



Early-Life Experiences, Altruism, and Stock Price Crash Risk

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Abstract

By investigating the effects of a natural disaster on firm-specific stock price crash risk, we establish that firms led by a board chair who experienced the Great Chinese Famine exhibit lower crash risks. The findings are robust to addressing endogeneity issues that examine heterogeneity in excess death rates, as well as the influence of Wenchuan earthquake. The chairs with the famine experience have lower probability of financial restatement, earning management, and earning smooth. Finally, board chairs' disaster experiences engage more in corporate social responsibility and enhance firms' donations to such initiatives, which identifies the channel through which an altruistic attitude.

Introduction

• Motives

The economics and psychology literature identifies altruism as a critical determinant of human behavior, yet to the best of our knowledge, no research has documented whether and how managers' experiences might affect their decision-making according to an altruism perspective.

• Research Gaps

According to some studies, people exposed to natural disasters display increased risk aversion (Callen, Isaqzadeh, and Sprenger 2014; Cameron and Shah 2015; Bernile et al. 2017), but other findings suggest CEOs with such experience instead come to regard risk as a common component of daily lives (Taylor and Lobel 1989; Aldwin 2007; Ben-Zur and Zeidner 2009; Chen et al. 2021). The changes in risk preference could not completely explain the impact of nature disaster on decision making.

• Research Questions

- 1) How does a natural disaster experienced by a CEO might affect a firm's stock price crash risk?
- 2) Does altruism mediate the impact of the experience on CEOs' decisions?

• Research Ideas

- 1) Using board chairs' birthdays, birth cities, and other personal information, we create a dummy variable that captures whether a chair experienced the famine. In a baseline analysis, we regress this dummy variable on crash risk.
- 2) Then, to address the risk of endogeneity, in quasi-natural experiments we include additional deaths from the Great Chinese Famine across provinces and the Wenchuan earthquake in 2008 to conduct difference-in-difference (DiD) analyses.
- 3) Finally, to learn whether a natural disaster experience influences corporate decisions due to changes in the board chair's altruistic attitude, we test for the impact of the famine experience on prosocial preferences, measured by firms' corporate social responsibility (CSR) and donation activity.

• Contributions

- 1) We add to prior findings by showing how the prior life experiences of board chairs can exert relevant influences on their decision by the aspect of altruism.
- 2) We leverage a natural experimental setting to examine whether people who experienced a natural disaster become prosocial or selfish in the long run.

Data

• Financial, accounting, stock price, and corporate governance data

China Securities Market and Accounting Research (CSMAR) database

• Firm-Specific Crash Risk Measures

Following Hutton et al. (2009) and Kim and Zhang (2016)

• Famine experience

We classify board chairs according to their birth dates, before or after 1960. If the firm is led by a board chair who experienced the Great Chinese Famine between the ages of 0 and 20 years, the dummy variable Famine equals 1 (and 0 otherwise).

Sample Distribution of Board Chair by Province

Province	# Obs.	# Obs. with famine experience	Percentage of famine experience	Province	# Obs.	# Obs. with famine experience	Percentage of famine experience
Anhui	613	186	30.34%	Jiangxi	317	117	36.90%
Beijing	685	256	37.37%	Liaoning	585	331	56.58%
Fujian	618	150	24.27%	Inner Mongolia	126	54	42.86%
Gansu	214	62	28.97%	Ningxia	47	21	44.69%
Guangdong	1524	453	29.72%	Qinghai	11	0	0%
Guangxi	180	53	29.44%	Shandong	1228	489	39.82%
Guizhou	122	33	27.05%	Shanxi	373	75	20.10%
Hebei	557	239	42.90%	Shaanxi	297	42	14.14%
Henan	505	146	28.91%	Shanghai	863	434	50.29%
Heilongjiang	249	60	24.10%	Sichuan	733	300	40.93%
Hubei	681	196	28.78%	Tianjin	105	30	28.58%
Hunan	625	166	26.56%	Xinjiang	168	39	23.21%
Jilin	253	97	38.33%	Yunnan	189	24	12.70%
Jiangsu	1694	558	32.94%	Zhejiang	1926	453	23.52%

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Results

• The influence of nature disaster

- 1) In China, board chairs who have experienced natural disasters at an early age do improve the firm's crash risk.
- 2) We show that the natural disaster experience of board chairs can mitigate intentional information management attempts.

• The connectedness matrix

This paper adopts Feng and Johansson's (2018) DiD method and the Wenchuan earthquake as another natural disaster in a separate to form DiD analysis and obtain the same results as our baseline analysis.

• Mechanism Analyses

We confirm that, together with changes in risk preference, altruism represents a pertinent channel by which board chairs' experience with a natural disaster affects their decision-making.

The connectedness matrix for efficient spread

	NCSKEW (1)	DUVOL (2)	NCSKEW (3)	DUVOL (4)
FAMINE	-0.0241** (-1.98)	-0.0172** (-2.10)	-0.0237* (-1.94)	-0.0160** (-1.96)
NCSKEW	0.0495*** (5.59)		0.0479*** (5.49)	
DUVOL		0.0477*** (5.62)		0.0457*** (5.46)
DTURN	-0.0300* (-1.81)	-0.0149 (-1.35)	-0.0278* (-1.68)	-0.0140 (-1.27)
RET	0.5581*** (2.63)	0.4694*** (3.38)	0.4226** (2.02)	0.3836*** (2.79)
SIZE	-0.0121** (-2.02)	-0.0179*** (-4.41)	-0.0063 (-1.09)	-0.0133*** (-3.39)
MB	0.0181*** (5.59)	0.0106*** (4.84)	0.0158*** (4.91)	0.0090*** (4.17)
SIGMA	5.4862*** (4.07)	3.8949*** (4.45)	4.5945*** (3.48)	3.3664*** (3.91)
LEV	-0.0368 (-1.02)	-0.0210 (-0.88)	-0.0057 (-0.17)	0.0015 (0.07)
ROA	0.4669*** (4.02)	0.2777*** (3.48)	0.4549*** (3.92)	0.2646*** (3.32)
CONSTANT	-0.1022 (-0.69)	0.1695* (1.69)	-0.0862 (-0.58)	0.1684* (1.65)
Industry FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Province FE	N	N	Y	Y
Obs.	15,488	15,488	15,488	15,488
Adj. R2	0.07	0.07	0.01	0.01

The threshold model under financial stress index

	RISK = Volatility of ROA				Dependent variables=	RISK = ZSCORE			
	Altruism = CSR		Altruism = Donation			Altruism = CSR		Altruism = Donation	
Dependent variables=	NCSKEW (1)	DUVOL (2)	NCSKEW (3)	DUVOL (4)	Dependent variables=	NCSKEW (1)	DUVOL (2)	NCSKEW (3)	DUVOL (4)
NonF_Altruism	-0.0400* (-1.78)	-0.0347** (-2.36)	-0.0020 (-0.08)	-0.0034 (-0.19)	NonF_Altruism	-0.0305 (-1.53)	-0.0230* (-1.74)	-0.005 (-0.19)	-0.0092 (-0.50)
F_Altruism	-0.0730** (-2.44)	-0.0466** (-2.37)	-0.0595* (-1.82)	-0.0438* (-1.91)	F_Altruism	-0.0594** (-2.28)	-0.0345** (-2.00)	-0.0667** (-1.99)	-0.0427* (-1.82)
NonF_RISK	-0.0215 (-1.06)	-0.0173 (-1.31)	-0.0299 (-1.08)	-0.0166 (-0.86)	NonF_RISK	-0.0935*** (-3.87)	-0.0470*** (-2.96)	-0.1305*** (-3.77)	-0.0636*** (-2.59)
F_RISK	-0.0664** (-2.19)	-0.0469** (-2.37)	-0.0452 (-1.30)	-0.0147 (-0.60)	F_RISK	-0.1070*** (-3.51)	-0.0607*** (-3.01)	-0.1275*** (-3.17)	-0.0674** (-2.40)
Control Var.	Y	Y	Y	Y	Control Var.	Y	Y	Y	Y
CONSTANT	Y	Y	Y	Y	CONSTANT	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Industry FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Year FE	Y	Y	Y	Y
Obs.	7,130	7,130	3,339	3,339	Obs.	9,042	9,042	3,339	3,339
Adj. R2	0.06	0.06	0.11	0.10	Adj. R2	0.06	0.06	0.11	0.10

Conclusions

Using the Great Chinese Famine in 1960 as a relevant natural disaster, we examine whether firms led by board chairs who experienced this event exhibit a lower probability of stock price crashes, and find that in addition to risk aversion, altruistic attitudes mediate the impact of experiencing the Great Chinese Famine on board chairs' decision-making. This study sheds new light on the connection between altruism and corporate finance. The empirical results indicate that altruistic preferences can determine individual utility functions in corporate finance settings.

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