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Does local religiosity affect organizational risk-taking? Evidence from the hedge fund industry☆

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ABSTRACT

We examine the impact of local religious beliefs on organizational risk-taking behaviors using hedge funds as a new and unique setting. We find robust evidence that local religiosity is significantly negatively related to both total and idiosyncratic volatilities of hedge funds during 1996–2013. This relation is primarily driven by semi-directional funds, reversed for directional funds, and nonexistent for non-directional funds. Consistent with the local preference channel, the impact of local religiosity on risk-taking is only pronounced among funds for which local managers and investors are economically more important, namely young and small funds. Further, hedge funds located in more religious counties tend to hold less risky stocks and diversify their stock portfolios across industries, thus contributing to lower hedge fund risk-taking. Overall, our evidence suggests that local culture, in particular religiosity, may motivate hedge fund managers to reduce risk.

1. Introduction

There has been a growing literature on the impact of local culture, particularly local religious beliefs, on organizational risk-taking behaviors. In general, theoretical studies predict a negative effect of local religiosity on organizational risk-taking based on two premises. First, sociologists and psychologists have long recognized that individuals are likely influenced by local culture and beliefs through social interactions, which in turn reinforce individual preferences such that they share the same identity with each other (Tajfel, 1978; Hogg and Abrams, 1988). Second, prior research (e.g., Osoba, 2003; Hilary and Hui, 2009) has established a robust association between religious beliefs and individuals' risk aversion, likely due to the fact that most religions teach their

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followers to prioritize spiritual endeavors over monetary gain which typically requires taking financial risks. To the extent that local religiosity induced risk aversion affects an organization's key stakeholders, local religiosity can exert a negative impact on organizational risk-taking behaviors.

Consistent with the theoretical prediction, empirical evidence suggests that local religiosity negatively affects risk-taking by non-financial firms (Hilary and Hui, 2009) and banks (Adhikari and Agrawal, 2016b). However, Shu et al. (2012) show that for a sample of growth and aggressive growth mutual funds, Catholic belief encourages more risk-taking while Protestant belief is associated with less risk-taking.[1] Interestingly, Shu et al. (2012) also document a positive relation between total religiosity and mutual fund risk-taking as an extension of their main results, because these funds tend to locate in more Catholic areas.

Given mixed empirical evidence, this paper aims to shed light on the effect of local religiosity on organizational risk-taking using hedge funds as a new and unique setting. Specifically, we examine whether and how local religious beliefs affect hedge fund managers' risk-taking behaviors.

We focus on hedge funds for several reasons. First, hedge funds have many unique features which may mitigate the potential effect of local religiosity on their risk-taking, thus offering an ideal setting for our purpose. For instance, compared to mutual funds, hedge fund managers have stronger financial incentives to make profits as they are typically paid a significant portion of excess returns as performance fees (e.g., 20%) in addition to fixed management fees. They also invest a considerable amount of personal wealth into their own funds. And they face extraordinary competition from their peers and are under constant pressure to deliver superior performance. All these features may motivate hedge fund managers to focus on performance-maximizing investment strategies, which are culturally invariant. In addition, compared to mutual funds, hedge funds have more flexibility and less constraints in risk-taking so that the impact of local culture on hedge fund investment decisions is likely to be minimal. In particular, hedge funds are lightly regulated and not required to hold diversified portfolios so they can take large and concentrated stakes in individual firms more easily; they also face fewer conflicts of interests than mutual funds who may have other business relations with the invested companies; and they have lock-up provisions that restrict the investors from withdrawing their principal over certain lock-up periods. Overall, these unique features make hedge funds least likely to be affected by local religiosity, if any. Therefore, if we document significant evidence in the hedge fund industry, it will provide strong support for the impact of local religious beliefs on organizational risk-taking.

Second, despite the tremendous growth of the hedge fund industry over the past two decades[2] and a growing literature on hedge funds, the effect of local religious beliefs, an important aspect of local culture, on hedge fund risk-taking behaviors has never been explored. Notably, while existing literature has focused on fund-, strategy-, and market-specific determinants of hedge fund risk-taking (e.g., Fung and Hsieh, 1997; Brown et al., 2001; Chen, 2011; Aragon and Nanda, 2012; Smith et al., 2016), human behavior is still a missing piece. This is particularly surprising given the importance of understanding the risk-taking incentives of hedge funds, which are frequently blamed for causing systemic risk during financial crises such as the 1998 Long Term Capital Management debacle and 2007–2009 financial crisis. Indeed, anecdotal evidence suggests that human behavior plays an important role during financial crises.[3] Our paper fills the gap in the literature by investigating the role of one specific aspect of human behavior, namely local religiosity induced risk aversion, in explaining hedge fund risk-taking.[4]

Finally, unlike mutual funds, hedge funds have various investment strategies, such as directional, semi-directional, and non-directional strategies. While directional funds (such as macro) take direct market exposure and risk, semi-directional funds (such as equity hedge and event-driven) tend to diversify market risk by taking both long and short, diversified positions, and non-directional funds (such as equity market neutral) aim to minimize market risk altogether. Therefore, it would be interesting to see whether local religiosity has different effects on the risk-taking behaviors of various hedge fund strategies, especially given that Shu et al. (2012) only focus on a sample of growth and aggressive growth mutual funds.

To the extent that local religiosity may affect the risk preferences of hedge fund managers and investors, we hypothesize that hedge funds located in more religious areas are less likely to take risk. For instance, hedge fund managers are often local or conform to local cultural and religious forms. Moreover, the literature on local bias suggests that hedge funds tend to hold more local stocks in their portfolios (Teo, 2009), and hedge fund investors (e.g., funds of funds) have a preference for local hedge funds (Sialm et al., 2014). As a result, higher local religiosity may induce higher risk aversion of hedge funds' managers and investors, thus resulting in lower risk-taking. The alternative hypothesis is that local religiosity has no effect on the risk-taking behaviors of hedge funds due to their unique features as discussed earlier.

Using a sample of 7173 hedge funds from the HFR database and county-level religiosity data during 1996–2013, we find that local religiosity is significantly negatively related to hedge funds' total and idiosyncratic return volatilities. This result appears to be primarily driven by the semi-directional strategies such as equity hedge and event-driven, which diversify market risk by taking both long and short, diversified positions. In contrast, religiosity has a significant positive effect on hedge fund risk-taking for the most aggressive directional strategies such as macro, and an insignificant effect for the least aggressive non-directional

[1] As in Shu et al. (2012), several studies also focus on the different effects of Catholic and Protestant beliefs on risk-taking, including Stulz and Williamson (2003), Kumar (2009), Kumar et al. (2011), Baxamusa and Jalal (2015), Adhikari and Agrawal (2016a), and Schneider and Spalt (2017). While we focus on the *level* of local religiosity (i.e., total religiosity) in this paper, we also study different religious groups and discuss in more details the relevant literature in Section 3.7 for completeness.

[2] According to Hedge Fund Research (HFR), the total assets under management (AUMs) by global hedge funds have increased dramatically from $50 billion in 1990 to $3 trillion in 2015.

[3] For instance, in a testimony to the U.S. House of Representatives Committee on hearing on hedge funds, Lo (2008) attributes financial crises to be “a consequence of the interactions between hardwired *human behavior* and the unfettered ability to innovate, compete, and evolve.”

[4] One caveat is that religiosity might have implications other than risk aversion, thus resulting in a measurement error. However, as argued in Adhikari and Agrawal (2016b), any resulting attenuation bias should only bias us against finding significant results.