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The effects of superstition on firms' investment behavior: Evidence from Vietnam, an irreligious country[1]

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Abstract

This study examines the impact of superstition on corporate decision-making in Vietnam, a highly irreligious country. We focus on the folk belief that the ages of 49–53 are considered calamitous and use a regression discontinuity design to show that companies significantly decrease their investment in fixed assets during these ages of their directors. The effect is more pronounced in smaller firms and is not accompanied by a decrease in employment growth. We introduce a novel two-stage difference method to identify the role of superstition in causing the 'calamitous ages' effect.

Introduction

Superstition persists in modern societies. A growing body of empirical research focuses on superstitious behaviors in various aspects, such as financial choice and investment decision (e.g., Bhattacharya et al., 2018; Fisman et al., 2022; Hirshleifer et al., 2018; Lepori, 2009; Liu et al., 2021; Zeng et al., 2022); child wantedness, gender bias, and birth spacing (e.g., Do and Phung, 2010; Johnson and Nye, 2011; Lau, 2019; J. Lee and Paik, 2006; Nye and Xue, 2014; Rohlfs et al., 2010); property transaction (e.g., Fortin et al., 2014; He et al., 2020; Humphreys et al., 2019; Shum et al., 2014); pro-social behavior, marketing and others (e.g., Anderson et al., 2016; Gershman, 2016; le Rossignol et al., 2022; Wang et al., 2012). This research strand on superstitious behaviors is pertinent to the literature on the effect of fork belief advanced by Michalopoulos and Xue (2021), as well as to the literature on the effect of culture (e.g., Alesina and Giuliano, 2015; Fernández, 2011; Guisoet al., 2006), and the economics of religion (e.g., Chen and Hungerman, 2014; Iannaccone, 1998; Iyer, 2016; Kuran, 1994).

While theories of religiosity tend to argue with the secularization view that economic development could reduce religious participation and beliefs, Vietnam – the country of interest in this research – is an exception. This country is a rare case where the relationship between the degree of religiosity and the level of economic development is not found. According to Martin (2006), 39 out of the 40 poorest countries, as per the United Nations (2003) report, are highly religious nations and Vietnam is the only exception. Research by Inglehart et al. (2004) also shows that Vietnam, along with

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Sweden and Denmark, has one of the largest proportions of atheists and agnostics in the population. The history and politics of the country create a distinct setting that accounts for this unusualness. Like other countries in the Sinosphere, Vietnam has been influenced by a complex of beliefs combined and synthesized from three important philosophies and religions: Taoism, Buddhism, and Confucianism. However, there have been no transcendental religions and independent religious institutions in Vietnam.[1] This, coupled with the Communist authorities' past policy of suppressing organized religions,[2] makes Vietnam highly irreligious.

Notably, irreligiousness would create a vacuum for folk beliefs and superstitions to fill in. McCleary and Barro (2006) argue that superstitions tend to substitute for religious beliefs in societies that lack organized religions with standard practices and infrastructure. Torgler (2007) provides empirical evidence of a negative correlation between superstition and attendance at church and other religious activities. It is also evident that people from formerly communist countries have a higher degree of superstition because of the eradication of organized religions in these countries (McCleary and Barro, 2006; Torgler, 2007).

The theory predicts the situation prevailing in Vietnam that superstition maintains a very strong hold. Superstition in Vietnam is rooted in both local folk beliefs and supernatural ideas adopted from Sinosphere culture, e.g., the likes of the zodiac cycle, trigrams, fengshui, and horoscopes. Truong (2007) discusses many phenomena of superstition in Vietnam such as praying for profit, burning joss paper, physiognomy, fortune sticks, séance, incantation, fear of unlucky dates, etc. Moreover, he surveys officials and Communist Party members in Ha Noi, the capital and one of the most developed cities in the country. The survey reveals that approximately 29 % of the 250 respondents attributed their life's achievements to supernatural forces such as deceased ancestors or gods. Notably, the proportion of individuals holding such beliefs is lower in older age groups. These results are in line with the theoretical suggestion that younger adults may be more inclined to believe in superstitions compared to those with more life experience and established routines (Torgler, 2007).[3]

In this paper, we focus on the superstition surrounding the folk belief in the 'calamitous ages' in Vietnam. There is an old saying that "*the age of 49 has not passed yet, the age of 53 is about to come*" referring to the misfortunes that arise when people, particularly males, enter the two great-calamity years of 49 and 53.[4] Additionally, the years between 49 and 53 are also considered calamitous. People are advised to avoid important tasks and prepare for possible setbacks during these ages. Appendix II provides popular explanations for why the ages of 49 and 53 are regarded as "calamitous" in Vietnamese folk belief.

Furthermore, numbers 49 and 53 are also commonly believed to be unlucky, and as a result, people often try to avoid using them in everyday life. This includes avoiding vehicle license plate numbers that end in 49 or 53. The issue has become so prevalent that members of the Vietnam National Assembly officially discussed implementing a regulation to not issue car plates with these numbers (Son Ha, 2022).

Our study examines whether directors of Vietnamese companies who believe in the superstition of "calamitous ages" will make unusual decisions regarding fixed asset investment during these perceived unlucky periods. Fixed asset investment is largely irreversible and entails large sunk costs.

The real-option framework literature has revealed that firms tend to reduce such types of investment under risks and uncertainty (Bernanke, 1983; Dixit, 1989; McDonald and Siegel, 1986; Pindyck, 1991). As the "calamitous ages" are seen as a period of high potential for negative events by superstitious directors, it is hypothesized that they will reduce investment in fixed assets as a response.

To test the hypothesis of the 'calamitous ages' effect, we employ the Vietnam Enterprise Surveys (VES) from 2016 to 2020. The VES is an annual survey that collects information on firms' financial and operational characteristics. It also collects additional information on firm directors' characteristics, including their years of birth in the specific years of 2020 and 2016.[5] We focus on the financial year 2020 (FY2020) to leverage the information on the directors' years of birth from the 2020 VES and construct a cross-section database with additional information from the 2017–2019 VES to control firms' historical growth. We also cross-check the distribution pattern of directors' birth years with the 2016 VES to validate our sampling method.

This paper can make contributions to the literature in three aspects. Firstly, this paper enriches the existing literature on the economic consequences of superstitious beliefs. This paper represents the first comprehensive examination of folk beliefs regarding "calamitous ages," a superstitious phenomenon that likely manifests in various forms across different societies. Furthermore, while there is a growing body of research aiming to understand the role of superstition in the modern economy, many previous studies have relied on survey-based methods to detect the presence of superstition (e.g., Jahoda, 1968; Mears and Ellison, 2000; Salter and Routledge, 1971; Torgler, 2007; Tsang, 2004). Our paper complements the existing body of literature in that it observes the presence of superstitions rather than based on interviewees' self-reported assessments of superstitions. This method could lead to biased measurement since interviewees are reluctant to admit and describe their superstitions (Tsang, 2004).

Second, it enhances our understanding of the sophisticated mechanisms through which religious and cultural factors can impact the economy. Existing research has primarily focused on individual behaviors, such as those examined by Bhattacharya et al. (2018), Fisman et al. (2022), He et al. (2020), Hirshleifer et al. (2018), Humphreys et al. (2019), Lepori (2009), Liu et al., (2021) In contrast, our investigation stands out as one of the pioneering studies that delve into the influence of superstition within corporate settings. Our findings are in line with previous studies conducted in China by Tsang (2004) and Zeng et al. (2022), which demonstrate that superstition can influence firms through the lens of the upper echelons theory. This theory emphasizes that the traits and characteristics of top-level managers play a crucial role in shaping organizational decisions.

Third, we introduce a novel two-stage difference approach that facilitates the establishment of causal inference in cross-sectional data. Comparing outcome changes across cross-sectional groups with different values of a variable of interest does not allow us to draw causal conclusions, as the presence of other factors associated with the variable of interest can confound the observed relationship with the outcome. To address this, we identify a control group in which the variable of interest exhibits no effects. In the first step, we take the within-group difference to account for potential confounding factors. In the second step, the difference of within-group differences allows us to isolate the pure effect of the variable of interest.

In this paper, we employ this approach to effectively eliminate the influence of age-group invariant and age-group variant factors. By doing so, we can isolate the impact of superstitious beliefs regarding 'calamitous ages' on firms' investment. Moreover, the two-stage difference method can be widely applied to identify causal relationships in cross-sectional research where the conventional difference-in-differences method is not applicable due to the lack of observations on before-and-after changes in outcomes.

The remainder of this paper is organized as follows: Section 2 describes the data. Section 3 discusses the empirical strategy employed in this study. Section 4 presents and discusses estimation results; Section 5 concludes.

Section snippets

Data description

We calculate directors' age based on information on their years of birth provided by the 2020 VES. Importantly, Vietnamese use the lunar calendar age instead of the Western calendar age when practicing their folk religion. The lunar calendar age is reckoned based on a traditional method that Vietnamese babies become one year old on the day of their birth and get an additional age on Lunar New Year's Day. The Lunar New Year's Day is not on the same date as the Western calendar new year but

Identification and estimation strategy

In the baseline analysis, we examine the impact of the "calamitous ages" on fixed asset investments made by firms. We use dummy variables to represent the effects of specific age groups and estimate Eq. (2).

$INVESTi=\alpha+\beta1.Ti49{:}53+\beta2.Ti47{:}48+\beta3.Ti54{:}55+\gamma.Ci+\varepsilon i$ in which $INVESTi$ is a measure of the fixed asset investment of firm i in FY2020. We use three measures: firms' fixed asset growth (FAG), a dummy capturing the events that firms' FAG is greater than mean value ($INV1$), and a dummy for the…

Fixed asset investment in the 'calamitous ages'

The real-option framework explains how firms respond to uncertainty by reducing investments in fixed assets, which are largely irreversible and entail sunk costs (Bernanke, 1983; Dixit, 1989; McDonald and Siegel, 1986; Pindyck, 1991). Since superstitious directors perceive the 'calamitous ages' as associated with a high likelihood of negative events occurring, they would be cautious about investing in fixed assets in this period. In this section, we use a regression discontinuity approach to

Conclusion

In this study, we provide evidence that the investment behavior of Vietnamese firms significantly changes in the 'calamitous ages' of their directors. Our findings suggest that this change is not a rational business choice and does not align with employment growth trends. We have supported our conclusions through a thorough examination of the data using multiple data windows, data

structures, and estimation methods. Our novel two-stage difference method enables us to identify the role of…

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