.153***	5.598***	4.971***	4.446***
	[0.386]	[0.380]	[0.382]	[0.736]	[0.775]	[0.774]
Ret_{t-1}	0.196***	0.150***	0.115***	0.615***	0.519***	0.462***
	[0.042]	[0.040]	[0.040]	[0.076]	[0.080]	[0.082]
$Size_{t-1}$	0.012***	0.008***	0.008***	0.069***	0.056***	0.046***
	[0.002]	[0.002]	[0.002]	[0.004]	[0.004]	[0.004]
Mb_{t-1}	0.006***	0.002	0.002	0.035***	0.021***	0.013***
	[0.002]	[0.002]	[0.002]	[0.004]	[0.004]	[0.004]
Lev_{t-1}	-0.078***	-0.066***	-0.045*	-0.343***	-0.252***	-0.167***
	[0.023]	[0.024]	[0.024]	[0.046]	[0.049]	[0.051]
Roa_{t-1}	0.168***	0.124***	0.085***	0.356***	0.271***	0.150***
	[0.023]	[0.023]	[0.022]	[0.044]	[0.046]	[0.049]
Constant				-0.701***	-0.364***	-0.600***
				[0.046]	[0.046]	[0.046]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
# Obs.	19,259	19,259	19,259	19,259	19,259	19,259
Pseudo / Adj R^2	0.0313	0.0218	0.0186	0.065	0.037	0.028