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Do progressive social norms affect economic outcomes? Evidence from corporate takeovers☆

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ABSTRACT

This paper investigates how religion-induced attitudes toward change and diversity affect corporate acquisition decisions. By studying the variation in religious adherence across U.S. counties, we find that acquirer announcement returns and total synergy are larger in counties in which progressive religious denominations are popular. In contrast, conservative religious denominations affect neither acquirer announcement returns nor total synergies. Our evidence indicates that religion-induced social norms are an important driver of large corporate transactions, while various religious denominations affect corporate outcomes differently.

1. Introduction

The United States is diverse in terms of its religious composition and the geographic distribution of religious groups. This religious diversity can have tangible consequences for the way corporate decisions are made. Ultimately, corporations are not detached from their local environment, but rather interact with their surroundings through their employees, local customers, and local suppliers (Gao et al., 2011). Consistent with this intuition, prior research has demonstrated that religious diversity has significant implications for local firms. For example, Hilary and Hui (2009) find that the level of religiosity surrounding the firm's headquarters influences corporate policies by reducing executives' appetite for risk, while Callen and Fang (2015) show that firms headquartered in counties with high levels of religiosity exhibit lower managerial bad-news-hoarding activities, which results in lower stock price crash risk.

Motivated by prior literature on the importance of geographic religious heterogeneity across the U.S. in economic outcomes, we examine how religion-induced attitudes affect corporate merger and acquisition outcomes. Our study differs from prior literature

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(e.g., Hilary and Hui, 2009; Callen and Fang, 2015) in that we focus on a specific religious denomination – Mainline Protestants – instead of regarding all religious denominations as a homogeneous group. Mainline Protestants differ from other religious denominations in terms of attitudes towards change and diversity (i.e., progressive attitudes). Since acquirers' attitudes towards change and diversity are essential to the takeover process, we examine whether acquirers located in areas with a high proportion of Mainline Protestants are better able to integrate with the target and realize synergies. Our empirical findings show that acquirer announcement returns and total synergy gains are higher for acquirers located in areas with a high proportion of Mainline Protestants, and there is no such effect for other religious denominations. The findings provide supporting evidence of our argument and highlight the unique impact of the religious social norms associated with Mainline Protestants on economic outcomes.

Religion plays an important role in shaping the behavioral preferences of individuals and societies.[1] Indeed, the existing literature identifies attitudes towards change and diversity as one of the most important distinguishing factors between various religious groups (Jelen and Wilcox, 1990; Tamney and Johnson, 1997; Reimer and Park, 2001; Tuntiya, 2005). Among the three major Christian denominations (i.e., Catholics, Mainline Protestants, and Evangelical Protestants), Mainline Protestants hold considerably more liberal views of the world (e.g., interpretation of the Bible and ways to salvation), which makes them less conservative and more tolerant of different views (Beatty and Walter, 1984; Hunter, 1984; Jelen and Wilcox, 1990). Since local attitudes toward change and diversity are closely related to religious norms in the local area, we argue that people in areas with a greater proportion of Mainline Protestants tend to be more progressive, tolerant and open to new ways of doing business.

The success of corporate mergers and acquisitions relies on synergies realized in integrating the assets between the acquirer and the target. Numerous studies show that organizational flexibility, collaboration with the target, and learning from the target are key elements of realizing synergies (Malekzadeh and Nahavandi, 1990; Zollo and Singh, 2004; Datta, 2006; Thach and Nyman, 2001). Firms located in areas in which progressive and tolerant views are more pronounced have internal cultures that are more open to change. Since openness to change helps the acquirer to nourish and integrate the strengths of the target to realize synergies, it is regarded as an essential element of successful mergers and acquisitions (Malekzadeh and Nahavandi, 1990; Thach and Nyman, 2001; Zollo and Singh, 2004; Datta, 2006). Further, progressive culture is able to reduce conflicts and the associated transaction costs in merger and acquisition deals such as excess employee turnover and lower-level agency problems, which leads to more synergies. Therefore, we argue that firms located in areas with proportionally higher Mainline Protestant adherences are better acquirers in that they have higher announcement returns of takeover deals and realize greater synergy gains in the takeover process.

Our core argument is that social norms pertaining to tolerance and change are relevant for takeover outcomes because these social norms will systematically influence the attitudes of employees at all levels of the organization. Since the willingness with which employees below the executive levels embrace change and diversity is vital to takeover success, we expect the positive influence of Mainline Protestant adherence on takeover returns to be stronger amongst labor-intensive firms. At the same time, we expect that powerful CEOs, who are in a better position to instill their individual attitudes on their employees, to reduce the effect that Mainline Protestant adherence has on takeover outcomes.

We collect a large sample of publicly listed acquirers. We calculate the ratio of Mainline Protestant adherents to the total population of the county in which each acquirer is headquartered. Since stock prices are expected to reflect the market perception of the synergies that the acquirer will successfully realize, we relate the acquirer's Mainline Protestant ratio with the announcement returns over a five-day period. Consistent with our *ex ante* expectation, we find a strong positive relation between the Mainline Protestant ratio and announcement returns. The results are robust to alternate measures of announcement returns, the inclusion of a large set of control variables, and correcting for data truncation issues using Heckman's (1979) methodology. More significantly, we find that our results remain unchanged when we control for the religion-induced norms surrounding the target firm's headquarters. This result suggests that the acquiring firm employees' attitudes towards change and diversity influence takeover outcomes, independent of the attitudes of the target firm.

In further analysis, we examine how labor intensity and CEO characteristics influence the relation between Mainline Protestant adherence and takeover outcomes. We find that religion-induced social norms have a greater effect on announcement returns amongst labor-intensive firms. This result is consistent with the idea that religion-induced local norms are important for takeover outcomes because employees below the executive level are important for generating synergy gains. However, we find no evidence that CEO characteristics, such as CEO ability and overconfidence (Demerjian et al., 2012; Malmendier and Tate, 2008), influence the effect that religion-induced progressive social norms have on takeover outcomes. However, we find that social norms have a weaker effect on announcement returns amongst CEO-centric firms (i.e., firms with powerful CEOs), suggesting that powerful CEOs have a stronger influence on the internal culture within firms, thus making such firms less susceptible to local social norms. Although the presence of these powerful CEOs can mitigate the benefits associated with progressive social norms, their presence can also overcome the disadvantage associated with conservative social norms.

In the final set of tests, we directly examine whether the positive association between Mainline Protestant populations and acquirer announcement returns is due to improved synergy creation or whether higher acquirer returns are due to the ability of acquirers located in high Mainline Protestant areas to expropriate a greater portion of synergy gains for their own shareholders. Our results strongly support the notion that more positive attitudes towards change and diversity facilitate greater synergy creation. Mainline Protestant populations are positively associated with premiums paid to the target and overall synergy creation. In contrast, we find no evidence that Mainline Protestant populations are related with greater synergy extraction by the acquirer. In sum, our results suggest that progressive religion-induced social norms are economically beneficial in the takeover process.

[1] See Iannaccone (1998) for a review.

Our study makes at least three major contributions to the extant literature on corporate decision-making. First, we contribute to the literature that examines the importance of behavioral biases in affecting corporate outcomes. A recent trend in the behavioral finance literature has been to link the personal preferences of top executives (mainly CEOs) with acquirer takeover returns. For example, several papers look at the effect of CEO overconfidence (Malmendier and Tate, 2008), CEO pay incentives (Hagendorff and Vallascas, 2011), CEO power (Chikh and Filbien, 2011), and CEO disposition effect (Baker, Pan, and Wurgler, 2012).[2] While the CEO is the main driver of the decision to acquire a target firm (Graham et al., 2013), the actual realization of synergy gains is driven largely by employees below the executive level, who must adapt and remain productive in a changed organizational structure. Therefore, how rank-and-file employees respond to takeovers is key to whether synergies are realized following an acquisition. Our results indicate that social norms surrounding acquirer headquarters also significantly influence the shareholder wealth created by acquiring firms. From this perspective, our study is closely related to Ahern et al. (2015), who demonstrate that cross-national cultural norms play a significant role in affecting takeover outcomes. Our approach nevertheless differs significantly from theirs in that we concentrate on the influence of local- and religion-induced norms in a single country, while Ahern et al. (2015) conduct a cross-country study based on cultural proximity instead of cultural norms.[3] Furthermore, in additional tests we explicitly show that our results are not driven by the distance in religion-induced norms between target and acquirer.

Our second contribution is to show that economic outcomes vary depending on different religious groups. To our knowledge, this is the first paper to directly link a county's social norms with the proportional adherence rates of Mainline Protestants. We are aware of two independent studies related to ours. Kumar et al. (2011) and Chen et al. (2014) report that the ratio of Catholics to Protestants at the county level is associated with local gambling preferences and, hence, market outcomes and corporate innovation. While these two papers concentrate on the varying degrees of gambling preferences promoted by Catholics, we focus on the attitudes towards change and diversity promoted by Mainline Protestants. Attitudes towards change and diversity are identified in the religion studies literature as the most important difference between various Christian religious groups (Wilcox and Jelen, 1990; Tamney and Johnson, 1997; Reimer and Park, 2001; Tuntiya, 2005).

Third, we contribute to the literature by proposing a religion-based proxy of social norms towards change and diversity. An alternate proxy could be the political voting history at the local level or the political preferences of top executives indicated by their donation history to political parties (Hutton et al., 2014, 2015). Nevertheless, compared with moral tolerance, political values are perhaps even more strongly associated with other factors, such as attitudes towards free enterprise and the protection of the environment (Rokeach, 1973; Feldman, 1988; Goren, 2005; Goren et al., 2009). Furthermore, political parties are not homogenous, but rather have numerous factions with differing attitudes towards change and diversity. For this reason, the geographic distribution of political values and the political values of top executives are a noisy measure of social attitudes towards change. Therefore, our religion-based proxy appears to be one of the best available proxies for social norms with respect to people's attitudes towards change at the local level and can be used by future studies that examine the effect of local social norms on economic outcomes.

2. Literature review and hypothesis development

We divide Christian denominations into three main groups: Catholics, Mainline Protestants, and Evangelical Protestants. A unifying theme across all Christian faiths is their reverence of the Bible and the belief that the acceptance of the death and resurrection of Jesus Christ offers salvation and eternal life (Metzger and Coogan, 1993). Although small differences exist between the canon followed by Catholics and that of the various Protestant religions (primarily with regard to the Old Testament), the Bible is virtually identical for all Christian denominations. The differences between these groups lie in the perceived significance of the Bible and the organization of the various churches. These differences have the potential to influence attitudes towards change and diversity.

A key tenet of Evangelical Protestantism is the view that the Bible is unerring in all of its claims about the nature of the world and God (Green, 1996). As a consequence, Evangelical Protestants are bound by a rigid set of laws that are not readily open to interpretation. Evangelical Protestants also believe in the idea that individuals must accept salvation for themselves – that is, they must become converted. The implication of this belief system is that people in other religious traditions, especially those outside of Christianity, do not have direct access to God. Evangelical Protestants therefore have a tendency to be entrenched in their own worldview and to be less responsive to alternate views. Similarly, the Roman Catholic Church treats the Bible as inerrant and as the main source of doctrinal truths, although the Catholic Church supplements the Bible with additional texts. In addition, the Catholic Church also believes that the path to God is available only to those that belong to the Church. Catholics and Evangelicals therefore share many of the same conservative values both in terms of a strict and rigid interpretation of the Bible and the belief that their path to God is the only one available to all.[4]

In contrast, Mainline Protestants hold considerably more liberal views. They read the Bible not as the final word of God but as a historical document that contains many important truths but that nevertheless must be interpreted in every age by individuals from

[2] In addition, managerial preferences have been associated with investment decisions (Malmendier and Tate, 2005; Li and Tang, 2010), takeover activity (Malmendier and Tate, 2008; Aktas et al., 2016), dividend policy (Deshmukh et al., 2013) and corporate innovation (Hirshleifer et al., 2012), among other activities.

[3] Ferris et al. (2013) also show that religion is relevant for merger and acquisition outcomes in an international setting. Their study, however, does not examine the influence of specific Christian denominations, but rather relies on the assumption that Catholicism is related to overconfidence.

[4] The main difference between Evangelical Protestants and Catholics is that the Roman Catholic Church does not rely on the Bible as the sole source of its teachings but suggests that the Holy Spirit reveals God's truth through the Bible, Sacred Tradition (teachings believed by the Church to have been handed down since the time of the Apostles), and the Magisterium (the Church's teaching authority as exercised by the Pope and the College of Bishops).

that time and place. In addition, Green (1996) argues that while Mainline Protestants, like Evangelical Protestants and Catholics, believe that Jesus is the way to salvation, they believe that perhaps there are other ways to salvation as well. People in other religious traditions, even outside of Christianity, may also have access to God's grace and to salvation on their own terms and through their own means. Given these more liberal and all-encompassing theological beliefs, Mainline Protestants should be better able to deal with people and institutions that are different from them.

A large body of empirical literature confirms that religious adherence is related to the way people respond to change and alternative viewpoints. Beatty and Walter (1984), Hunter (1984) and Jelen and Wilcox (1990) show that denominations that have a commitment to scriptural literalism and a tradition of exclusive revealed truth, such as Evangelical Protestants and Catholics, tend to be more conservative and intolerant of differing views. Similarly, Tamney and Johnson (1997) find that the worldviews of Evangelical Protestants lead to greater intolerance, while Mainline Protestants tend to be exceptionally tolerant of minorities. Reimer and Park (2001) find that Evangelical Protestants are less willing than Mainline Protestants and Catholics to grant civil liberties to unpopular groups. Finally, Tuntiya (2005) show that the belief in the literal truth of the Bible (Evangelical Protestants and, to a lesser extent, Catholics) is associated with low support for civil liberties.

Overall, the empirical literature shows that Mainline Protestants hold considerably more progressive and pluralistic attitudes than Evangelical Protestants, while Catholics fall somewhere in between these two extremes. Given the above discussion, we argue that people in areas with greater proportions of Mainline Protestant adherences are more progressive, tolerant and open to new ways of doing business, while areas with greater proportions of Evangelical Protestant adherences will be more conservative, entrenched in their way of doing things, and unwilling to adopt alternate viewpoints.

Corporate mergers and acquisitions involve the integration of the assets between the acquirer and the target to realize synergies. However, synergies are quite difficult to gain in practice (Damodaran, 2015). For example, a firm may acquire a target to combine the different functional strengths of both companies, but unless the acquirer is able to nourish the target's strengths and find a way of integrating these strengths within its own organizational structure, these anticipated synergies will never be realized. Nourishing and integrating the strengths of a target are no easy feat and require a high level of adaptability from the acquirer. Numerous studies show that organizational flexibility, collaboration with the target, and learning from the target are key elements of successfully realizing synergies (Malekzadeh and Nahavandi, 1990; Zollo and Singh, 2004; Datta, 2006; Thach and Nyman, 2001).[5]

Since religion-induced norms are likely to reverberate within corporations (Hilary and Hui, 2009; Grullon et al., 2010; Kumar et al., 2011; Chen et al., 2014), firms located in areas with greater proportions of Mainline Protestant adherences should have internal cultures that are more open to change. Openness to change, in turn, is an essential element of successful synergy realization, as it can help the acquirer to nourish and integrate the strengths of the target (Malekzadeh and Nahavandi, 1990; Thach and Nyman, 2001; Zollo and Singh, 2004; Datta, 2006). Further, religion-induced progressive culture is able to reduce conflicts and the associated transaction costs in merger and acquisition deals. For example, potential tension between bidding firm employees' personal cultural dissonance and the rewards for successful integration could lead to additional transaction costs, such as excess employee turnover and lower-level agency problems. Firms with progressive cultures are able to avoid such costs, which leads to more synergies in merger and acquisition deals. Therefore, we hypothesize that firms located in areas with proportionally higher Mainline Protestant adherences are better acquirers in that they have higher announcement returns of takeover deals and realize greater synergy gains in the takeover process.

3. Data

Our study period ranges from January 1990 to December 2010. The initial sample includes all domestic takeover announcements from the SDC Platinum database that are valued at $1 million or more, where 100% of the target is acquired, and where the bidder does not own more than 49% of the shares prior to the takeover bid. We exclude mergers in which the transaction size is less than one percent of the market value of the acquirer. For each deal, we record deal-specific information. We obtain information on the state and county in which the acquirer is headquartered from the Compustat database (supplemented by hand-collected data in which such information is missing). Appendix 2 provides detailed information on the takeover deal screening employed in this study.

3.1. Acquirer announcement returns

In our baseline analysis, we test whether acquirers located in areas with larger Mainline Protestant populations make takeover bids that are more positively valued by the share market. Towards this goal, we calculate cumulative abnormal returns over a five-day event window surrounding the takeover announcement. We employ the standard market model (using an estimation period of 130 to 30 days before the announcements to measure α and β) and calculate abnormal returns over a five-day window that begins two days before the announcement and ends two days after. We denote this primary dependent variable as *MM CAR [−2, +2]*. For robustness, we use alternate specifications to measure cumulative abnormal returns around the takeover announcement. Specifically, we use a three-day event window (*MM CAR [−1, +1]*) and use market returns as benchmark returns (*MAR CAR [−2, +2]* and *MAR CAR [−1, +1]*).

Descriptive statistics are reported in Panel A of Table 1. The average acquirer cumulative abnormal returns around the takeover

[5] The difficulty associated with realizing synergies in practice is highlighted by the fact that investors have historically taken a negative view of the value that flows to acquiring shareholders as a result of takeovers (Jensen and Ruback, 1983; Andrade et al., 2001; Moeller et al., 2005).

Table 1
Descriptive Statistics.

This table presents the summary statistics of the data used in the paper. The study period is from January 1990 to December 2010. Panel A, reports the descriptive statistics for acquirer announcement returns. The event window is reported in parentheses of each variable, while the prefix MM and MAR identify the benchmark return used when calculating cumulative abnormal returns (CAR). MM stands for market model returns, while MAR stands for market returns. Panel B reports the primary local religion adherence variables used in this paper. *Mainline ratio* is the portion of a county's population that adheres to mainline protestant faiths. Similarly, *Evangelical ratio* and *Catholic ratio* capture the portion of a county's population which adheres to either evangelical protestant faiths or the Roman Catholic faith, respectively. *Religiosity ratio* captures the portion of a county's population that adheres to any religious faith. Panel C reports acquiring firm characteristics, while Panel D reports takeover deal characteristics. *Relative deal size* is the relative size of the deal with respect to the value of the acquirer's total assets. *Same industry* is an indicator variable equal to one if the acquirer and target firms are both in the same 2-digit SIC code industry. *Geographic diversification* is an indicator variable equal to one if the acquirer and target firms have their headquarters in different US states.

	Mean	Std.	P25	Median	P75	Obs.
Panel A: Acquirer Market Response Variables						
MM CAR [−2,+2]	0.77	8.98	−2.92	0.26	4.00	17,086
MM CAR [−1,+1]	0.75	7.75	−2.27	0.22	3.23	17,086
MAR CAR [−2,+2]	1.19	8.98	−2.61	0.53	4.45	17,086
MAR CAR [−1,+1]	0.99	7.78	−2.13	0.39	3.52	17,086
Panel B: Local Religion Variables						
Mainline ratio	0.08	0.05	0.04	0.07	0.11	17,086
Evangelical ratio	0.12	0.10	0.05	0.08	0.18	17,086
Catholic ratio	0.25	0.14	0.15	0.24	0.36	17,086
Religiosity ratio	0.53	0.11	0.44	0.54	0.61	17,086
Panel C: Acquirer Characteristics Variables						
Assets ($ 'M)	8905	72,002	117.17	499.79	2010.81	17,086
MTB	1.80	2.55	0.86	1.23	1.96	17,086
PPE/Assets	0.20	0.23	0.03	0.11	0.27	17,086
Sales growth	0.82	12.52	0.07	0.20	0.47	17,086
Total IO	0.54	0.45	0.29	0.54	0.75	17,086
Cash/Assets	0.03	0.25	0.01	0.06	0.11	17,086
ROA	0.08	0.15	0.02	0.08	0.16	17,086
Leverage	0.26	0.22	0.08	0.23	0.42	17,086
R & D/Assets	0.03	0.08	0	0	0.02	17,086
Panel D: Deal Characteristics Variables						
Deal value ($ 'M)	244.60	1646	9.95	30.37	110	17,086
Number bidders	1.01	0.11	1	1	1	17,086
Public target	0.12	0.32	0	0	0	17,086
Relative deal size	0.18	1.85	0.02	0.07	0.21	17,086
Same industry	0.58	0.49	0	1	1	17,086
Geographic diversification	0.76	0.43	1	1	1	17,086
Hostile takeover	0.01	0.05	0	0	0	17,086
Pure Cash	0.33	0.46	0	0	1	17,086

announcement for all measures are small but positive (means ranging from 0.77% to 1.19%, with medians ranging from 0.22% to 0.53%). For all measures, the standard deviation around the mean is quite large, ranging from 7.75% to 8.98%. This large standard deviation in acquirer announcement returns shows that actual announcement returns vary between acquirers. We posit that one factor that is important for determining acquirer announcement returns is the religion-induced cultural predisposition of the acquiring firm.

3.2. County-level religious characteristics

Our first main dataset captures the geographical variation in religious composition across counties of the United States. Religious adherence data are collected from the "Churches and Church Membership" files from the Association of Religion Data Archives (ARDA). The dataset compiled by the Glenmary Research Center contains county-level statistics for 149 religious bodies, including information on the number of churches and the number of adherents of each church. Following the ARDA guidelines, we divide Christian denominations into three main groups: Catholics, Mainline Protestants, and Evangelical Protestants. ARDA uses the classification scheme developed by Steensland et al. (2000). However, when a denomination does not appear in Steensland et al. (2000), ARDA classifies the denominations using the definitions in Mead and Hill (1995) and Melton (1998). A list of religious denominations that are classified as Mainline Protestant and Evangelical Protestant are provided in Appendix 1. During our study period, county-level religion data are available for the years 1990, 2000, and 2010. Following Hilary and Hui (2009) and Kumar et al. (2011), we linearly interpolate the religion data to obtain the values for the years 1990–2010.

We limit our analyses to Christian religious denominations. Christian religions have the strongest following (76% of Americans are Christian according to the 2008 survey conducted by ARDA) and historically had the greatest impact on shaping American values (Smith, 2000). We measure the strength of Catholic-induced values at the county level by taking the ratio of Catholic adherents to the total population of a county. For Protestants, we stratify the Protestant ratio into two categories: (i) Mainline ratio (the portion of a county population adhering to Mainline Protestant churches); and (ii) Evangelical ratio (the portion of a county population adhering

to Evangelical Protestant churches). Mainline Protestants tend to be considered progressive, whereas the Evangelical Protestant denominations are deemed to promote considerably more conservative values and attitudes (Wilcox and Jelen, 1990; Tamney and Johnson, 1997; Reimer and Park, 2001; Tuntiya, 2005).

Panel B of Table 1 presents the summary statistics of religious adherence across our sample. The Mainline Protestant population, on average, accounts for 8% of the total population, while Evangelical Protestants account for 12% of the population. Roman Catholics account for 25% of the population. Since the average level of religiosity (adherence to Christian and non-Christian faiths) is 53%, Christian denominations (Catholic and Protestant) account for approximately 84% of overall religious adherence in the sample counties. This percentage is close to the 76% reported by ARDA.

3.3. Firm characteristics

We supplement our local religious adherence data with information on various acquiring firm attributes from the Compustat database. We measure firm size at the beginning of the acquisition year as the natural logarithm of total assets measured in millions of 2006 dollars (*Ln (Assets)*). We measure the firm's growth opportunities with the market-to-book ratio (*MTB*), and capital intensity as property, plant and equipment scaled by total assets (*PPE/Assets*). We also control for sales growth and cash scaled by assets (*Sales growth* and *Cash/Assets*, respectively). We also control for institutional ownership following Chen et al. (2007). We capture operating performance using return on assets (*ROA*), which is defined as net income divided by total assets. Leverage is defined as total debt divided by total assets (*Leverage*). Finally, we include R & D intensity (*R & D/Assets*), which is measured as R & D expenditure divided by total assets, where we replace missing R & D values with zeros. R & D intensity is included because Hilary and Hui (2009) find that R & D characteristics vary with the religiosity ratio.

Panel C of Table 1 reports summary statistics of firm-level characteristics. The average *Assets* is $8.905 trillion and the average *Ln(Assets)* is 6.71. *MTB* is 1.80 on average, with a standard deviation of 2.55, while average *PPE/Assets* is 0.20 with a standard deviation of 0.23. The average *Sales growth* is 0.80, while *Cash/Assets* is 0.03. Average *Total IO* is 0.54, average *ROA* is 0.08, and total assets account for 26% of total assets. Finally, R & D expenditure reflects 3% of total assets on average.

3.4. Deal characteristics

From the SDC Platinum database, we collect a number of deal-specific variables that the prior literature identifies as affecting post-announcement acquirer returns (Moeller et al., 2004, 2005; Chang, 1998). These variables include deal value (*Deal value*), the number of bidders (*Number bidders*), the trading status of the target (*Public target*), the relative size of the takeover deal with respect to the acquirer's total assets (*Relative deal size*), an indicator variable identifying whether the target and acquirer are in the same 2-digit SIC code industry (*Same industry*), an indicator variable identifying whether the target and acquirer are located in different states (*Geographic diversification*), a hostile takeover dummy (*Hostile takeover*), and an indicator variable identifying whether the takeover deal was entirely paid for in cash (*Pure cash*).

The descriptive statistics reported in Panel D of Table 1 show that the natural logarithm of deal value is 3.59. Most takeover bids are uncontested, with approximately 12% of the targets being publicly traded. The average target is generally small with respect to the acquirer, with the deal value representing 18% of the acquirer's total asset value. Target firms are in the same industry as the acquirer in 58% of the cases, with 76% of takeover bids representing geographic diversification. Only 1% of takeovers are classified as hostile, while 33% of takeovers are settled with cash.

4. Local religious adherence and acquirer announcement returns

4.1. Baseline results

We begin our empirical analysis by regressing acquirer announcement returns (*CAR [−2, +2]*) on our three religion adherence variables (*Mainline ratio, Evangelical ratio,* and *Catholic ratio*). We run four model specifications. In the first three specifications (columns (1) to (3)), we regress acquirer announcement returns on each religion adherence variable separately. In column (4), we incorporate all three religion adherence variables together. To account for the fact that different counties have different levels of overall religious adherence, we control for county-level religiosity across all regressions. We correct standard errors for clustering at the firm and county levels.

We use a comprehensive set of control variables to isolate the influence of local religion beliefs on acquirer returns. Specifically, we include the firm and deal characteristic variables discussed in sections III.C and III.D to hold all acquirer specific factors constant and to hold deal characteristics constant. As a consequence, our results are unlikely to be the result of acquirer-specific factors and due to factors specific to takeover characteristics. In order to address the time-varying nature of religious adherence, we include year fixed effects in all our regression tests. Finally, to account for the fact that the value implications of takeovers might be different across industries, we include industry fixed effects, where industry is defined at the 2-digit SIC code level.

Consistent with our *ex ante* expectation, we find that the coefficient estimate on the *Mainline ratio* is positive and significant in column (1), while the coefficient estimates on both the *Evangelical ratio* and *Catholic ratio* are not significantly different from zero. We find consistent results in column (4), where we include all three religion adherence variables together. In column (4), the coefficient estimate on the *Mainline ratio* is positive (0.05) and statistically significant at the 1% level. These results are economically meaningful. The coefficient estimate on the *Mainline ratio*, which is shown in column (4), implies that a firm located in a county with

Table 2
Local Religious Adherence and Takeover Returns – Baseline Results.

This table presents the baseline results on the relation between religious adherence around the acquirer's location and the acquirer's cumulative abnormal returns around the takeover announcement. The dependent variable is the cumulative abnormal return over a five-day event window [−2, +2], where normal returns are calculated using the market model. All regressions include industry and year fixed effects, where industry is defined at the 2-digit SIC code level. Standard errors are corrected for clustering at the joint county and firm levels. *T-statistics* are reported in parentheses, where the superscripts *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	MM CAR [−2,+2]			
	(1)	(2)	(3)	(4)
Mainline ratio	0.0221*			0.0547***
	(1.84)			(2.88)
Evangelical ratio		−0.0001		0.0195
		(−0.53)		(1.15)
Catholic ratio			0.0104	0.0236
			(1.55)	(1.63)
Religiosity ratio	0.0104	0.0086	0.0003	−0.0175
	(1.28)	(1.52)	(0.25)	(−0.79)
Ln (Assets)	−0.0142***	−0.0099***	−0.0146***	−0.0137***
	(−7.83)	(−8.37)	(−8.62)	(−7.94)
MTB	0.0001	−0.0003	−0.0035	0.0031
	(0.14)	(−0.23)	(−0.32)	(0.02)
PPE/Assets	0.0005	0.0125	0.0106	0.0182
	(0.72)	(0.23)	(0.32)	(0.66)
Sales growth	0.0128*	0.0006	0.0003	0.0141
	(1.70)	(1.15)	(1.10)	(1.18)
Total IO	−0.0187***	−0.0127***	−0.0125***	−0.0183***
	(−2.83)	(−2.94)	(−3.14)	(−2.90)
Cash/Assets	0.0007	0.0141	0.0169	0.0029
	(0.05)	(0.49)	(0.32)	(0.39)
ROA	−0.0211***	−0.0286***	−0.0217***	−0.0201**
	(−2.66)	(−2.53)	(−2.76)	(−2.44)
Leverage	0.0249***	0.0247***	0.0263***	0.0210***
	(4.25)	(4.66)	(4.41)	(4.64)
R & D/Assets	−0.0225	−0.0296	−0.0205	−0.0241
	(−1.28)	(−1.22)	(−1.44)	(−1.15)
Ln (Deal value)	0.0157***	0.0178***	0.0118***	0.0182***
	(4.59)	(5.04)	(4.53)	(4.81)
Number bidders	−0.0112	−0.0165	−0.0149*	−0.0109
	(−1.56)	(−1.53)	(−1.77)	(−1.41)
Public target	−0.0223***	−0.0287***	−0.0292***	−0.0299***
	(−10.31)	(−10.75)	(−10.73)	(−10.67)
Relative deal size	0.0006	0.0005	0.0004	0.0007
	(0.14)	(0.15)	(0.16)	(0.15)
Same industry	0.0117	0.0104	0.0194	0.0107
	(1.23)	(0.25)	(1.04)	(1.32)
Geographic diversification	−0.0135	−0.0185	−0.0135	−0.0173
	(−0.95)	(−0.61)	(−0.63)	(−0.99)
Hostile takeover	−0.0093	0.0010	−0.0174	0.0064
	(−0.35)	(0.11)	(−0.32)	(0.13)
Pure Cash	0.0143***	0.0112***	0.0138***	0.0173***
	(3.66)	(3.57)	(3.08)	(3.43)
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Observations	17,086	17,086	17,086	17,086
Adj. R^2	0.03	0.03	0.03	0.03

a Mainline Protestant ratio in the 75th percentile (ratio of 0.11) achieves announcement returns that are 35 basis points higher than those of an acquirer located in a county with a Mainline Protestant population in the 25th percentile (ratio of 0.04). Given that the median announcement return across all acquirers is 26 basis points, this results represents a significant effect.

Turning our attention to the control variables, we find that larger acquirers, acquirers with greater institutional holdings, more highly leveraged acquirers, and acquirers bidding for public targets achieve lower announcement returns. In contrast, ROA, deal value and cash payment are consistently positively associated with announcement returns. These findings are consistent with the extant literature on corporate takeovers (Travlos, 1987; Chang, 1998; Bates and Lemmon, 2003).

4.2. Basic robustness

We present a comprehensive set of robustness tests in Table 3. In these tests, we examine the sensitivity of the baseline results to

Table 3
Local Religious Adherence and Takeover Returns – Robustness Tests.

This table presents the robustness tests for the baselines results presented in Table 2. All tests include the same set of control variables as in Table 2. For brevity, we only report the coefficients on the variables of interest. Panels A to C present results using alternate measures of acquirer's cumulative abnormal returns around the takeover announcement. In Panel D, we control for local demographic factors around the firm's headquarters. In Panels E and F we control for state-level factors which are related with the local culture around the firm's headquarters (political preferences, social capital, and trust). In Panel G, we control for an indicator variable equal to one if the acquiring firm is geographically segmented. Standard errors are corrected for clustering at the joint county and firm levels. *T-statistics* are reported in parentheses, where the superscripts *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Use MM CAR [−1,+1] as dependent variable				
Mainline ratio	0.0206*			0.0345**
	(1.76)			(2.07)
Evangelical ratio		−0.0039		0.0105
		(−0.56)		(0.99)
Catholic ratio			0.0063	0.0176
			(1.45)	(1.43)
All controls	YES	YES	YES	YES
Industry and year FE	YES	YES	YES	YES
Observations	17,086	17,086	17,086	17,086
Adj. R^2	0.03	0.03	0.03	0.03
Panel B: Use MAR CAR [−2,+2] as dependent variable				
Mainline ratio	0.0217*			0.0435**
	(1.80)			(2.44)
Evangelical ratio		−0.0075		0.0165
		(−0.70)		(0.89)
Catholic ratio			0.0037	0.0298*
			(1.57)	(1.75)
All controls	YES	YES	YES	YES
Industry and year FE	YES	YES	YES	YES
Observations	17,086	17,086	17,086	17,086
Adj. R^2	0.03	0.03	0.03	0.03
Panel C: Use MAR CAR [−1,+1] as dependent variable				
Mainline ratio	0.0232*			0.0326*
	(1.94)			(1.80)
Evangelical ratio		−0.0043		0.0184
		(−0.66)		(0.80)
Catholic ratio			0.0028	0.0167
			(1.45)	(1.44)
All controls	YES	YES	YES	YES
Industry and year FE	YES	YES	YES	YES
Observations	17,086	17,086	17,086	17,086
Adj. R^2	0.03	0.03	0.03	0.03
Panel D: Control for headquarter county demographics				
Mainline ratio	0.0233*			0.0427**
	(1.93)			(2.14)
Evangelical ratio		−0.0101		0.0141
		(−1.52)		(0.67)
Catholic ratio			0.0111	0.0198
			(1.57)	(1.45)
Ln (*Population*)	−0.0125	−0.0104**	−0.0146**	−0.0173*
	(−0.99)	(−1.99)	(−2.31)	(−1.77)
Ln (*Income*)	−0.0164	−0.0143	−0.0035	−0.0084
	(−0.91)	(−1.46)	(−1.27)	(−1.49)
Median age	0.0104	0.0074	0.0025	−0.0025
	(1.17)	(0.51)	(0.10)	(−0.05)
Minority ratio	0.0124	0.0164	0.0175	0.0164
	(0.84)	(0.96)	(0.89)	(1.21)
All controls	YES	YES	YES	YES
Industry and year FE	YES	YES	YES	YES
Observations	16,887	16,887	16,887	16,887
Adj. R^2	0.03	0.03	0.03	0.03
Panel E: Control for “Blue State” index				
Mainline ratio	0.0338*			0.0543***
	(1.86)			(2.96)
Evangelical ratio		−0.0109		0.0128
		(−0.81)		(0.83)
Catholic ratio			0.0144	0.0210
			(1.35)	(1.59)
Blue State index	0.0028	−0.0156	−0.0176	−0.0192
	(0.28)	(−0.71)	(−1.15)	(−1.24)
All controls	YES	YES	YES	YES
Industry and year FE	YES	YES	YES	YES

(continued on next page)

Table 3 *(continued)*

Observations	17,086	17,086	17,086	17,086
Adj. R^2	0.03	0.03	0.03	0.03
Panel F: Control for social capital index				
Mainline ratio	0.0219*			0.0547***
	(1.83)			(2.99)
Evangelical ratio		−0.0107		0.0128
		(−0.60)		(0.86)
Catholic ratio			0.0143	0.0262*
			(1.54)	(1.74)
Social capital index	0.0021	−0.0026	−0.0087	−0.0110
	(0.01)	(−0.28)	(−0.24)	(−0.72)
All controls	YES	YES	YES	YES
Industry and year FE	YES	YES	YES	YES
Observations	17,086	17,086	17,086	17,086
Adj. R^2	0.03	0.03	0.03	0.03
Panel G: Control for number of geographic segments				
Mainline ratio	0.0309**			0.0501**
	(2.05)			(2.54)
Evangelical ratio		−0.0132		0.0109
		(−0.29)		(0.90)
Catholic ratio			0.0129	0.0264
			(1.10)	(1.52)
GeoSeg	0.0136*	0.0154*	0.0105*	0.0187*
	(1.86)	(1.83)	(1.80)	(1.85)
All controls	YES	YES	YES	YES
Industry and year FE	YES	YES	YES	YES
Observations	17,086	17,086	17,086	17,086
Adj. R^2	0.03	0.03	0.03	0.03

variations in how announcement returns are measured, as well as additional control variables. All results are based on the same model specification reported in Table 2, including the same control variables and fixed effects. However, for brevity, we report only the coefficient estimates on the variables of interest (*Mainline ratio, Evangelical ratio* and *Catholic ratio*). In all tests, we correct standard errors for clustering at the joint firm and county levels.

In Panels A to C, we use alternate measures of acquirer announcement returns. In Panel A, we utilize a shorter three-day event window ranging from one day before the takeover announcement to one day after the announcement. The results reported in Panel A are very similar to those reported in Table 2. In Panels B and C, we calculate acquirer cumulative abnormal returns using market returns as the benchmark returns (in the baseline tests and in the tests reported in Panel A of Table 3, the benchmark returns were based on the market model). Once again, we find that the results do not change qualitatively relative to the baseline results. We therefore conclude that our results are not sensitive to the choice of methodology in measuring acquirer announcement returns.

In Panel D, we control for demographic characteristics around the acquirers' headquarters because these characteristics can plausibly be related to religious adherence and cultural norms surrounding the firm. Following Hilary and Hui (2009) and Kumar et al. (2011), we control for the size and affluence of each county by including the natural logarithm of a county's population and median personal income into the regression model. In addition, we control for the median age of the county's population and the portion of county residents who are non-white. After the inclusion of these control variables, we find that the coefficient estimates on the variables of interest do not change qualitatively. These results suggest that the effect of religion-induced social norms, rather than differences in demographic characteristics, is primarily responsible for differences in acquirer announcement returns.

In Panel E, we control for the political preferences of the state in which the acquirer's headquarters are located. The rationale for this test is that political preferences of state residents – rather than local religious adherence – might be the key driver of the results. To account for political preferences, we use the results of U.S. presidential elections held between 1990 and 2010 (http://uselectionatlas.org/RESULTS/). A state is defined as a "blue state" if the Democrat won and a "red state" if the Republican won in that state. We further construct the "blue state" index variable by dividing the number of votes received by the Democratic candidate by the number of votes received by the Republican candidate. The emphasis of employing political voting data to capture state-level culture is consistent with Kumar and Moon (2016). After controlling for the "blue state" index, we find that our results do not change qualitatively, suggesting that religion is a key factor influencing takeover outcomes.

In Panel F, we control for social capital index. Social capital index is the Metropolitan Statistical Area nearest the firm headquarters location based on Robert Putman's Bowling Alone book). This measure has been utilized in Kumar et al. (2011). Similarly to political preferences, social capital is an alternative local cultural factor that might drive the baseline results. Once again, after controlling for social capital, we find that our baseline results remain unchanged, while the coefficient estimate on the *social capital index* is not statistically significant. Overall, the entirety of our robustness tests suggest that our baseline results are robust.

Finally, in Panel G, we explicitly control for the firm's geographic dispersion. Specifically, we collect data on the geographic segmentation of firms from Compustat. We assign an indicator variable of one to a firm if the firm has more than one geographic segment, and zero otherwise. Controlling for whether the firm is geographically dispersed or not is important because geographically dispersed firms are expected to be influenced by the social norms around the firm's headquarters to a lesser extent than firms that

Table 4
Local Religious Adherence and Takeover Returns – Heckman's Selection Correction.

This table presents the results on the relation between local religious adherence and acquirer announcement returns after correcting for potential self-selection problems. The results are based on Heckman's correction for self-selection, where in the first stage we predict the probability of a firm making a takeover bid, using *leverage* and *firm age* as instruments. The second stage results capture the effect of religious adherence influencing takeover returns conditional on making a takeover bid. All tests include the same set of control variables as reported in Table 2, although for brevity we only report the coefficients on the variables of interest. Standard errors are corrected for clustering at the joint county and firm levels. *T-statistics* are reported in parentheses, where the superscripts *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	MM CAR [−2,+2]			
	(1)	(2)	(3)	(4)
Mainline ratio	0.0405**			0.0701***
	(2.18)			(3.08)
Evangelical ratio		0.0024		0.0214
		(0.21)		(1.33)
Catholic ratio			0.0149	0.0342
			(0.51)	(1.64)
LAMBDA	0.0819***	0.0704***	0.0710***	0.0871***
	(3.94)	(3.77)	(3.75)	(4.05)
All controls	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
2nd Stage Observations	17,086	17,086	17,086	17,086
Adj. R^2	0.04	0.04	0.04	0.04

are less dispersed. Our results show that the baseline results do not change after we account for geographic dispersion, with the coefficient estimates on the Mainline Protestant ratio variable actually increasing in statistical significance.

4.3. Heckman's two-stage procedure

A key issue in studies examining the effect of a variable on acquirer announcement returns is the self-selection problem, given that acquirers self-select to make a takeover bid. As a result, the OLS results presented up to this point ignore those potential deals that do not reach the announcement stage. Given that the decision to announce the deal is endogenous, this poses a sample truncation problem that might bias the OLS estimation.

We follow Ye (2014) to address this concern. Specifically, we adopt the Heckman (1979) two-stage procedure to address the truncation issue. In the first stage, we include all firms from the Compustat universe over the 1990–2010 period and use Cremers, Nair, and John's (2009) model to estimate a firm's likelihood of being acquired. Cremers et al. (2009) use the following model:

$$Pr\ (Bid{=}1) = f\ (MTB,\quad PPE\_AT,\quad Cash\_AT,\quad Ln\quad (Marketcap),\quad Leverage,\quad ROA,\quad Age,\quad Industry) \tag{1}$$

In the above model, *Age* is firm age, and *Industry* equals 1 if there was a takeover event in a firm's industry in the previous year, and 0 otherwise. Consistent with Ye (2014), *Age* and *Industry* are our exclusion variables. We report the first-stage probit model results in Appendix 4.

In the second stage, which focuses on those actual targets, we add Heckman's LAMBDA (the inverse Mills ratio) obtained in the first stage to the original regressions. Adding Heckman's LAMBDA to the second-stage regression ensures that our coefficient estimates on the variables of interest are conditional on a takeover bid occurring.

The second-stage results are reported in Table 4. Across all specifications, we find that the coefficient estimate on the *Mainline ratio* remains positive and significant after correcting for the truncation bias. LAMBDA is also positive and significant across all columns in Table 4, suggesting that truncation bias exists in this study. Nevertheless, given that, after correcting for this bias, our results remain qualitatively unchanged (and in fact become statistically and economically stronger), this bias does not appear to drive our results.

4.4. Effect of target religiosity

The results up to this point indicate that the acquiring firm's cultural predisposition (influenced by the prevalent local religion) significantly influences takeover outcomes. However, it is entirely possible that the religious norms surrounding the firm's headquarters will influence the success with which both firms are integrated together. This line of reasoning is consistent with Ahern et al. (2015), who show that the cultural distance between the target and acquirer plays a significant role in synergy realization.

To account for the religious norms surrounding the target firm, we first collect information on the location of the target's firm headquarters from the SDC Platinum database. Specifically, we collect information on the target's state and city and use this information to identify the county in which the target is headquartered. We then obtain the religious adherence surrounding the target firm's headquarters, which we use as control variables in the baseline model from Table 2. We report these results in Panel A of Table 5.

Table 5
Local Religious Adherence and Takeover Returns – Effect of Target Religiosity.

This table presents the results on the relation between local religious adherence and acquirer announcement returns after taking into account the religiosity around the target firm's headquarter location. Panel A reports the regression results after controlling for target's location religious adherence. Panel B reports regression results when using the difference between the acquirer's and target's religious adherence. All tests include the same set of control variables as reported in Table 2, although for brevity we only report the coefficients on the variables of interest. Standard errors are corrected for clustering at the joint county and firm levels. *T-statistics* are reported in parentheses, where the superscripts *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	MM CAR [−2,+2]			
	(1)	(2)	(3)	(4)
Panel A: Controlling for target location religiosity				
Mainline ratio	0.0336*			0.05**
	(1.73)			(2.40)
Evangelical ratio		−0.0110		0.02
		(−0.12)		(1.05)
Catholic ratio			0.0183	0.02
			(0.69)	(1.51)
Target Mainline ratio	0.0028			0.01
	(0.09)			(0.34)
Target Evangelical ratio		0.0148		0.01
		(0.15)		(0.83)
Target Catholic ratio			0.0082	0.01
			(0.07)	(0.82)
All controls	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Observations	9545	9545	9545	9545
Adj. R^2	0.04	0.04	0.04	0.04
Panel B: Difference in religious adherence between target and acquirer				
Diff. Mainline ratio	0.0017			0.0106
	(0.67)			(0.72)
Diff. Evangelical ratio		−0.0049		−0.0126
		(−0.23)		(−0.77)
Diff. Catholic ratio			−0.0018	−0.0198
			(−0.08)	(−0.54)
All controls	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Observations	9545	9545	9545	9545
Adj. R^2	0.04	0.04	0.04	0.04

We find that controlling for the religious adherence rates around the target's headquarters does not alter our results qualitatively. The coefficient estimate on the *Mainline ratio* remains positive and significant, while the *Evangelical ratio* and *Catholic ratio* remain statistically insignificant. More importantly, the coefficient estimates on all the religion variables pertaining to the target firm are statistically insignificant, implying that target's religiosity does not play a significant role in driving takeover outcomes. This finding is consistent with our core argument that the attitudes towards change and diversity of the acquirer are of primary importance in regard to takeover success.

In Panel B of Table 5, we relate the difference in religion measures between the target and acquirer to determine whether cultural distance in the dimension of openness to change is important for takeover outcomes. This test is motivated by Ahern et al. (2015), who show that the distance between the target and acquirer in terms of the cultural dimensions of trust, hierarchy, and individualism are important for takeover outcomes. Our results indicate that, in terms of attitudes towards change and diversity, cultural distance does not matter, with the coefficient estimate on all distance measures being statistically insignificant. Overall, the results presented in Table 5 suggest that the attitudes towards the change and diversity of the acquiring firm are most important in driving takeover outcomes.[6]

5. Further analysis of the effect of local religious adherence

5.1. Effect of labor intensity

The central premise of this paper is that local norms surrounding the firm's headquarters are important because they will influence the behavior of a wide group of employees. Given that the successful integration of the target firm requires employees at all levels of the organization to be open to change, one would expect the effect of local social norms to be amplified amongst firms that

[6] We thank an anonymous referee for suggesting the tests employed in this section.

Table 6
Local Religious Adherence and Takeover Returns – Effect of Labor Intensity.

This table presents the results after interacting the local religion adherence variables with a proxy of the acquirer's labor intensity. *Sale/Emp is* sales divided by total employees, with higher values of the ratio suggesting a lower level of labor intensity. All tests include the same set of control variables as reported in Table 2, although for brevity we only report the coefficients on the variables of interest. Standard errors are corrected for clustering at the joint county and firm levels. *T-statistics* are reported in parentheses, where the superscripts *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	MM CAR [−2,+2]			
	(1)	(2)	(3)	(4)
Mainline ratio	0.0272*			0.0328**
	(1.81)			(2.11)
Mainline ratio×Sale/Emp	−0.0119*			−0.0109**
	(−1.78)			(−1.99)
Evangelical ratio		−0.0001		0.0147
		(−0.18)		(1.44)
Evangelical ratio×Sale/Emp		−0.0168		−0.0074
		(−1.38)		(−0.40)
Catholic ratio			0.0184*	0.0210
			(1.87)	(0.88)
Catholic ratio×Sale/Emp			−0.0138*	−0.0093
			(−1.80)	(−0.37)
Sale/Emp	−0.0153	−0.0137	0.0129	0.0109***
	(−0.11)	(−0.16)	(0.34)	(2.65)
All controls	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Observations	16,405	16,405	16,405	16,405
Adj. R^2	0.03	0.03	0.03	0.03

rely more heavily on their human capital than firms that rely less on human capital. To address this issue, we interact our religion adherence variables with a proxy of labor intensity. Specifically, we proxy for labor intensity using the ratio of sales to the number of employees, where a higher ratio implies lower labor intensity (since greater sales are achieved with fewer employees).

The interaction results are reported in Table 6. The results are based on the same model specification as in Table 2, where we include firm- and deal-characteristic-level controls, as well as industry and year fixed-effects. We find that the coefficient estimate on the interaction term in column (1) is negative and significant, which means that the relation between *Mainline ratio* and acquirer announcement returns is weaker when the *Sale/Emp* ratio is higher (i.e., when labor intensity is lower). This observation is consistent with our *ex ante* expectation because the subjective attitudes of the labor force in takeover success will be more important amongst those acquirers for which labor is more important.

5.2. Effect of CEO characteristics

In this sub-section, we examine whether certain CEO characteristics interact with local religious adherence rates. This examination serves two purposes. First, it allows us to explore whether Mainline Protestant religions influence CEOs with a certain characteristics more than other CEOs. Second, it allows us to partially address the alternate explanation that certain types of CEOs are drawn to counties with more Mainline Protestants. For example, more able managers or less overconfident CEOs might simply be drawn to areas with greater Mainline Protestant adherence rates. Controlling for both these factors, and interacting the religion variables with CEO characteristics allows us to address these issues.

The results are reported in Table 7. In Panel A, we report the results for our tests of managerial ability. We utilize the measure of managerial ability (*MA score*) developed by Demerjian et al. (2012).[7] This measure has been extensively used in accounting research (Baik et al., 2011; Demerjian et al., 2013), finance research (Albuquerque et al., 2013; Chen et al., 2015), and management research (Attig and Cleary, 2014). The Demerjian et al. (2012) proxy for managerial ability is based on the notion that higher-quality managers do a better job of converting firms' resources – such as capital, labor, and other assets – to generate revenue. They use data envelopment analysis (DEA) to estimate firm efficiency within industries, comparing the sales generated by each firm, conditional on the resource inputs used by the firm. The firm efficiency measure generated using the DEA methodology is attributable to both the firm and manager. The firm-specific component of the DEA efficiency measure is separated from the manager-specific component by running a Tobit regression model by industry that controls for firm-specific factors such as size, free cash flow, competition, and age. The residual from their Tobit model is the management ability score.

The interaction results show that the effect that Mainline Protestant adherence has on acquirer announcement returns is independent of the CEO's level of overall ability. Across all model specifications, the coefficient estimate on the interaction between religious adherence and *Managerial ability* is statistically insignificant. These results suggest that progressive religion-induced

[7] We obtain the managerial ability data from Sarah McVay's webpage (URL: http://faculty.washington.edu/smcvay/abilitydata.html. We thank Sarah McVay for making this measure publically available.

Table 7
Local Religious Adherence and Takeover Returns – Effect of CEO Characteristics.

This table presents additional tests of the baseline results reported in Table 2, after interacting the local religion adherence variables with CEO characteristics. Panel A, presents results obtained after interacting local religious adherence with managerial ability. Managerial ability is a metric developed by Demerjian et al. (2012). Their measure of managerial ability generates an estimate of how efficiently managers use their firms' resources. Panel B, presents the results obtained after interacting local religious adherence variables with CEO overconfidence. The variable *Holder 67*, is an indicator variable equal to one if a CEO does not exercise his/her stock options after they are at least 67% in the money. Such CEOs are deemed to be overconfident. All tests include the same set of control variables as reported in Table 2, although for brevity we only report the coefficients on the variables of interest. Standard errors are corrected for clustering at the joint county and firm levels. *T-statistics* are reported in parentheses, where the superscripts *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	MM CAR [−2,+2]			
Panel A: Interaction with managerial ability				
Mainline ratio	0.0401**			0.0606***
	(2.27)			(2.92)
Mainline ratio×MA Score	0.0543			−0.0302
	(0.39)			(−0.20)
Evangelical ratio		0.0039		0.0240
		(0.17)		(1.21)
Evangelical ratio×MA Score		0.0709		0.1519
		(1.08)		(1.38)
Catholic ratio			0.0125	0.0222
			(0.81)	(1.47)
Catholic ratio×MA Score			−0.0162	0.0701
			(−0.34)	(0.93)
MA Score	−0.0110	−0.0119	0.0198	−0.0465
	(−0.67)	(−1.13)	(0.72)	(−0.97)
All controls	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Observations	12,170	12,170	12,170	12,170
Adj. R^2	0.03	0.03	0.03	0.03
Panel B: Interaction with CEO overconfidence				
Mainline ratio	0.0431*			0.0510***
	(1.83)			(2.74)
Mainline ratio×Holder 67	0.0109			−0.0209
	(1.43)			(−1.33)
Evangelical ratio		−0.0029		0.0129
		(−0.02)		(0.89)
Evangelical ratio×Holder 67		−0.0187		0.0041
		(−0.68)		(0.14)
Catholic ratio			0.0271	0.0351
			(1.65)	(1.58)
Catholic ratio×Holder 67			−0.0118	0.0028
			(−1.09)	(0.24)
Holder 67	−0.0110	0.0110	0.0031	0.0207
	(−0.44)	(−0.64)	(0.14)	1.60)
All controls	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Observations	4092	4092	4092	4092
Adj. R^2	0.03	0.03	0.03	0.03

norms have a positive effect on acquirer takeover activity independent of the manager's level of ability.

In Panel B, we interact religious adherence with CEO overconfidence. Following Malmendier and Tate (2008), we define a CEO as overconfident once he postpones the exercise of vested options that are at least 67% in-the-money (Holder 67). The Holder 67 variable takes the value of one when the CEO is identified as overconfident, and zero otherwise. Since we do not have detailed data on a CEO's option holdings and exercise prices for each option grant, we follow Campbell et al. (2011) in calculating an average moneyness of the CEO's option portfolio for each year. First, for each CEO-year, we calculate the average realizable value per option by dividing the total realizable value of the options by the number of options held by the CEO. The strike price is calculated as the fiscal year end stock price minus the average realized value. The average moneyness of the options is then calculated as the stock price divided by the estimated strike price. As we are interested only in options that the CEO can exercise, we include only the vested options held by the CEO.

Once again, the coefficient estimate on the interaction terms across all model specifications reported in Panel B of Table 7 are statistically insignificant. These results suggest that another CEO-specific characteristic, namely, CEO overconfidence, does not influence the positive relation between *Mainline ratio* and acquirer announcement returns. Overall, the results presented in Table 7 suggest that religion-induced progressive social norms have an independent effect on acquirer announcement returns.

Table 8
Local Religious Adherence and Takeover Returns – Effect of CEO Power.

This table presents the regression results obtained after partitioning the sample on CEO power. We define a powerful CEO as one who is the chairman of the board concurrently with being a CEO (CEO Duality=1). All tests include the same set of control variables as reported in Table 2, although for brevity we only report the coefficients on the variables of interest. Standard errors are corrected for clustering at the joint county and firm levels. *T-statistics* are reported in parentheses, where the superscripts *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	MM CAR [−2,+2]							
	CEO Duality=1				CEO Duality=0			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Mainline ratio	0.0219			0.0309	0.0372**			0.0619***
	(0.90)			(0.98)	(1.97)			(3.13)
Evangelical ratio		0.0109		0.0117		−0.0175		0.0237
		(0.55)		(0.47)		(−0.53)		(1.44)
Catholic ratio			−0.0117	0.0128			0.0157	0.0476**
			(−0.30)	(0.49)			(1.64)	(2.47)
All controls	YES	YES	YES	YES	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Observations	4273	4273	4273	4273	12,132	12,132	12,132	12,132
Adj. R^2	0.06	0.07	0.07	0.07	0.03	0.03	0.03	0.03

5.3. Influence of CEO power

In our final set of analyses, we concentrate on whether the effect of religion-induced norms is lesser amongst more CEO-centric firms. The results presented up to this point suggest that the answer to this question is yes. Religion-induced norms appear to influence takeover outcomes through the attitudes of rank-and-file employees, with little evidence that inherent managerial biases are responsible for the reported effect. Given our preceding results, we would expect social norms to have a greater effect on takeover outcomes amongst less CEO-centric firms because the internal decisions within firms with stronger CEOs are more likely to be driven by the CEO's preferences rather than the natural predisposition of employees.

To formally address this point, in Table 8, we partition the sample according to CEO power to determine whether the effect of Mainline Protestant adherence is stronger amongst firms with stronger or weaker CEOs. We define CEO power as a binary variable equal to 1 if the CEO also serves as the chairman of the board, and 0 otherwise. The results are consistent with our *ex ante* expectation, as we find that the coefficient estimate on the *Mainline ratio* is positive and statistically significant only amongst those firms that have “weak” CEOs, while the effect is not significant for the sample of firms with “strong” CEOs. These results show that, while CEO characteristics do not interact with local religious norms, powerful CEOs are capable of overcoming the influence that religious norms have on takeover outcomes.

6. Local religious adherence and synergy creation

6.1. Main results

The results reported up to this point suggest that acquirers located in areas where religion-induced progressive social norms are stronger pursue takeover deals that are more positively viewed by shareholders. The underlying logic behind relating local religious adherence and takeover outcomes is that certain religious denominations promote more progressive attitudes towards change and diversity than other religious denominations. In turn, greater tolerance of change and diversity is an important component of generating synergy gains in the post-takeover period. In this section, we therefore conduct more direct tests on the relation between local religious adherence and synergy creation to better identify whether the positive acquirer returns experienced by firms located in areas with greater Mainline Protestant populations is due to greater synergy creation or merely through extracting a greater portion of total synergy gains to their own shareholders (at the cost of the target firm shareholders).

The results for the relation between local religious adherence and total and relative synergy gains are reported in Table 9. Since the tests conducted and reported in Table 9 require data on target firm announcement returns, the sample size shrinks to 2367. This reduction in the sample is consistent with the fact that only 12% of target firms in our full sample are publicly traded firms (as reported in Table 1). We begin our analysis by relating the premium paid to the target firm's shareholders with religious adherence. Premium paid is measured as the cumulative abnormal return to target firm shareholders over the five-day window surrounding the takeover announcement (−2 to +2). Baseline returns are measured as returns generated by the market model. The results reported in columns (1) to (4) show that the *Mainline ratio* is positively and significantly related to the premium paid. Since the *Mainline ratio* has already been shown to be positively associated with acquirer announcement returns, it would seem that acquirers located in areas with high Mainline Protestant populations must create greater synergy gains.

We explore this possibility more directly in columns (5) to (8), where our dependent variable is total synergy gain, measured as the combined cumulative abnormal return over a five-day period for both the target and acquirer. Consistent with our expectation,

Table 9
Local Religious Adherence and Synergy Creation.

This table presents the regression results on the relation between local religious adherence with the premium paid by the acquirer, the total synergy gain of the takeover as measured by the combined cumulative abnormal return of both the target and acquirer, as well as the portion of the synergy gain captured by the acquirer. Premium paid is measured as the cumulative abnormal return of the target firm, measured as the abnormal return over a five-day window [−2, +2] around the takeover event. Normal returns are measured using the market model. Acquirer's relative gain is measured by taking the difference of dollar abnormal returns between the acquirer and target, normalized by the sum of the firms' market equity one month before the announcement. All tests include the same set of control variables as reported in Table 2, although for brevity we only report the coefficients on the variables of interest. Standard errors are corrected for clustering at the joint county and firm levels. *T-statistics* are reported in parentheses, where the superscripts *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Premium Paid				Combined CAR				Acquirer's Relative Gain			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mainline ratio	0.3509***			0.3919***	0.3847***			0.4273***	−0.0247			−0.0501*
	(3.63)			(3.78)	(3.68)			(3.75)	(−0.79)			(−1.76)
Evangelical ratio		0.0625		0.0598		0.0418		−0.0192		0.0049		−0.0262
		(1.20)		(0.53)		(0.73)		(−0.12)		(0.39)		(−0.86)
Catholic ratio			−0.0572	0.0557			−0.0409	0.0275			−0.0105	−0.0474
			(−1.25)	(0.73)			(−0.99)	(0.27)			(−0.78)	(−1.57)
All controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367	2367
Adj. R^2	0.16	0.16	0.14	0.16	0.19	0.18	0.17	0.19	0.23	0.24	0.23	0.24

we find that acquirers located in areas with higher Mainline Protestant populations indeed generate considerably greater total synergy gains than acquirers located in areas with lower Mainline Protestant populations. This conclusion is supported by the fact that the coefficient estimate on the *Mainline ratio* in columns (5) and (8) is positive and significant at the 1% level.

Although the results presented in columns (1) to (8) strongly support our conjecture that religion-induced progressive social norms create value for acquiring firms by making such firms better able to realize synergies, we nevertheless directly examine whether this positive effect on acquiring firm shareholders is not instead driven by such firms' ability to expropriate a greater share of total synergy gains for their own shareholders. We follow Ahern (2012) and take the difference of dollar abnormal returns between the acquirer and target, normalized by the sum of the firms' market equity a month before the announcement:

$$Acquirer'sRelativeGain = \frac{MV_{A,-1} \times CAR_{A,-2,+2} - MV_{T,-1} \times CAR_{T,-2,+2}}{MV_{A,-1} + MV_{T,-1}} \quad (2)$$

where, $MV_{i,-1}$ is the market value of the acquirer (i=A) or target (i=T) a month before the announcement date. If the positive association between *Mainline ratio* and acquirer announcement returns reported in section IV is because firms located in areas with high Mainline Protestant population are better at extracting a greater portion of the synergy gains for their own shareholders, we should observe a positive and significant coefficient estimate on the *Mainline ratio* variable. Instead, we find that the coefficient estimate on *Mainline ratio* is insignificant in column (9) and negative and significant at the 10% level in column (12), where we include all religion adherence variables together in one specification. Therefore, we must conclude that the positive relation between *Mainline ratio* and acquirer announcement returns cannot be due to the extraction of relatively more synergy gains for the acquirer's own shareholders at the expense of target firm shareholders. Instead, the results showing that *Mainline ratio* is positively related to both target premium and synergy creation indicate that firms located in areas with greater Mainline Protestant populations are simply better at generating and realizing greater synergy gains. Our results also confirm the general consensus in the finance literature that target firm shareholders tend to pocket the majority of synergy gains (Mandelker, 1974; Dodd, 1980; Asquith, 1983).

6.2. Do firms located in progressive areas pursue better-quality takeovers?

The discussion in the previous sub-section suggests that religion-induced progressive social norms benefit acquiring firms by making them better at realizing synergy gains. However, it is also possible that firms located in more socially progressive areas are simply better at identifying target firms that offer greater synergy gains. While it is impossible to conclusively distinguish between the synergy creation and synergy identification possibilities, we try to directly address this point by examining whether acquirers located in areas with greater Mainline Protestant populations make fewer takeover bids (limiting their bids exclusively to high-quality targets) and whether they pursue takeovers with specific deal characteristics that are likely to result in higher takeover gains.

We report the logistic model results regarding the probability of making a takeover bid in Table 10. Our sample is based on the full sample of Compustat firms with non-missing independent variables. In addition to controlling for religious adherence and firm characteristic variables, we also include industry and year fixed effects. The results show that the Mainline Protestant population of a county is not related to the probability of making a takeover bid. This finding suggests that the prevalence of Mainline Protestant social norms is unlikely to influence acquirer returns by inducing acquirers of exclusively pursuing takeover deals that are of the highest value. If this were the case, then we would expect the probability of making a takeover bid to be lower amongst firms located in highly Mainline Protestant areas.

Table 10
Local Religious Adherence and Acquisitiveness.

This table presents the logistic regression results on the effect that local religious adherence has on the probability of a firm making a takeover bid. The sample includes all firms in the Compustat database over the period January 1990 and December 2010 with non-missing independent variables. Standard errors are corrected for clustering at the joint county and firm levels. *T-statistics* are reported in parentheses, where the superscripts *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Takeover Bid (Bid=1)			
	(1)	(2)	(3)	(4)
Mainline ratio	−0.0537			−0.1701
	(−0.55)			(−1.58)
Evangelical ratio		0.0528		0.0979
		(1.45)		(1.01)
Catholic ratio			−0.0705**	−0.0601
			(−2.10)	(−0.70)
Religiosity ratio	−0.0109	−0.0263	0.0438	0.0321
	(−0.36)	(−0.55)	(1.11)	(0.35)
Ln (Assets)	0.0828***	0.0848***	0.0892***	0.0890***
	(17.54)	(17.46)	(17.65)	(17.45)
MTB	0.0109*	0.0129*	0.0157*	0.0110*
	(1.83)	(1.68)	(1.69)	(1.80)
PPE/Assets	−0.2637***	−0.2709***	−0.2589***	−0.2711***
	(−6.06)	(−6.48)	(−6.88)	(−6.32)
Sales growth	0.0076	0.0001	0.0028	0.0020
	(1.01)	(1.20)	(1.11)	(1.00)
Total IO	0.0458***	0.0480***	0.0409***	0.0451***
	(3.05)	(2.93)	(3.15)	(3.04)
Cash/Assets	0.0038	0.0037	0.0028	0.0018
	(0.48)	(0.20)	(0.36)	(0.45)
ROA	−0.0105**	−0.0041	−0.0041	−0.0191**
	(−2.14)	(−0.48)	(−0.56)	(−2.12)
Leverage	0.0180***	0.0179*	0.0106*	0.0111***
	(5.18)	(1.89)	(1.86)	(5.19)
R & D/Assets	0.0038	0.0129	0.0109	0.0010
	(0.09)	(1.01)	(0.97)	(0.19)
Industry fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Observations	109,397	109,397	109,397	109,397
Pseudo R^2	0.26	0.26	0.27	0.26

6.3. Deal characteristics

In Table 11, we report the results for the relation between religious adherence and different deal characteristics to see whether firms located in areas with high Mainline Protestant populations pursue specific types of deals that are likely to be associated with higher announcement returns. The results, which include the same firm and deal characteristics (except for the characteristic which is the dependent variable) as in Table 2 together with industry and year fixed effects, show that higher Mainline Protestant

Table 11
Local Religious Adherence and Deal Characteristics.

This table presents the regression results on the relation between local religion adherence and deal characteristics. Since the dependent variable in columns (2), (4), (5), (6), and (7) are binary, a logistic model is employed. Results in columns (1), (2) and (3) are based on an OLS specification. All tests include the same set of control variables as reported in Table 2, although for brevity we only report the coefficients on the variables of interest. Standard errors are corrected for clustering at the joint county and firm levels. *T-statistics* are reported in parentheses, where the superscripts *, **, *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Ln (Deal value) (1)	Public target (2)	Relative deal size (3)	Geog. Diversification (4)	Same industry (5)	Hostile takeover (6)	Pure Cash (7)
Mainline ratio	−0.1101	0.1422**	−0.0901	0.5510***	0.1074	0.0181	0.1406*
	(−0.37)	(2.28)	(−0.15)	(3.59)	(0.91)	(0.76)	(1.67)
Evangelical ratio	0.0117	0.0010	0.1181	−0.2652*	0.1709**	−0.0291**	0.1817**
	(0.05)	(0.10)	(0.31)	(−1.91)	(2.16)	(−2.37)	(2.45)
Catholic ratio	−0.0241	0.1141***	−0.1657	−0.4041***	0.0657	−0.0159	0.2208***
	(−0.12)	(2.67)	(−0.44)	(−2.90)	(0.73)	(−1.51)	(3.43)
All controls	YES	YES	YES	YES	YES	YES	YES
Industry fixed effects	YES	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES	YES
Observations	17,086	17,086	17,086	17,086	17,086	17,086	17,086
Adj./Pseudo R^2	0.49	0.20	0.06	0.12	0.29	0.04	0.09

populations increase the probability of the acquirer pursuing a public target and a target that is located in a different state from the acquirer. However, even though we find some evidence that Mainline Protestant populations influence the types of takeovers that acquirers pursue, this finding is unlikely to be responsible for the basic results, as Table 2 shows that public targets are associated with lower acquirer returns, while geographic diversification is unrelated to acquirer returns. Although we are unable to definitively exclude the possibility that firms located in areas with high Mainline Protestant populations do not simply pursue 'better' takeover targets, our results overall are more supportive of the synergy creation channel.

7. Conclusion

This paper examines the effect that religion-induced attitudes towards change and diversity (at the county level) have on acquirer announcement returns. We find that acquirers headquartered in counties with stronger Mainline Protestant adherence rates achieve higher abnormal returns and create more total synergy gains than their counterparts headquartered in counties with fewer Mainline Protestant adherents. In contrast, the portion of a county's residents who adhere to either Evangelical Protestant denominations or the Catholic Church do not have any effect on acquirer announcement returns. Our results are robust to controlling for the religious norms surrounding the target firm, correcting for truncation biases, and including a whole host of additional control variables and model specifications.

Further analysis reveals that the relation between religious adherence and takeover outcomes is driven by social norms' influence on rank-and-file employees, whose willingness to accept and adapt to change is essential in successfully integrating a newly acquired firm. However, the effect that religion-induced social norms have on takeover announcement are mitigated by the presence of powerful CEOs. In sum, our findings indicate that social norms that promote the acceptance of change and tolerance for diversity can be beneficial to acquirers as a result of maximizing synergy realization by facilitating more effective integration between the target and the acquirer.

Our paper is related to Hilary and Hui (2009) and Kumar et al. (2011), who show the relevance of religion-related norms for financial outcomes. We complement this literature by showing that religion-induced norms have a material impact on corporate takeovers. The results presented in this paper, especially when considered alongside other studies that explore the link between culture and takeover outcomes, highlight the need for new theories that account for cultural factors in corporate mergers and acquisitions.

Appendix A. List of mainline and evangelical protestant denominations

Mainline Protestant Denominations	Evangelical Protestant Denominations
American Baptist Churches in the USA	Advent Christian Church
Christian Church (Disciples of Christ)	American Association of Lutheran Churches
Episcopal Church	American Baptist Association
Estonian Lutheran Church in America	Amish
International Council of Community Churches	Apostolic Christian Church of America
Latvian Evangelical Lutheran Church in America	Apostolic Lutheran Church of America
Moravian Church in America	Assemblies of God
National Association of Congregational Christian Churches	Associate Reformed Presbyterian Church
Presbyterian Church	Association of Free Lutheran Congregations
Reformed Church in America	Baptist Missionary Association of America
United Church in America	Berean Fundamental Church
United Church of Christ	Bible Church of Christ
United Methodist Church	Central Baptist Association Ministries
Universal Fellowship of Metropolitan Community Churches	Christ Catholic Church
	Christian and Missionary Alliance
	Christian Brethren
	Christian Churches and Churches of Christ
	Christian Reformed Church
	Christian Union
	Church of God
	Church of the Lutheran Brethren of America
	Church of the Lutheran Confession
	Church of the Nazarene
	Church of the United Brethren in Christ
	Churches of Christ
	Conservative Baptist Association of America

Conservative Congressional Christian Conference
Conservative Mennonite Conference
Cumberland Presbyterian Church
Evangelical Congregational Church
Evangelical Covenant Church
Evangelical Free Church of America
Evangelical Lutheran Church
Evangelical Methodist Church
Evangelical Presbyterian Church
Free Methodist Church of America
General Association of Free Baptist Churches
Independent Fundamental Churches of America
International Church of the Foursquare Gospel
International Pentecostal Church of Christ
Lutheran Church
Missionary Church
Primitive Advent Christian Church
Protestant Reformed Churches in America
Reformed Episcopal Church
Reformed Mennonite Church
Salvation Army
Seventh Day Adventist Church
Southern Baptist Convention
United Christian Churches
United Baptists

Appendix B. Screening of takeover deals

Appendix 2 presents the screening criteria employed in this paper which generates the final sample of 17,086 takeover deals.

Screening Criteria	Number of Deals
Acquirer nation – USA	313,432
Target nation – USA	266,991
Acquirer public status – Public	133,714
Date announcement – Jan 1990 to Dec 2010	100,151
% of target shares owned after transaction – 100%	59,998
% of shares owned before announcement - < 49%	59,131
Deal value - > $1 m	29,870
Deal status – completed	19,870
Acquirer county religion data available	17,086

Appendix C. List of top and bottom sample counties by religious adherence

	Mainline ratio		Evangelical ratio		Catholic ratio
Panel A: Counties with highest adherence rates in our sample					
Emmet, IA	0.51	Gray, TX	0.64	Lafourche, LA	0.67
Cass, ND	0.35	Potter, TX	0.60	Webb, TX	0.64
Douglas, MN	0.35	Gaines, TX	0.59	Putnam, OH	0.63
Mower, MN	0.34	Boyle, KY	0.58	Dubuque, IA	0.60
Williams, ND	0.32	Winston, AL	0.56	Richmond, NY	0.60
Adams, NE	0.31	Alcorn, MS	0.56	Kent, RI	0.59
Minnehaha, SD	0.31	Floyd, GA	0.56	Providence, RI	0.59
Lycoming, PA	0.30	Columbia, AR	0.54	Iberia, LA	0.56
Lebanon, PA	0.30	Titus, TX	0.54	Hidalgo, TX	0.56
Rowan, NC	0.28	Union, AR	0.54	Norfolk, MA	0.56

Panel B: Counties with lowest adherence rates in our sample					
Utah, UT	0.01	Pitkin, CO	0.01	Fairfield, SC	0.01
Juab, UT	0.01	Rensselaer, NY	0.01	Itawamba, MS	0.01
Webb, TX	0.01	Grafton, NH	0.01	Cocke, TN	0.01
Davis, UT	0.01	Herkimer, NY	0.01	Pike, KY	0.01
Humboldt, NV	0.01	Kent, RI	0.01	Winston, AL	0.01
Merced, CA	0.02	Columbia, NY	0.01	Walton, GA	0.01
Shasta, CA	0.02	Barnstable, MA	0.01	Tazewell, VA	0.01
Clark, NV	0.02	Windham, VT	0.01	Columbus, NC	0.01
El Paso, TX	0.02	Norfolk, MA	0.01	Columbia, AR	0.01
Imperial, CA	0.02	Newport, RI	0.02	Talladega, AL	0.01

Appendix D. First stage of heckman correction probit model

Appendix 4 presents the probit model regressions results used to construct the inverse of the Mills ratio (LAMBDA) used to correct for truncation bias in Table 4.

	Bid=1
MTB	2.26*
	(3.58)
PPE/Assets	0.01***
	(795.09)
Cash/Assets	0.01
	(2.56)
Ln (Market Cap)	−0.16***
	(7024.77)
Leverage	−0.01
	(0.46)
ROA	−0.06***
	(53.39)
Ln (Firm age)	0.06***
	(146.56)
Industry M&A	−0.40***
	(136.88)
Observations	163,806
R^2	0.06

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