Does religiosity influence venture capital investment decisions?

Justin Chircop
Lancaster University Management School
Lancaster University, Lancaster LA1 4YX, UK
j.chircop1@lancaster.ac.uk

Sofia Johan
Florida Atlantic University, College of Business
777 Glades Road
Boca Raton, FL 33431
sjohan@fau.edu

Monika Tarsalewska*
University of Exeter Business School
Streatham Court, Streatham Campus,
Rennes Drive, Exeter EX4 4PU, UK
m.tarsalewska@exeter.ac.uk

*Corresponding author. We thank the Philip Kim, Thomas Standaert, and Entfin, EFA, INFINITI, AMA conference participants for their comments and suggestions. Sofia Johan gratefully acknowledges financial support from the Social Sciences and Research Humanities Council of Canada (SSHRC). All errors are our own.

Does religiosity influence venture capital investment decisions?

Abstract

Theories on contextual behavior (e.g., social norm, self-identity, and legitimacy theories) suggest that the religiosity of the geographical area in which an organization operates influences its behavior. Using a sample of 91,020 VC investments in the U.S., we study whether religiosity influences VC investment decisions. Based on prior literature that finds a positive relation between religiosity and risk aversion, we posit that VCs located in more religious counties make less risky investments. We find that VCs located in more religious areas are more likely to be involved in staging and syndication and have a greater propensity to invest in later and expansion stages of portfolio companies. Taken together, our results suggest that VCs located in religious counties tend to be more risk averse.

JEL Classification: D83, G20, G24, L14, M13.

Keywords: Religiosity, Venture Capital, Risk aversion.

1. Introduction

Venture capitalists (VCs) are financial intermediaries that combine technological competence with financial skills to provide financial and management support to startup firms (Gorman and Sahlman, 1989; Gompers and Lerner, 1999; Manigart et al., 2002; Sahlman, 1990; Sapienza et al., 1996; Wright and Lockett, 2003; Andrieu and Groh; 2018).

The VC industry has grown dramatically over the past three decades. From 1980 to 1990, VC investments in the U.S. increased from USD $610 million to $2.3 billion (National Venture Capital Association, 2012). By 2010, total VC investment in the U.S. totaled approximately $30 billion. Moreover, revenue from formerly backed VC companies comprised 21% of U.S. GDP, and these firms employed 11% of the U.S. private sector workforce (National Venture Capital Association, 2012). By the third quarter of 2016, about $56 billion was invested across 6,000 companies in the U.S. (PitchBook-NVCA Venture Monitor, 2016).

Nevertheless, VC investments tend to be high risk (Ewens and Rhodes-Kropf, 2015). Sahlman (2010) reports that 85% of VC returns come from 10% of investments, and, from 1987-2012, only 12.8% of VC investments achieved an Initial Public Offering (IPO). The investment risk stems mainly from agency problems that can result from asymmetric information between VCs and entrepreneurs (Knight, 1921; Kaplan and Strömberg, 2004; Bertoni and Groh, 2014). Specifically, in VC investments, it is common for the VC to have relatively limited information about the growth potential of the firm. This is due to limited historical financial information, as well as the expensive and time-consuming process of gathering data to overcome any potential information deficits (Groh et al., 2010).

It can be difficult for VCs to accurately gauge founding entrepreneurs' ability to lead startups. This also increases the complexity of projecting future performance and investment risk (Berger and Frame, 2007; Berger and Udell, 1998; Freel, 1999, 2000, 2007; Neus and

Walz, 2005; Bertoni and Groh, 2014). The fact that entrepreneurs usually have more complete information than VCs leads to high adverse selection risk, which is typically borne by the VC (Cumming and Johan, 2008, 2013; Hain et al., 2016).

Kaplan and Schoar (2005) report that, in contrast to other asset classes, such as mutual funds, VCs also tend to have persistent performance. Their success tends to be replicated in the next funds they manage. This ability of some VC funds to consistently produce top-performing investments suggests there is something unique and largely time-invariant about VC funds. In this paper, we examine whether one such factor is religiosity.

To test our hypothesis, we use a comprehensive dataset of U.S. VC investments, consisting of 91,020 observations for the 1980-2014 period. Similarly to prior studies (e.g., Alesina and La Ferrara, 2000; Hilary and Hui, 2009; Dyreng et al., 2012; Adhikari and Agrawal, 2016a; Chircop et al., 2017), we source data on religiosity from the Association of Religion Data Archives (ARDA). We use the number of adherents and the number of denominations in the county in which the VC is headquartered as our two measures of religiosity.

Given that risk-taking is unobservable, we use the propensity for a VC to be involved in the staging, syndication, and timing of VC investments as our three measures of risk taking. Prior literature has shown that staging mitigates agency problems, as more information about the startup is gathered over time, and the VC retains the option to abandon the project if it fails to meet strategic targets (e.g., Admati and Pfleiderer, 1994; Gompers, 1995; Kaplan and Strömberg, 2003, 2004; Wang and Zhou, 2004; Tian, 2011).

Note that VC firms often seek other VC partners when investing in entrepreneurial companies. This process is referred to as syndication. It enables the VC firm to share investment risk with other VC firms while enjoying joint payoffs, because there may be an increase in the alignment of interests (Wright and Lockett, 2003; Manigart et. al., 2006; Hain

et al., 2016; Casamatta and Haritchabalet, 2007; Groh and von Liechtenstein, 2011; Hirsch and Walz, 2011). Finally, by investing in a startup at a later stage, the VC can effectively mitigate the problem of adverse selection, because it will have more information about the entrepreneur and the firm's financial performance (Gompers, 1995; Wang and Zhou, 2004; Bienz and Walz, 2010; Cumming and Johan, 2013; Bertoni et al., 2015). We find that VCs that are headquartered in more religious areas have a higher likelihood of being involved in staging, syndication, and of investing in startups at a later stage.

We subject our results to a series of robustness tests. First, we check whether our results are driven by reverse causality, where more religious risk-averse entrepreneurs are seeking investments from religious VCs. Second, we include VC firm fixed effects to ensure that our observed results are not driven by cross-sectional variation in VC firms. Third, we conduct a series of falsification tests to ensure our results are not driven by portfolio firm religiosity. Fourth, we undertake tests to confirm that our results are not influenced by our econometric choices, such as the regression models used to run our main specification, or the way we calculate our religiosity measures. Fifth, we test whether our results are sensitive to VC investment strategy. Sixth, we check whether the observed results are driven by the clustering of VC activity in specific counties. Finally, to mitigate the possibility that our results are driven by an omitted variable that is correlated with both VC religiosity and VC investments, we examine how religiosity affects investments. To this end, we use the subsample of VC firms that changed counties during our sample period. Inferences from all of these tests suggest that our results are robust to the abovementioned specifications.

In additional analyses, we find that the influence of religiosity on VC investment decisions varies cross-sectionally as a function of the agency conflict between the VC and the startup firm. We also find that VCs located in areas with more Protestants than Catholics tend to be more risk averse in their investment decisions.

Our contribution to the prior literature is twofold. First, we add to the literature on the influence of religiosity on investment decision making. The extant literature has shown that religiosity influences corporate investments (Hilary and Hui, 2009), innovation (Adhikari and Agrawal, 2016a), and mutual fund investments (Shu et al., 2012). In a similar vein, we also examine the effect of religiosity on investment decision making, but our setting is clearly different. Unlike companies or mutual funds, VCs tend to be lightly regulated and exposed to higher investment risk. They invest in startups, which generally have limited or no availability of historical data to project the future performance of the applied technology (Berger and Frame, 2007; Berger and Udell, 1998, 2002; Freel 1999, 2000, 2007). The lack of qualitative and quantitative information required to evaluate a startup exposes the VC to significant adverse selection risk.

On the other hand, in contrast to companies or mutual funds, VCs can seek capital investments from sophisticated institutional or accredited investors. These professional investors are less likely to allow personal values to influence their investment decisions. Hence, it is ex ante unclear to what extent religiosity influences VC investment decisions.

Second, to the best of our knowledge, we are the first to study the effect of the local environment on VC investment decisions. Some prior studies (e.g., Hilary and Hui, 2009; Shu et al., 2012) have shown that characteristics of the local environment can influence firm decisions. However, no study has yet examined the effect of characteristics of the local environment on VC investment decisions. This is somewhat surprising, given that the paucity of historical information about startups can increase the subjectivity of the VC investment decision making process.

In this respect, Duffner et al. (2009) and Bottazzi et al. (2016) provide valuable empirical evidence on the importance of trust in venture capital investing. Specifically, they show that trust reduces doubts about investment decisions ex ante and can provide a good ex

post basis for efficient and effective communication between the VC and the entrepreneur. Various studies have documented the relation between religiosity and trust (e.g., Hain et al., 2016; Chuah et al., 2016). However, no study has yet examined the relation between the religiosity of the geographic area in which the VC operates and its investment decision making. This study fills this void.

The remainder of this paper proceeds as follows. In section 2, we briefly review the prior literature and develop our hypothesis. In section 3, we establish our sample period, and describe our measures of VC risk taking and religiosity. Section 4 presents our main results, while section 5 shows the results for our robustness tests. In section 6, we discuss further analyses. Section 7 concludes.

2. Hypothesis development

In this study, we examine whether the religiosity of the geographic area in which a VC operates influences its investment decision making. Similarly, to Shu et al. (2012), we posit that: 1) VC religiosity influences decision making, and 2) VC religiosity is consistent with that of the geographical location in which it operates.

With respect to the first premise, prior literature has shown that religiosity and religious affiliation influence occupational choice, organizational behavior, managerial decisions, and financial market behavior (Hilary and Hui, 2009; Kumar et al., 2011; Audretsch et al., 2013; Chircop et al., 2017). These effects stem from the link between individual religiosity and individuals' own levels of risk aversion (Miller and Hoffmann, 1995; Barsky et al., 1997; Iannaccone, 1998; Lehrer, 2004; Benjamin et al., 2016; Liu, 2010; Dohmen et al., 2011; Noussair et al., 2013; Audretsch et al., 2013). Specifically, Malinowski (1925) and Miller and Hoffmann (1995) suggest that risk-averse people manage losses and fear through participation in religion, while Hilary and Hui (2009) suggest that more anxious individuals are likely to seek comfort through church attendance (Rokeach, 1968; Gasper and Clore, 1998).

The effect of religiosity on economic decision making has been studied in numerous settings. For example, religiosity has been shown to influence the decision to pursue entrepreneurial activities (Audretsch et al., 2013), corporate investments (Hilary and Hui, 2009), the use of option grants (Kumar et al., 2011), the incidence of accounting irregularities (McGuire et al., 2011), the propensity to undertake earnings management (Grullon et al., 2009; Dyreng et al., 2012), the propensity to undertake tax avoidance activities (Boone et al., 2012), patent innovations (Adhikari and Agrawal, 2016a), bank risk taking (Adhikari and Agrawal, 2016b; Chircop et al., 2017), and mutual fund risk taking (Shu et al., 2012).

Furthermore, religiosity may influence decision making through its effect on trust. In an experimental study, Chuah et al. (2016, p. 295) find evidence "that religion operates indirectly through social identities and religious affiliation which are used as a basis for discrimination in trust games." For mutual funds and corporate investments, trust may be less important, because objective information about prospective investments is usually readily available. However, for VC investments, trust is of paramount importance (Hain et al., 2016). In contrast to other types of investing, VCs invest in startups, where historical information about the applied technology and the firm itself can be limited. Trust may partly fill this lacuna in available information.

Bottazzi et al. (2016) distinguish between two types of trust: personalized and generalized. Personalized trust develops as a consequence of repeat interactions between two persons and can be regarded as the set of beliefs a person holds about the behavior of another person. Conversely, generalized trust can be thought of as the beliefs an individual has about a random group of identifiable individuals. The distinction between the two is particularly relevant in the context of VC investment decisions. When making an initial investment decision about a new startup, the VC does not know the entrepreneur. Thus, the relation is influenced

by generalized trust. Once the initial investment has taken place, and the VC has repeatedly interacted with the entrepreneur, personalized trust develops.

The second premise underlying our investigation is that VC religiosity is consistent with that of the geographical location in which it operates. This assertion is based on theories related to contextual behavior. For example, social norm theory suggests that the religious norms of the environment in which the VC operates influence the VC regardless of whether the VC partners are themselves religious. This is because the norms of the local environment are an important component of the society within which the VC partners live and operate (Kohlberg, 1984; Sunstein, 1996; Cialdini and Goldstein, 2004; McGuire et al., 2011).

Moreover, social identity theory (e.g., Tajfel, 1978; Hogg and Abrams, 1988) suggests that individuals are influenced by the local environment in which they operate through social interactions, in which people share their identities with each other. In this ambit, Schneider (1987) and Hilary and Hui (2009) argue that people are attracted to situations where they think they will fit in. Olson and Perl (2011) and Lim (2013, p. 396) find that "the religious composition of local areas predicts the religious composition of one's intimate friendship network."

Finally, legitimacy theory suggests that firms need to establish congruence between the social norms implied by organizational activities, and the norms of the environment in which the firm is established. Legitimacy gaps, emanating from conflicts between the two sets of norms, may result in stakeholders withholding resources from the firm, thus hampering its operations (Dowling and Pfeffer, 1975; Chircop et al., 2017).

On the other hand, the lack of regulatory oversight over VC investments and heightened financial incentives may moderate the influence of religiosity on risk taking behavior (Jia and Wang, 2017). Unlike other collective investment vehicles, such as listed companies and mutual funds, VC firm investors are comprised of institutions and accredited or high net worth

individuals, collectively known as sophisticated investors. VCs tend to be lightly regulated, and therefore there is no definitive investment mandate (or, rather, risk profile) that VCs must adhere to other than what is agreed upon between the investors and managing partners (Cumming and Johan, 2008). Furthermore, compared to other financial intermediaries, VCs have significant financial incentives, because they are typically paid a portion of the excess returns (Cumming and Johan, 2008, 2013; Jia and Wang, 2017).

The flexibility in making investment decisions, together with the ability to take concentrated risks, likely motivates VCs to focus on profit-maximizing investment decisions. Thus, the influence of religiosity on VC investment decisions may be minimal.

Note that many VC firms operate from several locations, often spread out across different counties. Most VCs empower the investment professionals located in these offices to carry out deal identification and due diligence, but the decision to invest is still made by the committee of managing partners that operates from the VC headquarters. If VC investment decision making is made in locations outside the headquarters, and if the VC partners located at headquarters have limited influence, then headquarters religiosity is unlikely to impact VC decision making.

Finally, given that VC partners tend to be professionals who invest significant personal wealth in their own funds (Cumming and Johan, 2006; Jia and Wang, 2017), it remains unclear whether they allow their religious beliefs to influence their financial judgments.

In summary, prior literature linking religiosity to risk aversion and theories related to contextual behavior suggest that VCs headquartered in areas that are more religious are more risk averse in their decision making. In contrast, the nature of VC firms may moderate any possible relationship between religiosity and VC investment decisions. Hence, it is an empirical question whether the negative relationship between religiosity and risk taking observed in the extant literature applies to VCs.

3. Data and variables

3.1. Sample selection

Our dataset merges several databases. We extract data for completed investment deals, where both the VC firm and the company are located in the U.S., from VentureXpert Thomson Financial. We exclude investments where dollar total investment, number of investors, number of rounds, and information on the first round of investment is missing. Data for county characteristics comes from Woods & Poole Economics, while data on religiosity comes from the Association of Religion Data Archives' (ARDA)[1] decennial surveys. Our final sample contains 91,020 VC firm investment observations for the 1980-2014 period.[2]

In Table 1, we present the sample distribution by year. The number of VC investments increases steadily until 2000, when it stands at 7,029; it then drops after the so-called "dotcom" bubble bursts. The number rises again in the years prior to the recent financial crisis, until, in 2008, it stands at 5,055. After the financial crisis, the number drops again rather precipitously, and in 2014, the last year of our sample, we have 2,048 VC investment transactions. Average total funds invested per transaction by VC firms in a portfolio company per year are $41,403 (column (3) of Table 1), and the average deal had 25 investors (column (4) of Table 1) and 6 financing rounds (column (5) of Table 1). Furthermore, 84% of investment rounds on average involved syndicates (column (6) of Table 1).

[Table 1 here]

3.2. Religiosity and control variables

Our measure of religiosity comes from ARDA's decennial surveys.[3] The dataset provides information on the number of recognized religious denominations, and the number of

[1] This data is publicly available at http://www.theARDA.com.
[2] Our sample is comparable to that in other studies, such as, e.g., Nahata (2008).
[3] We recognize that these surveys suffer from self-selection bias, since religious denominations self-select to participate in these surveys. However, the alternative surveys by Gallup suffer from the same problem, as denominations also self-select to participate.

adherents to these denominations in each county. We source our data from the ARDA surveys undertaken in 1980, 1990, 2000, and 2010. In contrast to other studies (e.g., Alesina and La Ferrara, 2000; Hilary and Hui, 2009; Dyreng et al., 2012; Adhikari and Agrawal, 2016a, 2016b; Gao et al., 2017), we obtain data for missing years through linear interpolation. This increases the power of our tests but assumes a linear change in our variables over time.

We compute two measures of religiosity. The first, *ADHERENTS*, follows prior literature (e.g., Hilary and Hui, 2009; Gao et al., 2017), and is computed as the total number of adherents to any recognized religious denomination, scaled by the population of the county. The second, *DENOMINATIONS*, is the number of recognized denominations per 1,000 population in each county. The Pearson correlation between these two measures is around 16%, and suggests they capture different dimensions of religiosity. Specifically, the first measure captures the quantity of people in each county that follow a religion, while the second measure captures the variety of religious denominations in a county.

3.3. VC firm investment risk measures

We construct three distinct measures of VC investment risk. To this end, we rely on prior literature regarding established risk-mitigating measures used by VCs in their investments (e.g., Admati and Pfleiderer, 1994; Gompers, 1995; Kaplan and Strömberg, 2003; Wright and Lockett, 2003; Wang and Zhou, 2004; Manigart et al., 2006; Casamatta and Haritchabalet, 2007; Tian, 2011; Cumming and Johan, 2008, 2013; Bertoni et al., 2015; Hain et al., 2016). The first measure captures the degree to which a VC firm is involved in staging, the process whereby the VC firm divides its total committed financing to the portfolio company into several financing rounds. Staging is an important instrument for controlling for investment risk, because the VC firm retains the option to pursue or abandon further investment in a company. To capture VC involvement in staging, we construct a variable, *NUMBER OF ROUNDS*, that captures the number of financing rounds provided to the company by the VC firm.

Our second measure of firm investment risk captures the degree to which the VC is involved in syndication, which refers to the cooperation of several VC firms in financing a deal. Syndication allows a VC firm to share investment risk among many firms. Thus, our second measure, *NUMBER OF INVESTORS*, captures the number of investors in the company. VC firms also decide in what stage of company development they will invest. Seed and early-stage investments pose a greater risk than investments in later and expansion stages. We, therefore, create a third measure of risk, *LATER OR EXPANSION*, that captures whether VC funding is at the later or expansion stage of company development.

3.4. Control variables

As in previous studies (e.g., Bottazzi et al., 2016),[4] we control for VC firm, portfolio company, and county characteristics in our model. In particular, we control for deal characteristics that are measured at the level of VC firm and portfolio company pairs, such as whether the VC firm is an independent private equity firm, its size, and age.[5] Furthermore, we include controls for the industry in which the company operates, and for whether the company is seeking seed or early-stage financing. We also control for demographic characteristics at the county level, such as population size, age, employment, and education. We also include variables to proxy for economic conditions such as income and gross regional product at the county level. Finally, we include company, county, and year fixed effects. We provide more details on the variables in Appendix Table AI.

3.5. Summary statistics

Table 2 shows the summary statistics for our sample period, 1980□2014. Mean *ADHERENTS* is 0.48, suggesting that, on average, 48% of each county's population adheres to

[4] Note that Bottazzi et al.'s (2016) research methodology allows them to control for certain VC and company characteristics for which we do not have readily available data.

[5] VC size and age indirectly control for VC partner ability, because larger and older VC firms are more likely to have VC partners of higher ability.

a religious denomination. Mean *DENOMINATIONS* is 0.57, suggesting, on average, there is one religious denomination per 2,000 people in a county.

The average age of VC firms in our sample is 27 [= exp(3.33)], and 83% of them are independent firms. Approximately 70% of the portfolio companies are information technology firms, while 19% are medical firms. Only 11% of portfolio companies received their first financing at the seed stage, and over 26% received it at an early stage. Average distance between VC firm and portfolio company is 40 miles [= exp(2.69)].

In terms of demographic controls, the mean population of the county in which the firm and company are headquartered is 953 [= exp(6.86)] thousand and 1,187 [= exp(7.08)] thousand, respectively. Average population age in VC firm and portfolio company counties is 36 [= exp(3.57)] and 35 [= exp(3.55)] years, respectively, while average population in employment is 671 [= exp(6.51)] thousand in the firm's county, and 820 [= exp(6.71)] thousand in the company's county. Average annual income is $50,000 (in 2009 dollars). The gross regional product (GRP) of the VC firm and company county is $67,507 [= exp(11.12)] million and $81,634 [= exp(11.31)] million in 2009 dollars, respectively.

[Table 2 here]

4. Results

This section presents our main findings for the relationship between religiosity and VC investment characteristics. We proxy for VC firm risk-taking behavior using the three VC investment measures: 1) "staging," the number of financing rounds in which the VC participates, 2) "syndication," the number of participants in each financing round, and 3) the stage of company development at which the VC investment takes place.

We test for the influence of religiosity on VC risk taking using the specification expressed in Eq. (1):

$$RISK\_TAKING = \alpha + \beta RELIGIOSITY + Controls + County\ F.E. + Year\ F.E. + \varepsilon \qquad (1)$$

where *RISK_TAKING* is one of our three measures of risk taking: *NUMBER OF ROUNDS*, *NUMBER OF INVESTORS*, and *LATER OR EXPANSION*. We define the dependent variables, *NUMBER OF ROUNDS* and *NUMBER OF INVESTORS*, as the natural log of 1 plus the number of financing rounds and the natural log of 1 plus the number of investors, respectively, in order to estimate Eq. (1) as an Ordinary Least Squares (OLS) regression.[6] *LATER OR EXPANSION* is an indicator variable that equals 1 if the VC investment takes place in a later or expansion phase of the firm, and 0 otherwise. We run Eq. (1) as a linear probability regression when *LATER OR EXPANSION* is the dependent variable.[7] *RELIGIOSITY* is either *ADHERENTS* or *DENOMINATIONS*. We include the controls discussed earlier, county and year fixed effects.

Panel A of Table 3 reports the results when *ADHERENTS* is our measure of religiosity. We find that *ADHERENTS* is associated with reduced VC risk taking, as shown by the positive and significant association with our dependent variables. Specifically, the coefficient on *ADHERENTS* when the dependent variable is either *NUMBER OF ROUNDS* (coeff: 0.133 t-stat: 1.74) or *NUMBER OF INVESTORS* (coeff: 0.210 t-stat: 1.65) is significant at the 10% level. It is significant at the 5% level when *LATER OR EXPANSION* (coeff: 0.133 t-stat: 2.30) is the dependent variable. The economic effects of these results suggest that a 1-standard deviation increase in *ADHERENTS* increases *NUMBER OF ROUNDS* by 0.013 and *NUMBER OF INVESTORS* by 0.021. These increases correspond to approximately 2.4% of the standard deviation of *NUMBER OF ROUNDS* and *NUMBER OF INVESTORS.* Similarly, a 1-standard deviation in *ADHERENTS* increases the propensity of investing in the *LATER OR EXPANSION* stages by 2.7%.

[6] As robustness tests, we performed a Poisson and a negative binomial regression when the number of rounds and the number of investors are unlogged. The inferences from these results are similar to those discussed in the paper. We present these analyses in the Online Appendix.

[7] As robustness tests, we performed a logit and a probit regression when *LATER OR EXPANSION* is the dependent variable. The inferences from these results are similar to those discussed in the paper. We present these analyses in the Online Appendix.

Panel B of Table 3 reports the results when *DENOMINATIONS* is our measure of religiosity. Similarly, to the results for *ADHERENTS*, we find that *DENOMINATIONS* is positively associated with reduced VC risk taking, as shown by the positive and significant association between *DENOMINATIONS* and our three dependent variables. Specifically, *DENOMINIATIONS* is significantly associated with *NUMBER OF ROUNDS* (coeff: 0.101 t-stat: 3.31) and *NUMBER OF INVESTORS* (coeff: 0.203 t-stat: 4.08) at the 1% level. *DENOMINATIONS* is significantly associated with *LATER OR EXPANSION* (coeff: 0.051 t-stat: 2.17) at the 5% level. The economic effects of these results suggest that a 1-standard deviation increase in *DENOMINATIONS* increases *NUMBER OF ROUNDS* by 0.029 and *NUMBER OF INVESTORS* by 0.057. These increases correspond to approximately 5% of the standard deviation of *NUMBER OF ROUNDS*, and 6% of *NUMBER OF INVESTORS.* Similarly, a 1-standard deviation increase in *DENOMINATIONS* increases the propensity of investing in the *LATER OR EXPANSION* phase by 2.8%.[8]

We find that the coefficients on the control variables are similar when either *DENOMINATIONS* or *ADHERENTS* is our measure of religiosity. VC experience and distance between the VC firm and company are associated with reduced VC risk taking, as shown by the significantly positive coefficient on *VC_AGE* and *DISTANCE* for all dependent variables. Moreover, when a company hails from a risky industry, such as information technology (*C_IT)* or medical (*C_MEDICAL)*, it tends to engage in a larger number of financing rounds and to have a larger number of investors. Conversely, when a company has previously secured seed *(SEED_STAGE)* or early-stage (*EARLY_STAGE)* capital, and hence may be less risky, it tends to engage in a smaller number of financing rounds and to have fewer investors.

[Table 3 here]

5. Robustness tests

[8] The economic significance of our results is comparable to that of Gao et al. (2017).

5.1. Instrumental variable analysis

Thus far, we have documented a significant and positive relation between local religious beliefs and reduced risk taking. While this relation is consistent with our conjecture that local religious beliefs lead to lower risk taking due to increased risk aversion, it nevertheless may be driven by endogeneity. For example, we may observe such a relationship due to reverse causality, i.e., if companies that are less risky tend to opt for investments from more religious VC. In order to mitigate this concern, we run an instrumental variable analysis.

We use three-year lagged religiosity measures as the instrument in the first stage for all regressions (Hilary and Hui, 2009). We also use total county population lagged by three years, except for the number of rounds specifications, where we use the lagged three-year proportion of white population in a VC county. Such variables are stable over time, so historical values are correlated with the current religiosity measure (the relevance criterion). However, we do not expect three-year lagged values to have any effect on current VC firm risk taking other that through current religiosity (exclusion criterion). The use of instruments with a three-year lag is motivated by Cumming and Johan (2013), who show that the investment cycle for a VC has an average duration of three years from initial investment to exit.

Table 4 presents the results from the second-stage regression. Panel A reports the estimated coefficients on the religiosity measures where the independent variable is *NUMBER OF ROUNDS*, panel B reports for *NUMBER OF INVESTORS*, and panel C for *LATER OR EXPANSION*. Consistent with our previous results, the second-stage regressions indicate that religiosity is associated with reduced VC risk taking, as shown by the positive and significant coefficients on the fitted values for religiosity when any of the risk taking variables are the dependent variables. The magnitudes of the estimated coefficients also remain similar to those in previous findings. The first-stage F-tests have p-values of 0.000 in all regressions, and the Hansen-Sargan J-statistic is insignificant in all specifications (p-values are between 0.1 and

1.5), hence failing to reject the orthogonality condition. Taken together, these tests suggest that the instruments are adequate.

[Table 4 here]

5.2. Including VC FEs

Note that, in Eq. (1), we include county fixed effects to control for time-invariant county characteristics that may be correlated with religiosity, and year fixed effects to control for time trends in religiosity. However, the observed relation between religiosity and risk taking may be driven by cross-sectional variation in VC firms. Specifically, VC risk taking may be driven by VC firm characteristics other than religiosity, but which may be still correlated with religiosity. To address this possibility, we introduce VC firm fixed effects in Eq. (1).

Table 5 shows the results. Panel A reports the results with *ADHERENTS* as our measure of religiosity, and panel B with *DENOMINATIONS* as our measure of religiosity. When we use either *ADHERENTS* or *DENOMINATIONS*, we find a positive association between religiosity and our measures for risk taking. As expected, the magnitude of the coefficients is marginally smaller than for our main analysis, but the relation is statistically significant for most specifications. The relation between *ADHERENTS* and *NUMBER OF INVESTORS* (coeff.: 0.296 t-stat.: 1.67) is significant at the 10% level. Similarly, the relation between *DENOMINATIONS* and *NUMBER OF ROUNDS* (coeff.: 0.088 t-stat: 1.69) or *NUMBER OF INVESTORS* (coeff. :0.149 t-stat.:1.77) is significant at the 10% level. The relation between *DENOMINATIONS* and *LATER OR EXPANSION* (coeff. :0.119 t-stat.:2.94) is significant at the 1% level.

[Table 5 here]

5.3. Falsification tests

Given that our story relates to the effect of VC religiosity on VC risk taking, we must also examine the religiosity of the portfolio firms, the entrepreneurs in which a VC invests. We

need to ensure that, in line with our predictions, it is the religiosity of the VC that drives the observed results, not the religiosity of the entrepreneur.

To test this notion, we conduct a falsification test, where we substitute the religiosity of the VC firm in Eq. (1) with the religiosity of the portfolio firm. Importantly, in this analysis, we also include VC firm fixed effects to control for time-invariant VC characteristics that may be related to its investments. In so doing, we are essentially examining the effect of variation in portfolio firm religiosity for a VC firm on that firm's level of risk taking. If the religiosity of the VC firm is driving our results, we expect to find no significant association between portfolio firm religiosity and VC risk taking.

Panels A and B of Table 6 show the results. In panel A, religiosity of the portfolio firm is captured by the number of adherents (*PORTFOLIO COMPANY ADHERENTS*); in panel B, religiosity of the investee firm is captured by denominations (*PORTFOLIO COMPANY DENOMINATIONS).* In both panels, the coefficient on portfolio company religiosity is negative but insignificant for all measures of VC risk taking. This result bolsters our story that the religiosity of the VC influences VC risk taking, not portfolio company religiosity.

Another possibility is that our main results may be driven by the ability of VC firms and entrepreneurs of similar religious denominations to communicate better and hence mitigate information asymmetries. In other words, it is possible that similarities in religiosity between the VC and the portfolio firm drive our results. If this alternative explanation holds, we would expect investments in portfolio firms located in the same county as the VC firms (i.e., where the portfolio and VC firms have similar religiosity levels) to be incrementally related to VC risk taking, versus investments in firms located in a different county.

To test this notion, we create an indicator variable, *SAME COUNTY*, that equals 1 if the VC and the portfolio firm are located in the same county, and 0 otherwise. Importantly we run this analysis including VC firm fixed effects, so we compare investments in portfolio firms

located in the same county as the VC with those located in a different county for the same VC firm. If the alternative explanation drives VC risk taking, we should observe a statistically significant relation between *SAME COUNTY* and our measures for VC risk taking.

Panel C of Table 6 shows the results. For our three measures of risk taking, the coefficient on *SAME COUNTY* is insignificant, suggesting that the similarity in religiosity between the VC firm and the portfolio firm does not drive our results. It is pertinent to note that this result does not suggest information asymmetry does not affect VC decision making. In fact, the control for it in our main analysis, *DISTANCE*, is positive and significant in all of our specifications. This suggests that greater information asymmetry between the VC and portfolio firms is associated with an increased number of rounds and number of investors, as well as investments in the later or expansion stage. The insignificant result in panel C of Table 6 merely suggests that similarity in religion between the VC and the portfolio firm is not associated with VC risk taking. This result further strengthens our hypothesis that VC religiosity influences VC risk taking.

[Table 6 here]

5.4. Other robustness tests

We conduct additional tests to confirm the robustness of our results. For the sake of brevity, and to facilitate exposition, we discuss and present those results in greater detail in the Online Appendix.

First, we test whether our results are robust to different econometric choices. Given the discrete nature of the distribution of the *NUMBER OF ROUNDS* and *NUMBER OF INVESTORS*, we estimate Eq. (1) for these two measures of risk as a Poisson and a negative binomial (NB) model. In both regressions, we express the dependent variables in levels. Moreover, to ensure that our results are not driven by the transformation, we apply the inverse

hyperbolic sine transformation (Bellemare and Wichman, 2019) to *NUMBER OF ROUNDS* and *NUMBER OF INVESTORS*, instead of using the natural log transformation.

Finally, to ensure that our result for *LATER OR EXPANSION* is not driven by the choice of econometric model, we test whether our results are robust if we estimate Eq. (1) as a probit or a logit regression. Results for these analyses are in Tables A-C of the Online Appendix. The inferences from these tests are in line with our main results, and suggest they are not sensitive to our econometric choices.

Second, we test whether our results are sensitive to the way we construct our religiosity measures. Following prior literature (e.g., Alesina and La Ferrara, 2000; Hilary and Hui, 2009; Dyreng et al., 2012; Adhikari and Agrawal, 2016a, 2016b; Gao et al., 2017), we use linear interpolation to fill religiosity data for years not covered by the ARDA decennial surveys. To ensure our results are not sensitive to interpolation, we run a robustness test where religiosity data for years with missing data is taken from the closest ARDA survey. The results are in Table D of the Online Appendix and are similar to our main results. They suggest our results are not sensitive to the way we calculate religiosity for years with missing data.

Third, we test for the possibility that the specific investment strategy used by the VC firm is correlated with religiosity, and hence may bias our results. To test this notion, we follow Shu et al. (2012) and Gao et al. (2017) and interact year and strategy fixed effects. We define strategy as investments in specific industries: 1) information technology; 2) medical, health, or life science; or 3) non-high technology. The results are in Table E of the Online Appendix and suggest that VC strategy does not influence our main results.

Fourth, to address the possibility that our results may be driven by VC activity clustered in a specific county, we re-run our main analysis, excluding each county one by one. We then use the coefficients on the remaining sample to plot coefficient distribution graphs. We report the graphs for each specification in Figure A of the Online Appendix. The coefficient

distribution graphs are narrow, suggesting that the observed relation between VC religiosity and VC risk taking is not driven by specific counties.

Fifth, to mitigate the possibility that another omitted variable correlated with religiosity is driving our results, we examine how religiosity affects investments for the subsample of VC firms that changed counties during our sample period. Change in county represents a quasi-exogenous shock to VC religiosity, because we do not expect VC firms to change the location of their headquarters simply because of differences in religiosity between two counties. If our prediction that VC religiosity is driving VC risk taking is correct, we expect a difference in religiosity between the two counties to be associated with our measures for VC risk taking.

To have a cleaner setting, for this analysis, we only consider VCs that moved once during our sample period. We also distinguish between firms that moved to a less from those that move to a more religious county. If VC religiosity is driving our results, we expect an increase in risk aversion for firms that moved to a more religious county when compared to those VC firms that moved to a less religious county.

The results are in Table F of the Online Appendix. We find that, after relocation, VCs that moved to a more religious county are more likely to be involved in staging and syndication than those that moved to a less religious county. Taken together, these results suggest that, in line with our prediction, relocating to a more religious county results in more risk-averse VC investments.

6. Further analysis

In this section, we briefly discuss the motivation for further analyses of when the relation between religiosity and VC risk taking behavior is stronger. Similarly, to section 5.4., for the sake of brevity and to facilitate exposition, we discuss these analyses and their results in greater detail in the Online Appendix.

First, we test whether the effect of VC religiosity on VC risk taking is stronger when asymmetric information and the subsequent agency conflict is expected to be most pervasive. Specifically, we expect investments in information technology firms to signal high investment risk and high agency conflict. These firms typically 1) consist of the entrepreneur and a few key individuals with limited business experience, 2) have limited tangible assets, and 3) place an overly high value on the entrepreneur's human capital. To test whether the effect of VC religiosity on VC risk taking is stronger under these conditions, we interact our measures of religiosity with *C_IT*, an indicator variable that equals 1 if the investee firm operates in the information technology sector, and 0 otherwise.

Table G of the Online Appendix reports the results. We find that the effect of religiosity on VC risk taking is stronger in the presence of greater information asymmetry and agency conflict. For both measures of religiosity, we find that the interaction term between religiosity and *C_IT* is positive and significant. These results confirm our prediction that, when VC firms invest in riskier industries, the effect of religiosity on VC investments is stronger.

Second, we examine whether the previously observed relation between religiosity and VC risk taking is sensitive to the specific religious denomination to which people adhere. The extant literature has found mixed evidence on the relation between specific religious denominations and risk taking. Barsky et al. (1997), Stulz and Williamson (2003), and Benjamin et al. (2016) find that Catholics tend to be more risk tolerant than Protestants, while Renneboog and Spaenjers (2012) and Baxamusa and Jalal (2016) find that Catholics tend to be more risk averse than Protestants. Given this inconclusive evidence, we examine whether the prevalent denomination in the county in which the VC is located influences VC risk taking. We substitute *RELIGIOSITY* in Eq. (1) with a new variable, *PROTESTANTS TO CATHOLICS*, which captures the relative number of Protestants to Catholics in the county in which the VC is located.

Table H of the Online Appendix presents the results. For the three measures of VC risk taking, we find that the coefficient on *PROTESTANTS TO CATHOLICS* is positive, albeit only significant for *NUMBER OF ROUNDS* and *NUMBER OF INVESTORS*. These results are consistent with Barsky et al. (1997), Stulz and Williamson (2003), and Benjamin et al., (2016). They and provide evidence that VCs located in counties with more Protestants than Catholics tend to be more risk averse in their investment decisions.

7. Conclusion

The lack of literature on how religiosity influences VC investment decision making is surprising, given that prior literature has shown it strongly influences corporate (Hilary and Hui, 2009) and mutual fund (Shu et al., 2012) investment decisions. However, VCs differ in that they are high risk investors exposed to significant investment risk. They are only lightly regulated and are allowed to seek capital from professional investors. It is therefore ex ante unclear what effect (if any) religiosity has on VC decision making.

To the best of our knowledge, this is the first study to provide evidence about the relation between religiosity and VC investment decision making. Our results are consistent with the notion that religiosity is positively related to risk aversion, and, hence, VC firms located in more religious areas are more likely to be involved in staging, syndication, and investing in startups at a later stage. In further analyses, we find that the influence of religiosity on VC investments is stronger with greater agency costs, and with a greater adherence to Protestantism than to Catholicism.

As with any other research, interpretation of our findings is subject to several caveats. First, since we cannot directly observe risk taking, we rely on measures that prior literature has shown are correlated with the magnitude of VC risk taking. Nevertheless, it is likely that these measures capture risk taking with errors. Second, the religiosity of the VC partners is unobservable. Therefore, we proxy for organizational religiosity using measures of religiosity

of the geographic area in which the organization operates. While various theoretical and empirical studies have provided support for such a proxy, it is likely that we capture VC religiosity with error.

Appendix

Table AI
Variable Descriptions

Name	Definition [Source]
Dependent variables	
NUMBER OF ROUNDS	Natural logarithm of 1 plus the number of rounds of financing provided to the company by VCs [VentureXpert, Thomson Financial]
NUMBER OF INVESTORS	Natural logarithm of 1 plus the number of investors in the company [VentureXpert, Thomson Financial]
LATER OR EXPANSION	Indicator variable that equals 1 if the first funding was at the later or expansion stage of company development [VentureXpert, Thomson Financial]
Religiosity variables	
ADHERENTS	Total number of adherents to any recognized religious denomination, scaled by total population for the county. Data come from the ARDA decennial surveys. Observations for missing years are computed using interpolation [ARDA]
DENOMINATIONS	Total number of recognized religious denominations in a county per 1,000 people in the county. Data come from the ARDA decennial surveys. Observations for missing years are computed using interpolation [ARDA]
ADHERENTS_CLOSE	Total adherents to any recognized religious denomination, scaled by total population for the county. Data come from the ARDA decennial surveys. Observations for missing years are deemed to be the same as those for the closest ARDA survey [ARDA]
DENOMINATIONS_CLOSE	Total number of recognized religious denominations in a county per 1,000 people in the county. Data come from the ARDA decennial surveys. Observations for missing years are deemed to be the same as those for the closest ARDA survey [ARDA]
PROTESTANTS TO CATHOLICS	Number of adherents to the largest Protestant religious denominations, scaled by the sum of the number of adherents to the Roman Catholic religion and the number of adherents to the largest Protestant religious denominations. Data come from the ARDA decennial surveys. Observations for missing years are computed using interpolation [ARDA]
Deal-level variables	
INDEPENDENT VC	Indicator variable that equals 1 if the VC is an independent private equity firm, and 0 otherwise [VentureXpert, Thomson Financial]
VC AGE	Natural logarithm of 1 plus age of the VC firm [VentureXpert, Thomson Financial]
C_IT	Indicator variable that equals 1 if the company industry is information technology, and 0 otherwise [VentureXpert, Thomson Financial]
C_MEDICAL	Indicator variable that equals 1 if the company industry is medical, health, or life science, and 0 otherwise [VentureXpert, Thomson Financial]
SEED_STAGE	Indicator variable that equals 1 if the company raised seed finance, and 0 otherwise [VentureXpert, Thomson Financial]
EARLY_STAGE	Indicator variable that equals 1 if the company raised early-stage finance, and 0 otherwise [VentureXpert, Thomson Financial]
STRATEGY	Indicator variable that equals 1 if the VC firm has investments in specific industries: 1) information technology; 2) medical, health, or life science; or 3) non-high technology, and 0 otherwise [VentureXpert, Thomson Financial]
County-level variables	
DISTANCE	Natural logarithm of 1 plus distance in miles between the VC firm and company. The data come from http://www.nber.org/data/county-distance-database.html

F_POP/C_POP	Firm (F) or company (C) natural logarithm of total population in a county: WP001 [Woods & Poole Economics]
F_POP_AGE/C_POP_AGE	Firm (F) or company (C) natural logarithm of median population age in a county: WP020 [Woods & Poole Economics]
F_EMP/C_EMP	Firm (F) or company (C) natural logarithm of total employment in a county: WP032 [Woods & Poole Economics]
F_INC.C_INC	Firm (F) or company (C) natural logarithm of total personal income per capita (2009 $) in a county: WP089 [Woods & Poole Economics]
F_GRP/C_GRP	Firm (F) or company (C) natural logarithm gross regional product in a county: WP092 [Woods & Poole Economics]
F_EDU/C_EDU	Firm (F) or company (C) natural logarithm of educational attainment in a county [United States Department of Agriculture, Economic Research Service]
F_FM/C_FM	Firm (F) or company (C) ratio of male to female population in a county: WP030/WP031 [Woods & Poole Economics]
F_DENSITY/C_ DENSITY	Firm (F) or company (C) persons per household in a county: WP093 [Woods & Poole Economics]
F_HOUSE_INC/C_HOUSE_INC	Firm (F) or company (C) natural logarithm of mean household income (2009 $) in a county: WP095 [Woods & Poole Economics]

References

Adhikari, B., Agrawal, A., 2016a. Religion, gambling attitudes and corporate innovation. J. Corp. Financ. 37, 229-248.

Adhikari, B., Agrawal, A., 2016b. Does Local Religiosity Matter for Bank Risk-Taking? J. Corp. Financ. 38, 272-293.

Admati, A., Pfleiderer, P., 1994. Robust financial contracting and the role of venture capitalists. J. Financ. 49, 371–402.

Alesina, A., La Ferrara, E., 2000. Participation in heterogeneous communities. Q. J. Econ. 115, 847–904.

Andrieu, G., Groh, A.P., 2018. Specialist versus generalist investors: Trading off support quality, investment horizon and control rights. Euro. Econ. Rev. 101, 459-478.

Audretsch, D.B, Bönte, W., Tamvada, J.P., 2013. Religion, social class, and entrepreneurial choice. J. Bus. Ventur. 28 (6), 774-789.

Barsky, R.B., Juster, F.T., Kimball, M.S., Shapiro, M.D., 1997. Preference parameters and behavioural heterogeneity: an experimental approach in the Health and Retirement Study. Q. J. Econ. 112, 537–579.

Baxamusa, M., Jalal, A., 2016. CEO's religious affiliation and managerial conservatism. Financ. Manag. 67-104.

Bellemare, M.F., Wichman, C.J., 2019. Elasticities and the inverse hyperbolic sine transformation. Oxford Bull. of Econ. and Stat.

Benjamin, D.J., Choi, J.J., Fisher, G., 2016. Religious identity and economic behavior. Rev. Econ. Stat. 98, 617-637

Berger, A., Frame, W., 2007. Small business credit scoring and credit availability. J. Sm. Bus. Manag. 45, 5–22.

Berger, A., Udell, G., 1998. The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. J. Bank. Financ. 22, 613–673.

Berger, A., Udell, G., 2006. A more complete conceptual framework for SME finance. J. Bank. Financ. 30, 2945–2966.

Berglof, E., 1994. A Control Theory of Venture Capital Finance. J. Law, Econ., Org. 10, 247–267.

Bertoni, F., Croce, A., Guerini, M., 2015. Venture capital and the investment curve of young high-tech companies. J. Corp. Financ. 35 159-176.

Bertoni, F., Groh, A.P., 2014. Mode of exit and cross-border VC investments. Corporate Governance: An International Review 22, 84-99.

Bienz, C., Walz, U., 2010. Venture capital exit rights. J. Econ. Manag. Strateg. 19, 1071-1116.

Boone, J.P., Khurana, I.K., Raman, K.K., 2012. Religiosity and tax avoidance. J. Amer. Tax. Assoc. 35, 53-84.

Bottazzi, L., Da Rin, M., Hellmann, T., 2016. The importance of trust for investment: Evidence from venture capital. Rev. Financ. Stud. 29, 2283-2318.

Casamatta, C., 2003. Financing and advising: Optimal financial contracts with venture capitalists. J. Financ. 58, 2059–2086.

Casamatta, C., Haritchabalet, C., 2007. Experience, screening and syndication in venture capital investments. J. Financ. Inter. 16, 368-398.

Chircop, J., Fabrizi, M., Ipino, E., Parbonetti, A., 2017. Does branch religiosity influence bank risk-taking? J. Bus. Financ. Account. 44, 271-294.

Chuah, S.H, Gächter, S., Hoffmann, R., Tan, J.H.W., 2016. Religion, discrimination and trust across three cultures. Euro. Econ. Rev. 90, 280-301.

Cialdini, R.B., Goldstein, N.J., 2004. Social influence: Compliance and conformity. Ann. Rev. Psych. 55, 591–621.

Cumming, D., Johan, S.A., 2006. Is it the Law or the Lawyers? Investment Covenants around the World. Euro. Financ. Manag. 12, 535-574.

Cumming, D., Johan, S.A., 2008. Preplanned exit strategies in venture capital. Euro. Econ. Rev. 52, 1209-1241.

Cumming, D., Johan, S.A., 2013. Venture Capital and Private Equity Contracting: An International Perspective, Elsevier Science Academic Press.

Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J., Wagner, G.G., 2011. Individual risk attitudes: measurement, determinants and behavioral consequences. J. Euro. Econ. Assoc. 9, 522–550.

Dowling, J., Pfeffer, K., 1975. Organizational legitimacy: Special values and organizational behavior. Pacific Sociological Review, 18, 122-136.

Duffner, S., Schmid, M. M., Zimmermann, H., 2009. Trust and success in venture capital financing—An empirical analysis with German survey data. KYKLOS, 62(1), 15–43.

Dyreng, S.D., Mayew, W.J., Williams, C.D., 2012. Religious social norms and corporate financial reporting. J. Bus. Financ. Account. 39, 845-875.

Espenlaub, S., Khurshed, A., Mohamed, A., 2015. Venture capital exits in domestic and cross-border investments. J. Bank. Financ. 53, 215-232.

Ewens, M., Rhodes-Kropf, M., 2015. Is a VC partnership greater than the sum of its parts? J. Financ. 70, 1081-1113.

Freel, M., 1999. The financing of small firm product innovation within the UK. Technovation 19, 707–719.

Freel, M., 2000. Barriers to product innovation in small manufacturing firms. International Small Business Journal, 18, 60–80.

Freel, M., 2007. Are small innovators credit rationed? Small Business Economics 28, 23–35.

Gao, L., Wang, Y., Zhao, J., 2017. Local religious beliefs and hedge fund risk-taking behaviors. J. Corp. Financ. 47, 1-22

Gasper, K., Clore, G.L., 1998. The persistent use of negative affect by anxious individuals to estimate risk. J. Pers. Soc. Psych. 5, 1350–1363.

Giot, P., Schwienbacher, A., 2007. IPOs, trade sales and liquidations: Modelling venture capital exits using survival analysis. J. Bank. Financ. 31, 679-702.

Gompers, P., 1995. Optimal investment, monitoring, and the staging of venture capital. J. Financ. 50, 1461–1489.

Gompers, P., Lerner, J., 1999. Conflict of interest in the issuance of public securities: Evidence from venture capital. J. Law. Econ. 42, 1-28.

Gorman, M., Sahlman, W.A., 1989. What do venture capitalists do? J. Bus. Ventur. 4, 231-248.

Groh, A.P., von Liechtenstein, H., 2011. The first step of the capital flow from institutions to entrepreneurs: The criteria for sorting venture capital funds. Euro. Financ. Manag. 17, 532-559.

Groh, A.P., von Liechtenstein, H., Lieser, K., 2010. The European venture capital and private equity country attractiveness indices. J. Corp. Financ. 16, 205-224.

Grullon, G., Kanatas, G., Weston, J., 2009. Religion and corporate (mis)behavior, Working paper. Rice University.

Hain, D., Johan, S., Wang, D., 2016. Determinants of cross-border venture capital investments in emerging and developed economies: the effects of relational and institutional trust. J. Bus. Ethics 138, 743-764.

Hilary, G., Hui K.W., 2009. Does religion matter in corporate decision-making in America? J. Financ. Econ. 93, 455-473.

Hirsch, J., Walz, U., 2011. Financing decisions along a firm's life-cycle: Debt as a commitment device. Euro. Financ. Manag. 17, 898-927.

Hogg, A., Abrams, D., 1988. Social identifications: A social psychology of intergroup relations and group processes. Routledge.

Iannaccone, L., 1998. Introduction to the economics of religion. J. Econ. Literat. 36, 1465–1496.

Jia, N., Wang, D., 2017. Skin in the game: General partner capital commitment, investment behavior and venture capital fund performance, J. Corp. Financ. 47, 110-130.

Kaplan, S., Schoar, A., 2005. Private Equity Performance: Returns, Persistence, and Capital Flows. J. Financ. 60, 1791–823.

Kaplan, S., Strömberg, P., 2003. Financial contracting theory meets the real world: An empirical analysis of venture capital contracts. Rev. Econ. Stud. 70, 281–315.

Kaplan, S., Strömberg, P., 2004. Characteristics, contracts, and actions: Evidence from venture capitalist analyses. J. Financ. 59, 2177–2210.

Knight, F.H. 1921. Risk, uncertainty and profit. Chicago: University of Chicago Press.

Kohlberg, L., 1984. Essays on Moral Development Vol. 2, the Psychology of Moral Development. San Francisco, CA: Harper & Row.

Kumar, A., Page J.K., Spalt, O.G., 2011. Religious beliefs, gambling attitudes, and financial market outcomes. J. Financ. Econ. 102, 671–708.

Lehrer, E.L., 2004. The role of religion in union formation: An economic perspective. Population Research and Policy Review 23, 161-185.

Lim, C., 2013. Counting the faithful: Measuring local religious contexts in the United States. J. Scient. Stud. Relig. 52, 386-400

Liu, E.Y., 2010. Are risk-taking persons less religious? Risk preference, religious affiliation, and religious participation in Taiwan. J. Scient. Stud. Relig. 49, 172–178.

Malinowski, B., 1925. Magic, Science, and Religion. New York: Doubleday.

Manigart, S., De Waele, K., Wright, M., Robbie, K., Desbrières, P., Sapienza, H.J., Beekman, A., 2002. Determinants of required return in venture capital investments: a five-country study. J. Bus. Ventur. 17, 291-312.

Manigart, S., Lockett, A., Meuleman, M., Wright, M. Landström, H., Bruining, H., Desbrieres, P., Hommel, U., 2006. Venture capitalists' decision to syndicate. Entrepreneurship Theory and Practice 30, 131-153.

McGuire, S.T., Omer, T.C., Sharp, N.Y., 2011. The impact of religion on financial reporting irregularities. Account. Rev. 87, 645-673.

Miller, A.S., Hoffmann, J.P., 1995. Risk and religion: an explanation of gender differences in religiosity. J. Scient. Stud. Relig. 34, 63–75.

Mohamed, A. Schwienbacher, A., 2016. Voluntary disclosure of corporate venture capital investments, J. Bank. Financ. 68, 69-83.

Nahata, R., 2008. Venture capital reputation and investment performance. J. Financ. Econ. 90, 127-151.

National Venture Capital Association, 2012. National Venture Capital Association 2012 Yearbook: Virginia.

Neus, W., Walz, U., 2005. Exit timing of venture capitalists in the course of an initial public offering. J. Financ. Interm. 14, 253-277. Noussair, N. C., Trautmann, T.S., van de Kuilen, G., Vellekoop, N., 2013. Risk aversion and religion. J. Risk Uncert. 47, 165-183

Olson, D.V.A., Perl, P., 2011. A friend in creed: Does the religious composition of geographic areas affect the religious composition of a person's close friends? J. Scien. Stud. Relig. 50, 483–502.

PitchBook-NVCA Venture Monitor, 2016. National Venture Capital Association and PitchBook 2016 report.

Renneboog, L., Spaenjers, C., 2012. Religion economic attitude and household finance. Oxford Economic Papers 64, 103-127.

Rokeach, M., 1968. Beliefs, attitudes and values, San Francisco: Jossey-Bass Inc.

Sahlman, W.A., 1990. The structure and governance of venture-capital organizations. J. Financ. Econ. 27, 473-521.

Sahlman, W., 2010. Risk and reward in venture capital. Harvard Business School Note 811-036, 1–37.

Sapienza, H.J., Manigart, S., Vermeir, W., 1996. Venture capitalist governance and value added in four countries. J. Bus. Venturing 11, 439-469.

Schmidt, K., 2003. Convertible securities and venture capital finance. J. Financ. 58, 1139–1166.

Schneider, B., 1987. The people make the place. Personnel Psychology 40, 437-453.

Shu, T., Sulaeman, J., Yeung, P.E., 2012. Local religious beliefs and mutual fund risk-taking behaviors, Manag. Sci. 58, 1779–1796.

Stulz, R., Williamson, R., 2003. Culture, openness and finance. J. Financ. Econ. 70, 313-349.

Sunstein, C.R., 1996. Social norms and social rules. Columbia Law Review 96, 903–968.

Tajfel, H., 1978. Differentiation between social groups: Studies in the social psychology of intergroup relations. Academic Press.

Tian, X., 2011. The causes and consequences of venture capital stage financing. J. Financ. Econ. 101, 132-159.

Ueda, M., 2004. Banks versus Venture Capital: Project Evaluation, Screening, and Expropriation. J. Financ. 59, 601–621.

Wang, S., Zhou, H., 2004. Staged financing in venture capital: moral hazard and risks, J. Corp. Financ. 10, 131-155.

Wright, M., Lockett, A., 2003. The structure and management of alliances: Syndication in the venture capital industry. J. Manag. Stud. 40, 2073–2102.

Table 1

Sample Distribution

This table shows sample distributions by year for the variables used in our base model. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 91,020 observations. Column (2) shows the number of observations; column (3) shows the total invested in thousands by the VC firm in a portfolio company; column (4) shows the number of VC investors in the portfolio company; column (5) shows the number of financing rounds; and column (6) shows the percentage of rounds in each year that involve VC syndicates. All values are in levels.

YEAR	N	TOTAL INVESTED ($ 000)	NUMBER OF INVESTORS (*levels*)	NUMBER OF ROUNDS (*levels*)	PERCENTAGE OF ROUNDS THAT ARE SYNDICATED
1980	394	19,735	23	5	85%
1981	659	15,832	27	6	88%
1982	995	17,689	29	6	87%
1983	1,536	22,545	33	6	91%
1984	1,748	20,949	34	6	92%
1985	1,460	19,805	34	7	91%
1986	1,751	27,664	39	7	91%
1987	1,695	27,661	34	7	88%
1988	1,618	28,837	34	7	89%
1989	1,578	33,323	33	7	88%
1990	1,224	26,923	30	8	80%
1991	1,077	29,699	30	8	79%
1992	1,380	31,328	28	8	80%
1993	1,040	31,354	28	8	78%
1994	1,181	38,897	27	7	81%
1995	1,530	36,342	22	6	75%
1996	2,011	40,878	21	6	77%
1997	2,737	43,565	22	6	82%
1998	2,967	50,440	21	6	80%
1999	5,009	60,456	21	5	86%
2000	7,029	55,097	19	5	88%
2001	4,059	56,612	22	6	85%
2002	3,118	58,075	25	7	86%
2003	3,235	62,507	26	7	86%
2004	3,707	59,341	26	7	89%
2005	3,853	58,263	25	7	88%
2006	4,510	60,287	23	6	86%
2007	5,020	55,633	22	6	86%
2008	5,055	50,279	20	6	83%
2009	3,592	56,102	20	6	79%
2010	4,350	49,981	16	5	82%
2011	4,432	47,990	14	4	84%
2012	1,609	57,654	13	4	72%
2013	1,813	48,303	13	4	75%
2014	2,048	49,043	12	4	75%
Average	2,601	41,403	25	6	84%

Table 2

Summary Statistics

This table shows summary statistics for the variables used in our base model. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 91,020 observations. All variables are as defined in Appendix Table AI.

	Mean	S.D.	Min	P25	Median	P75	Max
NUMBER OF ROUNDS	1.80	0.54	0.69	1.39	1.79	2.20	2.89
NUMBER OF INVESTORS	2.83	0.88	0.69	2.30	2.94	3.47	4.52
LATER OR_EXPANSION	0.56	0.50	0.00	0.00	1.00	1.00	1.00
ADHERENTS	0.48	0.10	0.31	0.42	0.44	0.56	0.74
DENOMINATIONS	0.57	0.28	0.35	0.43	0.49	0.60	2.37
PROTESTANTS TO CATHOLICS	0.14	0.17	0.04	0.05	0.08	0.12	0.89
VC_INDEPENDENT	0.83	0.37	0.00	1.00	1.00	1.00	1.00
VC_AGE	3.33	0.43	2.08	3.04	3.40	3.64	4.06
C_IT	0.70	0.46	0.00	0.00	1.00	1.00	1.00
C_MEDICAL	0.19	0.39	0.00	0.00	0.00	0.00	1.00
SEED_STAGE	0.11	0.32	0.00	0.00	0.00	0.00	1.00
EARLY_STAGE	0.26	0.44	0.00	0.00	0.00	1.00	1.00
DISTANCE	2.69	2.12	0.00	0.00	3.49	4.06	6.48
F_POP	6.86	0.93	2.84	6.54	6.65	7.37	9.19
C_POP	7.08	0.75	4.76	6.60	7.26	7.42	9.19
F_POP_AGE	3.57	0.08	3.38	3.51	3.57	3.63	3.73
C_POP_AGE	3.55	0.08	3.37	3.50	3.56	3.61	3.72
F_EMP	6.51	0.99	2.04	6.14	6.52	7.02	8.62
C_EMP	6.71	0.79	4.16	6.21	6.82	7.06	8.64
F_INC	10.84	0.32	10.10	10.61	10.86	11.10	11.75
C_INC	10.81	0.32	10.16	10.57	10.79	11.02	11.76
F_GRP	11.12	1.12	6.04	10.78	11.11	11.76	13.20
C_GRP	11.31	0.93	8.25	10.91	11.41	11.91	13.20
F_EDU	15.91	5.39	6.10	12.46	14.95	18.02	30.68
C_EDU	15.66	4.93	6.00	12.52	15.24	18.25	30.10
F_FM	1.03	0.04	0.96	0.99	1.03	1.05	1.13
C_FM	1.02	0.04	0.96	0.99	1.02	1.05	1.13
F_DENSITY	2.59	0.24	1.98	2.40	2.66	2.75	2.98
C_DENSITY	2.62	0.24	1.98	2.44	2.68	2.83	2.99
F_HOUSE_INC	11.79	0.33	11.02	11.56	11.80	12.06	12.44
C_HOUSE_INC	11.77	0.30	11.14	11.55	11.76	11.99	12.45

Table 3

Religiosity and VC Investment Characteristics

This table presents OLS regression analyses of religiosity on the number of rounds in column (1), the number of investors in column (2), and on the stage of company development in column (3). Panel A measures religiosity using *ADHERENTS*, and Panel B using *DENOMINATIONS*. All regressions include constant, deal, and company county characteristics and year fixed effects. Standard errors are clustered by VC firm. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 91,020 observations. All variables are as defined in Appendix Table AI. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

Panel A. ADHERENTS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	**t-Stat**	**Coeff.**	**t-Stat**	**Coeff.**	**t-Stat**
ADHERENTS	**0.133***	**(1.74)**	**0.210***	**(1.65)**	**0.133****	**(2.30)**
VC_INDEPENDENT	0.053***	(4.99)	0.046**	(2.41)	-0.023**	(-2.24)
VC_AGE	0.088***	(6.61)	0.104***	(5.55)	0.050***	(4.89)
C_IT	0.111***	(9.61)	0.281***	(16.31)	0.027***	(3.51)
C_MEDICAL	0.248***	(18.67)	0.521***	(25.53)	-0.070***	(-7.74)
SEED_STAGE	-0.311***	(-35.96)	-0.497***	(-37.25)		
EARLY_STAGE	-0.258***	(-46.92)	-0.400***	(-48.50)		
DISTANCE	0.016***	(3.62)	0.034***	(5.24)	0.016***	(4.90)
F_POP	-0.051	(-0.92)	0.020	(0.20)	-0.072	(-1.61)
C_POP	0.078	(0.70)	-0.344*	(-1.79)	0.080	(0.82)
F_POP_AGE	0.073	(0.58)	0.172	(0.82)	-0.015	(-0.14)
C_POP_AGE	-0.577**	(-2.18)	-2.046***	(-4.90)	-0.012	(-0.06)
F_EMP	-0.021	(-0.23)	-0.197	(-1.29)	0.039	(0.51)
C_EMP	0.151	(1.53)	0.697***	(4.23)	-0.014	(-0.15)
F_INC	0.316	(0.91)	1.009*	(1.73)	0.107	(0.44)
C_INC	-0.375	(-0.75)	-0.304	(-0.44)	-0.099	(-0.27)
F_GRP	0.059	(1.13)	0.151*	(1.83)	0.014	(0.30)
C_GRP	-0.174**	(-2.26)	-0.391***	(-3.27)	0.054	(0.86)
F_EDU	-0.002	(-1.25)	-0.002	(-0.77)	0.003**	(2.07)
C_EDU	-0.005	(-1.62)	-0.013**	(-2.40)	-0.002	(-0.63)
F_FM	-0.004	(-0.02)	-0.924***	(-2.81)	-0.531***	(-3.51)
C_FM	0.065	(0.14)	0.297	(0.39)	1.024***	(2.62)
F_DENSITY	0.182	(1.32)	0.409*	(1.76)	0.097	(0.99)
C_DENSITY	-0.412**	(-1.99)	-0.648**	(-2.17)	-0.025	(-0.16)
F_HOUSE_INC	-0.403	(-1.14)	-1.022*	(-1.73)	-0.120	(-0.49)
C_HOUSE_INC	0.273	(0.55)	0.181	(0.26)	0.088	(0.25)
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.234		0.289		0.068	

Table 3 (continued)

Religiosity and VC Investment Characteristics

Panel B. DENOMINATIONS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	**t-Stat**	**Coeff.**	**t-Stat**	**Coeff.**	**t-Stat**
DENOMINATIONS	**0.101*** **	**(3.31)**	**0.203*** **	**(4.08)**	**0.051** **	**(2.17)**
VC_INDEPENDENT	0.053***	(4.98)	0.050**	(2.48)	-0.023**	(-2.22)
VC_AGE	0.090***	(6.74)	0.110***	(5.62)	0.052***	(5.02)
C_IT	0.111***	(9.60)	0.300***	(16.53)	0.027***	(3.52)
C_MEDICAL	0.248***	(18.65)	0.546***	(25.31)	-0.070***	(-7.72)
SEED_STAGE	-0.311***	(-35.99)	-0.519***	(-36.94)		
EARLY_STAGE	-0.258***	(-46.90)	-0.410***	(-47.93)		
DISTANCE	0.018***	(4.15)	0.040***	(5.90)	0.017***	(5.24)
F_POP	-0.039	(-0.69)	0.043	(0.40)	-0.064	(-1.43)
C_POP	0.104	(0.93)	-0.331	(-1.61)	0.102	(1.04)
F_POP_AGE	0.057	(0.46)	0.144	(0.67)	0.016	(0.16)
C_POP_AGE	-0.489*	(-1.86)	-2.088***	(-4.69)	0.043	(0.21)
F_EMP	-0.016	(-0.18)	-0.187	(-1.13)	0.045	(0.60)
C_EMP	0.121	(1.23)	0.695***	(4.03)	-0.039	(-0.44)
F_INC	0.134	(0.40)	0.666	(1.11)	0.005	(0.02)
C_INC	-0.359	(-0.72)	-0.283	(-0.40)	-0.089	(-0.25)
F_GRP	0.062	(1.20)	0.157*	(1.78)	0.013	(0.27)
C_GRP	-0.165**	(-2.15)	-0.424***	(-3.37)	0.062	(0.97)
F_EDU	-0.004**	(-2.12)	-0.005*	(-1.79)	0.002	(1.52)
C_EDU	-0.004	(-1.16)	-0.010*	(-1.80)	-0.001	(-0.20)
F_FM	0.153	(0.81)	-0.710**	(-2.03)	-0.445***	(-2.94)
C_FM	-0.031	(-0.07)	0.339	(0.42)	0.960**	(2.45)
F_DENSITY	0.115	(0.86)	0.276	(1.15)	0.066	(0.68)
C_DENSITY	-0.387*	(-1.86)	-0.640**	(-2.05)	-0.013	(-0.09)
F_HOUSE_INC	-0.191	(-0.56)	-0.614	(-1.01)	0.001	(0.00)
C_HOUSE_INC	0.236	(0.47)	0.161	(0.23)	0.064	(0.18)
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.234		0.293		0.068	

Table 4

Instrumental Variable Regressions

This table presents instrumental variable (IV) regression analyses of religiosity and VC investment characteristics measuring risk taking. Panel A gives the results for number of rounds, panel B for number of investors, and panel C for later or expansion stage. The first stage regresses religiosity measures, i.e. (*DENOMINATIONS_INT, ADHERENTS_INT*), on the instrumental variable (lagged three-year religiosity measure and total population in panels A and C, and lagged three-year proportion of white population in a VC county (panel B). The results for the first-stage regression are available upon request. The second stage regresses VC investment characteristics measuring risk taking on the fitted value of religiosity measures from the first stage. All regressions include constant, deal, and company county characteristics, county and year fixed effects. Standard errors are clustered by VC firm. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 91,020 observations in panels A and B, and 90,569 in panel C. All variables are as defined in Appendix Table AI. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

	(1)	(2)
Panel A. Number of Rounds		
	Coeff. (t-Stat)	**Coeff. (t-Stat)**
ADHERENTS_FITTED_VALUE	0.093**	
	(2.09)	
DENOMINATIONS_FITTED_VALUE		0. 100***
		(3.29)
FIRST-STAGE F-STATISTICS P-VALUE	0.000	0.000
SECOND-STAGE HANSEN J	0.313	1.451
Panel B. Number of Investors		
ADHERENTS_FITTED_VALUE	0.169**	
	(2.31)	
DENOMINATIONS_FITTED_VALUE		0.195***
		(3.66)
FIRST-STAGE F-STATISTICS P-VALUE	0.000	0.000
SECOND-STAGE HANSEN J	0.473	0.927
Panel C. Later and Expansion		
ADHERENTS_FITTED_VALUE	0.101*	
	(1.77)	
DENOMINATIONS_FITTED_VALUE		0.052**
		(2.20)
FIRST-STAGE F-STATISTICS P-VALUE	0.000	0.000
SECOND-STAGE HANSEN J	0.217	0.085

Table 5

Robustness – with VC Firm FEs

This table presents OLS regression analyses of religiosity on number of rounds in column (1), number of investors in column (2), and on stage of company development in column (3). Panel A measures religiosity using *ADHERENTS*, and Panel B using *DENOMINATIONS*. All regressions include constant, deal, and company county characteristics, VC firm, and year fixed effects. Standard errors are clustered by VC firm. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 91,020 observations. All variables are as defined in Appendix Table AI. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

Panel A. ADHERENTS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	**t-Stat**	**Coeff.**	**t-Stat**	**Coeff.**	**t-Stat**
ADHERENTS	**0.118**	**(1.19)**	**0.296***	**(1.67)**	**0.021**	**(0.24)**
CONTROLS	Yes		Yes		Yes	
VC FIRM FE	Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.314		0.331		0.114	

Panel B. DENOMINATIONS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	**t-Stat**	**Coeff.**	**t-Stat**	**Coeff.**	**t-Stat**
DENOMINATIONS	**0.088***	**(1.69)**	**0.149***	**(1.77)**	**0.119*****	**(2.94)**
CONTROLS	Yes		Yes		Yes	
VC FIRM FE	Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.309		0.360		0.160	

Table 6

Portfolio Company Religiosity and VC Investment Characteristics – Falsification Test

This table presents OLS regression analyses of religiosity on number of rounds in column (1), number of investors in column (2), and stage of company development in column (3). Panel A measures portfolio company religiosity using *ADHERENTS*, and Panel B using *DENOMINATIONS*. All regressions include constant, deal, and company county characteristics and year and VC firm fixed effects. Standard errors are clustered by VC firm. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 91,020 observations. All variables are as defined in Appendix Table AI. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

Panel A. PORTFOLIO COMPANY ADHERENTS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	**t-Stat**	**Coeff.**	**t-Stat**	**Coeff.**	**t-Stat**
PORTFOLIO COMPANY ADHERENTS	**-0.057**	**(-0.76)**	**-0.001**	**(-1.60)**	**-0.019**	**(-0.33)**
CONTROLS	Yes		Yes		Yes	
VC FIRM FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.331		0.385		0.152	

Panel B. PORTFOLIO COMPANY DENOMINATIONS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	**t-Stat**	**Coeff.**	**t-Stat**	**Coeff.**	**t-Stat**
PORTFOLIO COMPANY DENOMINATIONS	**-0.068**	**(-1.33)**	**-0.056**	**(-0.69)**	**-0.006**	**(-0.17)**
CONTROLS	Yes		Yes		Yes	
VC FIRM FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.331		0.389		0.152	

Panel C. SAME COUNTY

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	**t-Stat**	**Coeff.**	**t-Stat**	**Coeff.**	**t-Stat**
SAME COUNTY	**0.015**	**(0.30)**	**-0.036**	**(-0.41)**	**0.033**	**(0.96)**
CONTROLS	Yes		Yes		Yes	
VC FIRM FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.331		0.389		0.152	

Does religiosity influence venture capital investment decisions?

Online Appendix

December 2019

The analyses in this Online Appendix supplement the results presented in the paper, "Does religiosity influence venture capital investment decisions?" Section 1 gives the results for testing the robustness of our main results, while section 2 presents the results for further analysis.

1. Robustness tests

1.1. Alternative specifications

To ensure our results are not driven by the empirical choices we adopt in running our main results, we conduct several additional tests.

First, we run Eq. (1) using *NUMBER OF ROUNDS* and *NUMBER OF INVESTORS* expressed in levels. Given the discrete nature of the distribution of these variables, instead of using OLS, we run Eq. (1) as both a Poisson and a negative binomial (NB) model. A Poisson distribution assumes that the mean and variance are the same. Given that overdispersion in the distribution of these variables is likely, standard errors for a Poisson regression may be biased. A negative binomial model does not make this assumption, and instead adjusts the variance independently of the mean. In other words, a Poisson distribution is a special case of a negative binomial distribution.

Table A presents the results, panel 1 when *ADHERENTS* is our measure of religiosity, and panel 2 when *DENOMINATIONS* is our measure of religiosity. In both panels, specifications (1) and (2) give the results for running Eq. (1) as a Poisson model, and specifications (3) and (4) for a negative binomial model. For all specifications, the coefficient on our measures of religiosity is positive and significant. These results suggest that increased VC religiosity is associated with increased VC risk aversion, as captured by increased staging and syndication.

Second, instead of using the natural log to transform the number of rounds and number of investors, we use the inverse hyperbolic sine transformation. This transformation approximates the natural log transformation, but allows us to retain zero-value observations (Bellemare and Wichman, 2019). Table B shows the results, panel 1 for *ADHERENTS* as the measure of religiosity, and panel 2 for *DENOMINATIONS*. In line with our main results, the coefficient on the measures of religiosity is positive and significant, suggesting that our results are insensitive to the choice of transformation method for the dependent variables.

Third, in our main analysis, we run the regression with the dependent variable *LATER OR EXPANSION* as a linear probability model. This method allows us to use fixed effects and clustering of standard errors. However, the binary nature of *LATER OR EXPANSION* suggests the use of a probit or logit model. To test whether our results are sensitive to the empirical model used, we run Eq. (1) as both a probit and a logit model.

Table C shows the results, panel 1 for *ADHERENTS*, and panel 2 for *DENOMINATIONS* as our measures of religiosity. Similar to our main results, the coefficients on the measures of religiosity are positive and significant in all specifications. This suggests they are insensitive to the choice of empirical model.

[Insert Tables A-C here]

1.2. Different measures of religiosity

Our measures of religiosity come from the Association of Religion Data Archive (ARDA) decennial surveys. These surveys provide information on the number of recognized religious denominations and the number of adherents in each county. We use data from the surveys undertaken in 1980, 1990, 2000, and 2010. Following other studies (e.g., Alesina and La Ferrara, 2000; Hilary and Hui, 2009; Dyreng et al., 2012; Adhikari and Agrawal, 2016a, 2016b; Gao et al., 2017), we obtain data for missing years through linear interpolation. This method increases the power of our tests, but assumes linear changes in our measures of

religiosity. Given that such an assumption may not hold, we also undertake an additional test, where, instead of linear interpolation, we use the religiosity measures in the closest ARDA survey for years with missing religiosity data. *ADHERENTS_CLOSE (DENOMINATIONS_CLOSE)* are the non-interpolated religiosity measures taken from the closest ARDA survey.

Table D shows the results. Like our main results, the coefficients on our measures of religiosity are positive and significant for all specifications. This suggests that our inferences are not driven by the method used to calculate the religiosity variables for sample years with any missing religiosity data.

[Insert Tables D here]

1.3. VC strategy

Next, to ensure our results are not driven by unobservable omitted variables that are specific to the VC's investment strategy, we follow Shu et al. (2012) and Gao et al. (2017), and interact year and strategy fixed effects. We define strategy as investments in specific industries: 1) information technology; 2) medical, health, or life science; or 3) non-high technology. The results for the specification including these additional controls are in Table E. Similarly to our main results, we find a positive and significant relation between religiosity and risk aversion. This suggests our main results are not driven by the particular investment strategy employed by the firm.

[Insert Table E here]

1.4. Clustering of VC activity

Although we include county fixed effects and control for various county-specific characteristics in our main specification, Eq. (1), it is possible that clustering of VC activity in specific counties may bias our results. To address this possibility, we re-run our main analysis,

excluding each county one by one, and then use the coefficients for religiosity on the remaining sample to plot the graphs in Figure A.

We have 423 counties, so we run this regression 423 times, and obtain 423 estimated coefficients on religiosity. In panel 1 of Figure A, we present the coefficients on religiosity estimated for a model where the dependent variable is *NUMBER OF ROUNDS*, and in panel 2 where the dependent variable is *NUMBER OF INVESTORS*. In panel C, the dependent variable is *LATER OR EXPANSION*. As Figure A shows, the distribution of estimated coefficients is narrow, suggesting there is very little variation in these coefficients when individual counties are dropped from the analysis. This narrow distribution supports the notion that the observed relation between VC religiosity and VC risk taking is not driven by specific counties.

[Insert Figure A here]

1.5. Change of county analysis

To mitigate the possibility that county-specific correlated omitted variables are driving the observed results, we examine how religiosity affects investments for VCs that changed their county of headquarters over our sample period. If, as we predict, VC religiosity is at least partly driving VC investment behavior, we should observe a relation between the difference in religiosity of the two counties and firm risk taking. For these VC firms, change in county represents a quasi-exogenous shock, because we do not expect VCs to change the location of their headquarters simply because of investment risk. Moreover, such a major decision would likely require the unanimous approval of all VC investors (Cumming and Johan, 2013).

To obtain a cleaner setting, we exclude any VCs that changed their county of headquarters more than once over our sample period. Thus, our sample for this analysis consists of 292 VCs (3,293 firm-year observations).

We next distinguish between VCs that moved to a county with higher rather than lower religiosity. We create an indicator variable, *LOW HIGH ADHERENTS (LOW HIGH DENOMINATIONS),* that equals 1 if the mean *ADHERENTS (DENOMINATIONS)* for the prior county was lower than that for the subsequent county of headquarters. In calculating mean religiosity, we are careful to only consider the period in which the VC was in that county. We find that, of the 292 VC firms that relocated over our sample period, 111 moved to a county with higher religiosity when religiosity is proxied for by *ADHERENTS*. 196 moved to a county with higher religiosity when it is proxied for by *DENOMINATIONS.*

We expect that, after relocation, VCs that moved to counties with higher religiosity will have a greater propensity to be involved in staging and syndication, and to invest in later stages of startups than those that moved to counties with lower religiosity. To test this prediction, we use the following model:

$$RISK\_TAKING = \alpha + \beta_1 POST\_CHG * LOW\_HIGH + \beta_2 LOW\_HIGH + \beta_3 POST\_CHG + Controls + County\ F.E. + Year\ F.E. + \varepsilon \quad (4)$$

where *RISK_TAKING* is one of the three proxies for VC investment risk (*NUMBER OF ROUNDS, NUMBER OF INVESTORS, or LATER OR EXPANSION). POST_CHG* is an indicator variable that equals 1 after relocation, and 0 otherwise. *LOW_HIGH* is either *LOW HIGH ADHERENTS*, which is an indicator variable that equals 1 for firms that relocated to a county with higher religiosity when measured using adherents, and 0 otherwise, or *LOW HIGH DENOMINATIONS*, which is an indicator variable that equals 1 for firms that relocated to a county with higher religiosity when measured using the number of denominations, and 0 otherwise. We expect the coefficient on the interaction term, β_1, to be positive and significant, suggesting that VCs that relocated to a county with higher religiosity are more risk averse post-relocation.

The results for this analysis are in Table F. Panel 1 shows the results for using *LOW_HIGH_ADHERENTS* in our model, while panel 2 shows the results for using *LOW_HIGH_DENOMINATIONS.* We find that, after relocation, VCs that moved to a more religious county are more likely to be involved in staging and syndication than those that moved to a less religious county. We do not find that relocation influenced the stage at which a VC invests in a startup. Taken together, these results confirm our prediction that relocating to a more religious county results in more risk-averse VC investments.

This analysis mitigates the risk that a county-specific correlated omitted variable could be driving the observed effect of religiosity on VC investment decisions. However, one caveat is that this analysis assumes VCs swiftly adapt their investment strategies to the religious norms in a new county. Legitimacy theory suggests that if the VC takes too long to adapt to the norms of the new county a conflict between the organization and its stakeholders would arise. Such a conflict could result in stakeholders withholding resources from the firm. Ultimately, the length of time VCs take to adapt their investment strategy to a new environment should work against us finding any differential effect in the investment strategies of firms that move to more religious than less religious counties.

[Insert Table F here]

2. Further analysis

2.1. Information asymmetry and agency conflict

As prior research has shown, when investing in startups, VCs generally have incomplete information about the entrepreneurs (Kaplan and Strömberg, 2004; Hain et al., 2016). This asymmetry of information gives rise to an agency problem, where the VC may be concerned that 1) the entrepreneur will not work hard enough to maximize the value of its investment, 2) the entrepreneur will know more about his/her ability than the VC, 3) there may

be conflicts between the VC and the entrepreneur, or 4) the entrepreneur may "hold up" the VC firm by threatening to leave the startup. Contracting may significantly mitigate these agency conflicts, but they are unlikely to be completely resolved.

Therefore, in this section, we test whether the effect of VC religiosity on investment decisions is stronger when asymmetric information and subsequent agency conflicts are expected to be most pervasive. Information technology startups present particularly high investment risk. For example, they typically 1) consist of the entrepreneur and a few key individuals with limited business experience, 2) have limited tangible assets, and 3) place an overly high value on the entrepreneur's human capital. In this regard, we expect VC investments in information technology startups to pose high investment risk in terms of information asymmetry prior to the actual investment, and high agency conflict after the investment.

To test whether the influence of religiosity on VC investments is stronger in the presence of greater information asymmetry and agency conflict, we interact our religiosity measures with *C_IT*, an indicator variable that equals 1 if the company is from the information technology industry, and 0 otherwise.

Table G shows the results, panel 1 for the regressions where religiosity is proxied for by *ADHERENTS*, and panel 2 where it is proxied for by *DENOMINATIONS*. In model (1), the dependent variable is the number of rounds (*NUMBER OF ROUNDS*), in model (2), it is number of investors (*NUMBER OF INVESTORS*), and, in model (3), it is company development stage (*LATER OR EXPANSION*). The estimated regression coefficients on the interaction term between religiosity and information technology (i.e., *ADHERENTS_IT* and *DENOMINATIONS_IT*) are positive and significant. These results confirm our prediction that,

when VC firms invest in riskier industries, the effect of religiosity on VC investments is stronger.

[Insert Table G around here]

2.2. Protestantism versus Catholicism

In prior analyses, we assume that the effect of religiosity on risk aversion occurs regardless of the specific religious denomination to which people adhere. However, extant literature has found mixed evidence on this topic. Using a U.S. setting, Barsky et al. (1997) measure individual risk attitudes toward retirement decisions with individual survey instruments. Benjamin et al. (2016) use a laboratory setting to measure risk aversion among university students, and find that Protestants tend to be more risk averse than Catholics. In contrast, Renneboog and Spaenjers (2012), using survey instruments to measure risk aversion related to household finance, find that Catholic households tend to be more risk averse and invest less in stocks. Baxamusa and Jalal (2016) find that firms with Catholic CEOs have less leverage and issue less debt than firms with Protestant CEOs. In a similar vein, Stulz and Williamson (2003) suggest that Catholic countries have weaker investor protection, which may suggest more risk tolerance.

Given the inconclusive evidence, it is an empirical question whether the religious denomination prevalent in the county where the VC headquarters is located influences VC risk taking. To address this, we construct a variable, *PROTESTANTS TO CATHOLICS* that is calculated as the number of adherents to Protestant denominations scaled by the sum of the number of adherents to the Protestant and Catholic denominations. ARDA classifies religious congregations into five groups: Catholics, Evangelical Protestants, Mainline Protestants, Orthodox, and Other groups. Following prior literature (Hilary and Hui, 2009; Kumar et al.,

2011, Shu et al., 2012), we combine Evangelical Protestants and Mainline Protestants to form the group of Protestant congregations.

Table H presents the estimated coefficients. In model (1), the dependent variable is number of rounds, in model (2), it is number of investors, and, in model (3), it is company development stage. The coefficient on *PROTESTANTS TO CATHOLICS* is positive for our three measures of risk-taking. The coefficient on *PROTESTANTS TO CATHOLICS* is significant at the 10% level for *NUMBER OF ROUNDS*, and at the 1% level for *NUMBER OF INVESTORS*. Taken together, these results suggest that VC firms located in counties where the Protestant denomination is more prevalent than the Catholic denomination tend to be more risk averse.

[Insert Table H around here]

Table A

Religiosity, Number of Rounds, and Number of Investors (Poisson and Negative Binomial Models)

This table shows Poisson (column (1)) and negative binomial (NB) (column (2)) regression analyses of religiosity on the number of rounds. Panel A measures religiosity using *ADHERENTS*, and panel B using *DENOMINATIONS*. All regressions include constant, deal, and company county characteristics and year fixed effects. Standard errors are robust and clustered by VC firm. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 90,569 observations. All variables are as defined in Appendix 1. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

Panel 1. ADHERENTS

	(1) NUMBER OF ROUNDS (*levels*) (POISSON MODEL)		(2) NUMBER OF INVESTORS (*levels*) (POISSON MODEL)		(3) NUMBER OF ROUNDS (*levels*) (NB MODEL)		(4) NUMBER OF INVESTORS (*levels*) (NB MODEL)	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
ADHERENTS	0.190**	(2.00)	0.230*	(1.71)	0.197**	(2.03)	0.299**	(2.00)
Marginal effect	1.128**		5.298*		1.167**		6.870**	
CONTROLS	Yes		Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes		Yes	
PSEUDO R-SQ	0.0789		0.2218		0.0448		0.0427	

Panel 2. DENOMINATIONS

	(1) NUMBER OF ROUNDS (*levels*) (POISSON MODEL)		(2) NUMBER OF INVESTORS (*levels*) (POISSON MODEL)		(3) NUMBER OF ROUNDS (*levels*) (NB MODEL)		(4) NUMBER OF INVESTORS (*levels*) (NB MODEL)	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
DENOMINATIONS	0.117***	(3.06)	0.198***	(3.83)	0.116***	(2.98)	0.158***	(2.81)
Marginal effect	0.698***		4.557***		0.687***		3.623***	
CONTROLS	Yes		Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes		Yes	
PSEUDO R-SQ	0.0789		0.2218		0.0427		0.0427	

Table B

Religiosity, Number of Rounds, and Number of Investors (Arcsinh Transformation)

This table shows OLS regression analyses of religiosity on the *arcsinh* (number of rounds) in column (1), and the *arcsinh* (number of round investors) in column (2). Panel A measures religiosity using *ADHERENTS*, and panel B using *DENOMINATIONS*. All regressions include constant, deal, and company county characteristics and year fixed effects. Standard errors are robust and clustered by VC firm. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 90,569 observations. All variables are as defined in Appendix 1. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

Panel 1. ADHERENTS

	(1) NUMBER OF ROUNDS (*arcsinh transformation*)		(2) NUMBER OF INVESTORS (*arcsinh transformation*)	
	Coeff.	t-Stat	Coeff.	t-Stat
ADHERENTS	0.160*	(1.72)	0.226	(1.52)
CONTROLS	Yes		Yes	
COUNTY FE	Yes		Yes	
YEAR FE	Yes		Yes	
PSEUDO R-SQ	0.232		0.288	

Panel 2. DENOMINATIONS

	(1) NUMBER OF ROUNDS (*arcsinh transformation*)		(2) NUMBER OF INVESTORS (*arcsinh transformation*)	
	Coeff.	t-Stat	Coeff.	t-Stat
DENOMINATIONS	0.123***	(3.34)	0.223***	(4.06)
CONTROLS	Yes		Yes	
COUNTY FE	Yes		Yes	
YEAR FE	Yes		Yes	
PSEUDO R-SQ	0.232		0.288	

Table C

Religiosity and Later or Expansion Stage Regressions (Logit and Probit Models)

This table shows probit (column (1)) and logit (column (2)) regression analyses of religiosity on the stage of development of the portfolio company. Panel A measures religiosity using *ADHERENTS*, and panel B using *DENOMINATIONS*. All regressions include constant, deal, and company county characteristics and year fixed effects. Standard errors are robust and clustered by VC firm. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 90,569 observations. All variables are as defined in Appendix 1. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

Panel 1. ADHERENTS

	(1) LATER OR EXPANSION (PROBIT MODEL)		(2) LATER OR EXPANSION (LOGIT MODEL)	
	Coeff.	t-Stat	Coeff.	t-Stat
ADHERENTS	0.359**	(2.32)	0.587**	(2.32)
Marginal effect	0.134**		0.135**	
CONTROLS	Yes		Yes	
COUNTY FE	Yes		Yes	
YEAR FE	Yes		Yes	
PSEUDO R-SQ	0.0476		0.0477	

Panel 2. DENOMINATIONS

	(1) LATER OR EXPANSION (PROBIT MODEL)		(2) LATER OR EXPANSION (LOGIT MODEL)	
	Coeff.	t-Stat	Coeff.	t-Stat
DENOMINATIONS	0.141**	(2.23)	0.230**	(2.23)
Marginal effect	0.053**		0.053**	
CONTROLS	Yes		Yes	
COUNTY FE	Yes		Yes	
YEAR FE	Yes		Yes	
PSEUDO R-SQ	0.047		0.048	

Table D

Different Measures of VC Religiosity

This table presents OLS regression analyses. We replicate the regressions from Table 3 in the paper, and replace interpolated religiosity measures with values from the closest decennial ARDA survey. Panel A presents regressions where religiosity is measured as the number of adherents scaled by county population, and panel B as the number of congregations per 1,000 people in a county. In model (1), the dependent variable is the number of rounds (*NUMBER OF ROUNDS*), in model (2), it is the number of round investors (*NUMBER OF INVESTORS*), and, in model (3), it is company development stage (*LATER OR EXPANSION*). All regressions include constant, deal, and county characteristics, and company, county, and year fixed effects. Standard errors are clustered by VC firm. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 91,020 observations. All variables are as defined in Appendix 1. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

Panel 1. ADHERENTS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
ADHERENTS_CLOSE	0.158**	(2.45)	0.245**	(2.15)	0.092*	(1.85)
CONTROLS	Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.229		0.288		0.062	

Panel 2. DENOMINATION

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
DENOMINATIONS_CLOSE	0.103***	(3.34)	0.210***	(4.18)	0.056**	(2.41)
CONTROLS	Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.229		0.288		0.062	

Table E

Strategy *x* Year Fixed Effects

This table shows regression analyses of religiosity and technology industry interaction. Panel A presents regressions where religiosity is measured as the number of adherents scaled by county population, and n Panel B by the number of congregations per 1,000 people in a county. In model (1). the dependent variable is the number of rounds (*NUMBER OF ROUNDS*), in model (2), it is the number of round investors (*NUMBER OF INVESTORS*), and, in model (3), it is company development stage (*LATER OR EXPANSION*). All regressions include constant, deal, and county characteristics, strategy *x* year, company, county, and year fixed effects. We define strategy as investments in specific industries: 1) information technology; 2) medical, health, or life science; or 3) non-high technology. Standard errors are clustered by VC firm. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 90,020 observations. All variables are as defined in Appendix 1. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

Panel 1. ADHERENTS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
ADHERENTS	0.131**	(2.53)	0.199***	(2.96)	0.366**	(2.31)
CONTROLS	Yes		Yes		Yes	
STRATEGY x YEAR FE	Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.233		0.234		0.047	

Panel 2. DENOMINATION

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
DENOMINATIONS	0.010***	(5.81)	0.194***	(6.14)	0.151***	(2.64)
CONTROLS	Yes		Yes		Yes	
STRATEGY x YEAR FE	Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.293		0.293		0.047	

Table F

Change in County Analysis

This table shows OLS regression analyses comparing investments for VCs that relocated to higher religiosity counties to those of VCs that relocated to lower religiosity counties. Panel A presents regressions where change in county religiosity is measured as the number of adherents scaled by county population; in panel B, change in county religiosity is measured as the number of congregations per 1,000 people in a county. In model (1), the dependent variable is the number of rounds (*NUMBER OF ROUNDS*), in model (2), it is the number of round investors (*NUMBER OF INVESTORS*), and, in model (3), it is company development stage (*LATER OR EXPANSION*). *LOW_HIGH_ADHERENTS (LOW_HIGH_DENOMINATIONS)* is an indicator variable that equals 1 if mean *ADHERENTS (DENOMINATIONS)* for the county in which the VC was located prior to the move is lower than mean *ADHERENTS (DENOMINATIONS)* for the county the VC was located after relocation. *POST_CHG* is an indicator variable that equals 1 after relocation, and 0 otherwise. All regressions include constant, deal, and county characteristics, company, county, and year fixed effects. Standard errors are clustered by year. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 3,293 observations. All variables are as defined in Appendix 1. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

Panel 1. ADHERENTS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
POST_CHG*LOW_HIGH_ADHERENTS	**0.152****	**(2.43)**	**0.192****	**(2.06)**	**0.002**	**(0.05)**
LOW_HIGH_ADH	-0.038	(-0.94)	-0.039	(-0.65)	0.014	(0.67)
POST_CHG	-0.094**	(-2.06)	-0.075	(-1.15)	0.001	(0.05)
CONTROLS	Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.279		0.337		0.151	

Panel 2. DENOMINATIONS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
POST_CHG*LOW_HIGH_DENOMINATIONS	**0.025**	**(0.38)**	**0.105**	**(1.00)**	**-0.040**	**(-1.10)**
LOW_HIGH_CH	0.050	(1.12)	0.041	(0.53)	0.036	(1.58)
POST_CHG	-0.056	(-1.00)	-0.085	(-0.94)	0.037	(1.07)
CONTROLS	Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	

R-SQ	0.278	0.337	0.151

Table G

VC Religiosity and Agency Conflict

This table presents OLS regression analyses of religiosity and technology industry interaction. Panel A presents regressions where religiosity is measured as the number of adherents scaled by county population. and panel B as the number of congregations per 1,000 people in a county. In model (1), the dependent variable is the number of rounds (*NUMBER OF ROUNDS)*, in model (2) it is the number of round investors (*NUMBER OF INVESTORS*), and, in model (3), it is company development stage (*LATER OR EXPANSION*). All regressions include constant, deal, and county characteristics, company, county, and year fixed effects. Standard errors are robust and clustered by VC firm. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 90,020 observations. All variables are as defined in Appendix 1. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

Panel 1. ADHERENTS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
ADHERENTS	0.040	(0.44)	0.010	(0.13)	0.114*	(1.66)
ADHERENTS*C_IT	**0.137****	**(1.99)**	**0.281****	**(2.46)**	**0.027**	**(0.50)**
C_IT	0.042	(1.21)	0.142**	(2.44)	0.058**	(2.17)
CONTROLS	Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.229		0.285		0.061	

Panel 2. DENOMINATIONS

	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
DENOMINATIONS	0.069**	(2.19)	0.163***	(3.16)	0.037	(1.47)
DENOMINATIONS*C_IT	**0.054*****	**(2.64)**	**0.067****	**(2.06)**	**0.024**	**(1.60)**
C_IT	0.079***	(4.51)	0.261***	(9.50)	0.057***	(5.30)
CONTROLS	Yes		Yes		Yes	
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.229		0.288		0.061	

Table H

Protestantism versus Catholicism

This table presents OLS regression analyses examining the influence of the predominance of Protestantism relative to Catholicism on VC investment decisions. *PROTESTANTS TO CATHOLICS* is defined as the number of adherents to Protestant denominations, scaled by the number of adherents to the Catholic denomination. In model (1), the dependent variable is the number of rounds (*NUMBER OF ROUNDS*), in model (2), it is the number of round investors (*NUMBER OF INVESTORS*), and, in model (3), it is company development stage (*LATER OR EXPANSION*). All regressions include constant, deal, and county characteristics, company, county, and year fixed effects. Standard errors are clustered by year. The sample includes all round-by-round VC investments in portfolio firms from 1980 through 2014. The sample size consists of 91,020 observations. All variables are as defined in Appendix 1. ***, **, and * denote 1%, 5%, and 10% significance levels, respectively.

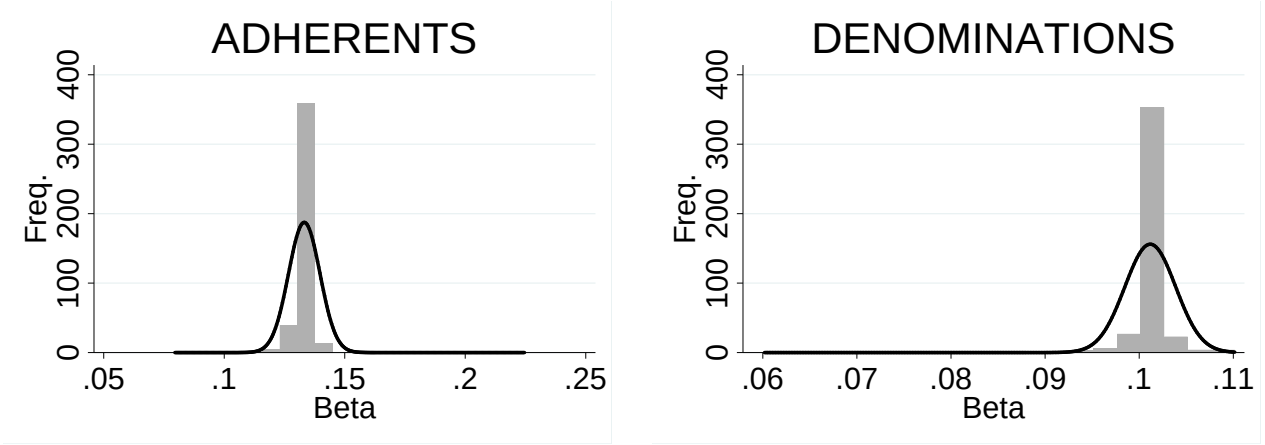
	(1) NUMBER OF ROUNDS		(2) NUMBER OF INVESTORS		(3) LATER OR EXPANSION	
	Coeff.	t-Stat	Coeff.	t-Stat	Coeff.	t-Stat
PROTESTANTS TO CATHOLICS	0.008*	(1.76)	0.021***	(2.71)	0.004	(1.01)
COUNTY FE	Yes		Yes		Yes	
YEAR FE	Yes		Yes		Yes	
R-SQ	0.228		0.285		0.062	

Figure A

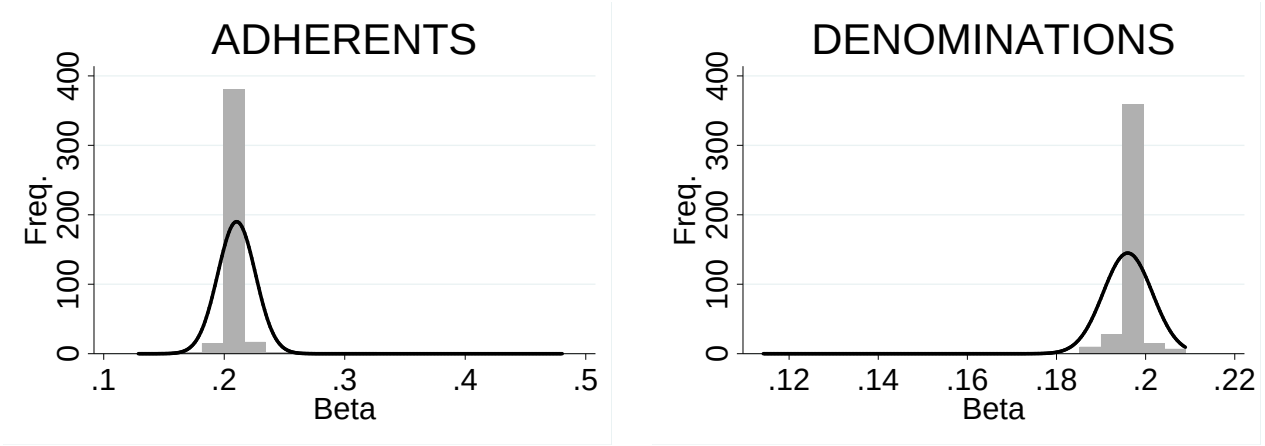
Distribution of Estimated Coefficients

This figure presents the distribution of estimated coefficients beta from regression equation: *NUMBER OF ROUNDS* = α +*βRELIGIOSITY* + *Controls* + *County F.E.* + Year F.E. + ε in panel A, *NUMBER OF INVESTORS* = α +*βRELIGIOSITY* + *Controls* + *County F.E.* + *Year F.E.* + *ε* in panel B, and *LATER OR EXPANSION* = α +*βRELIGIOSITY* + *Controls* + *County F.E.* + *Year F.E.* + *ε* in panel C for a sample that excludes each county one by one.

Panel 1. Number of Rounds



Panel 2. Number of Investors



Panel 3. Later or Expansion