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CEOs' early-life experiences and corporate policy: Evidence from China's great famine☆

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ABSTRACT

We examine the style of famine CEOs (CEOs who experienced China's Great Famine) in their corporate policy. By exploiting the variation in famine intensity across provinces, we find that CEOs who experienced more intense famines during their childhood are more risk averse. They use less debt, hold more cash, and perform fewer takeovers. However, their takeovers perform better, and their stock returns are less volatile. Our findings support the view that early-life experience affects CEOs' risk preference.

1. Introduction

China's Great Famine (1959–1961) was one of the most devastating catastrophes in human history. Beginning in 1959, there were widespread grain shortages in mainland China, especially in rural areas. Millions of people, many of them young children, died of starvation, malnutrition, and diseases related to the food shortages. The fatality rate peaked during January and February of 1960, several months after the government procured the 1959 harvest.[1] It is estimated that more than more than 50 million lives were lost during the famine (Yao, 1999).

In this study, we examine the long-term consequences of China's Great Famine on CEOs' risk-taking. Specifically, we focus on the link between the CEOs' childhood famine experience and their corporate policy and investigate whether CEOs who experienced severe famine exhibit different risk preferences in their corporate policy. For example, do they use more (less) debt in the capital structure? Do they hold more (less) cash in the firm? Do they take more (less) risk in major investment decisions, such as takeovers? Overall, are the stock returns of their firms more (less) volatile?

There are two competing views regarding the impact of famine experiences on CEOs' policy decision, namely, the *risk-aversion view* and the *risk-loving view*. On one hand, the risk-aversion view argues that if a famine experience affects individuals' perception of risk in the environment, then experiencing a famine, especially during the early-life period, could increase the risk awareness of individuals as they grow into adulthood. “It is difficult to think of victims of recent disasters as not being shocked by the event and reappraising the world in which they live” (Cameron and Shah, 2013). If disasters such as famines affect people's perceptions of the riskiness of their environment, then experiencing a famine could add to the background risk. To the extent that people are risk vulnerable, they will exhibit more risk-averse behavior (Gollier and Pratt, 1996). If the policy of corporations reflects the style of their

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[1] Officially, the cause of the famine was a decrease in grain output due to poor weather conditions. However, recent studies (Meng et al., 2015) have argued that although there was a decrease in agricultural output, the extent of the famine was largely driven by a set of misguided policies, particularly inflexible grain procurement policy.

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CEOs (Bertrand and Schoar, 2003; Cronqvist et al., 2012), we may expect that firms with CEOs most affected by the famine take fewer risks.

On the other hand, according to the *risk-loving view*, individuals who have survived highly disastrous and risky environments may *not* be particularly concerned about the addition of small, independent risks and may exhibit more risk-loving behavior. For example, classical studies of behavior economics, such as Kahneman and Tversky (1979), show that if the level of risk is high, people may not be particularly concerned about the addition of a small, independent risk. Moreover, individuals who were born or grew up during a famine may have inferior physical conditions and less social support from their family network. For example, Meng and Qian (2009) find that early childhood exposure to a famine has large negative effects on adult height, weight, and educational attainment. These findings imply that such individuals have to behave more aggressively to gain a competitive edge over their peers (Currie and Vogl, 2012). Following these arguments, CEOs with severe famine experience may take more risks in their corporate policy.

To test these two competing views, we obtain information about the birth cohort size from the 1990 China Population Census and measure the famine intensity of each province by the mortality rate of its population during the 1959 to 1961 period. We also manually collect the CEOs' biographical information and construct a dataset of their ages and birthplaces, with which we are able to identify the intensity of their early-life famine experiences.

We first examine the link between CEOs' famine experience and corporate leverage. Consistent with the *risk-aversion view*, we find that CEOs who have more intensive famine experiences use less debt in their firms' capital structure. Importantly, our result is economically significant: a one standard deviation increase in *CEO famine intensity* is associated with a decrease in the market leverage ratio of approximately 5% of the sample mean, or 2% decrease in the leverage ratio. We then look at the link between CEOs' famine experience and corporate cash-holding policy. We find that CEOs who have more intensive famine experiences hold more cash in the firm: a one standard deviation increase in *CEO famine intensity* is associated with a 13.7% relative increase in cash holding.

Our next empirical test examines famine CEOs' merger deals. Empirically, we find evidence consistent with the *risk-aversion view.* Specifically, we find that firms with CEOs who have experienced more severe famine perform fewer takeovers, but their takeover announcements are greeted more positively by the market. In terms of economic significance, we find that a one-standard-deviation increase in *CEO famine intensity* is associated with a 26.6% relative decrease in takeover activity and a 0.26% increase in the three-day cumulative announcement return.

Finally, we examine famine CEOs' stock return volatility as a measure of aggregated risk. To the extent that CEOs have discretion to influence firm risk through the selection of investment projects, CEOs' famine experience may affect aggregated firm risk. For example, the *risk-aversion view* predicts that by investing in assets that stabilize the firm's cash flow stream, such as diversification activities, CEOs can decrease the volatility of earnings and hence reduce firm risk. Our empirical finding confirms this hypothesis. We find that firms with CEOs who have experienced more severe famine have lower stock return volatility. Economically, a one standard deviation increase in *CEO famine intensity* is associated with a 31.8% relative decrease in stock return volatility.

In our regressions, we include firm fixed effects, CEO cohort fixed effects, and CEO birth province fixed effects to control for the time-invariant unobservable firm, cohort, and region characteristics that could potentially affect our outcome variables. However, it is still possible that *CEO famine intensity* may pick up nonlinear effects of the control variables on outcome variables. To alleviate these concerns, we employ a propensity score matching technique that controls for selection based on observable firm characteristics: the matching and treatment samples are similar in observable characteristics but differ in the existence of CEOs with famine experience. We find consistent results using this approach. Therefore, the effect of CEOs' famine experience on corporate policy is unlikely to be driven by observable firm characteristics.

In our sample, approximately 65% of firms are state-owned enterprises (SOEs). Studies such as Sun and Tong (2003), Kato and Long (2006), and Li et al. (2011) show that SOEs may have more serious governance issues due to potential entrenchment. In particular, top executives' incentives in SOEs are more likely to be complicated by political and social considerations. If this is the case, CEOs with famine experience could have different impacts on SOE and non-SOE firms. To test this conjecture, we divide our sample into SOE and non-SOE firms and repeat our analysis for all outcome variables, including leverage, cash holding, merger frequency and performance, and stock return volatility. We find that the impact of CEOs' famine experience is more pronounced in non-SOE firms, indicating the complicated incentives that could influence the decision-making process in SOE firms.

We further conduct several robustness checks for our main results. To address the concern that the chairman of the board could play an important role in the decision-making process, we separate our sample into firm year observations with and without CEO-chairman duality. Our findings suggest that the influence of "CEO style" exists for both firms with and without CEO-chairman duality, and this influence is more pronounced when the CEO is also the chairman of the board. We then check whether CEOs who belong to neighboring age cohorts are also affected by the famine experience. We also use CEOs born in the neighboring provinces as a control group to further isolate the famine effects from the culture effect. Reassuringly, we have consistent findings for our key results. Finally, we explore two possible channels through which famine experience could have an impact on CEOs' risk taking behavior.

Our paper is related to two recent studies on CEO style and corporate policy. Benmelech and Frydman (2015) show that CEOs with military service have conservative corporate policies and ethical behavior. For example, they pursue lower corporate investment, are less likely to be involved in corporate fraudulent activity, and perform better during industry downturns. In another study, Bernile et al. (2017) find that CEOs who experience fatal disasters without extremely negative consequences lead firms that behave more aggressively, whereas CEOs who witness the extreme downside of disasters behave more conservatively. Compared to these two studies, we try to make two contributions. First, we add a new dimension that could have significant long-term consequences for CEOs' behavior.[2] Although famines are rarely observed in developed economies, in developing countries, hundreds of millions of people have been affected at some point during their lifetime. For example, in 2002, the United Nations' World Food Program calculated that up to 38 million Africans were living under the threat of a famine. Importantly, the magnitude of the mental, physical,