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Does Religion Influence Entrepreneurial Behaviour?

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Abstract

Religion cannot be ignored in assessing the range of cultural and institutional influences that impact on entrepreneurial activity. This article integrates key themes from sociology of religion in the context of emerging ideas about religion and entrepreneurship in order to highlight key research questions. New institutional theory is discussed as a potentially useful lens for viewing the range of means through which religious expression and institutions might support entrepreneurship. A macro-level empirical investigation of societal indicators of religious affiliation and regulation of religion alongside Global Entrepreneurship Monitor data highlights particular data correlations and mediating influences. A significant association between entrepreneurial activity evangelical/Pentecostal Christian religious affiliation is found; along with evidence that the impact of religion on entrepreneurship is mediated through pluralism and regulation. In discussing these findings further the paper proposes a more integrated conceptual framework for understanding the link between religious drivers and entrepreneurship, alongside institutional mediation. It is hoped that this might form the basis for further research, focusing on individual experience rather than aggregate associations and exploring in further the depth the mediating impact of institutional arrangements.

Keywords

entrepreneurship, religion, institutions, international data

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Introduction

A growing literature in the field of entrepreneurship research addresses important questions of the relationship between social and cultural institutions and entrepreneurial activity (Hayton et al., 2002). The impact of religiosity and religious institutions is emerging as an acknowledged element for study (Balog et al., 2014). As one leading sociologist of religion notes: “religion is not something that can be safely or sensibly relegated either to the past or to the edge” (Davie, 2013, p. 1).

Two major themes that stimulate discussion and controversy amongst sociologists of religion are secularization and pluralism (Beckford, 2003; Davie, 2013). Active participation in religious activity may have been falling in some parts of the world, notably in the advanced economies of western Europe. But, in Africa and Asia for example, participation is on the rise, particularly through forms of high salience Christianity, often grouped under the labels evangelical and Pentecostal (Drakopoulou-Dodd and Gotsis, 2007). These emphasise in varying measure high levels of personal faith commitment, strong and shared behavioural norms and collective manifestations of religious experience. Secularization may propose declining adherence to traditional religious groupings, but need not imply a decline in the relevance of religion in society. Plurality of religious expression, alongside increased public acceptance of that plurality, has also shifted focus from well-defined traditional groupings towards more porous and potentially overlapping expressions of religiosity.

Broad data on religious affiliation may mask variation in the strength of these forces and the way in which religious institutions frame economic activity within particular religions, transcending traditional religious groupings and denominations. This variation in turn may have implications for any potential association with behaviour in the economic

domain. In summary significant unanswered questions remain about the means through which religion acquires salience and influences entrepreneurial activity.

The present article seeks to engage with and assess the discussions around the religion-entrepreneurship nexus. The approach adopted in the article is a largely abductive one. The article presents a review of the relevant literatures on sociology of religion and on entrepreneurship, with particular exploration of new institutional theoretical perspectives, as a lens through which expressions of religion may find influence. A dataset, drawing together a range of aggregate societal-level indicators, including Global Entrepreneurship Monitor (GEM) data on the total entrepreneurial activity construct, alongside data on religious affiliation and regulation of religious activity is constructed and investigated. The primary purpose here is framed in terms of an analysis of potential associations between indicators of religiosity and religious institutional structure and entrepreneurship. A key proposition to emerge from the discussion of the literature and the empirical analysis is that such associations may be mediated by the operation of institutional arrangements that support or regulate plurality of religious expression. The structure of the paper is as follows. The next section is a literature review and exploration of the conceptual background to the topic. Then follows an explanation of the methods used for data investigation. Data analysis and findings are then presented. In the discussion section of the article, in the light of the review and findings, a conceptual model of the religion-entrepreneurship nexus is proposed, which it is hoped might inform and stimulate further research. The article ends with a brief conclusion.

Literature review and conceptual background

There is an extant research literature which addresses questions of religion and entrepreneurship, and wider questions about influence on organizations (Tracey 2012; Balog

et al., 2014). These researchers tend to take as their starting point the significant body of sociology of religion that has emerged over the past century. However, as noted by prominent reviewers and commentators, the sociology of religion is not without problems (Davie, 2013; Beckford, 2003). As an illustration of these, Beckford notes “disputes and conflicts about the social meaning of religion remain lively in the 21st century, whereas discussion of religion in social theory tends to be relatively dull and poorly informed” (Beckford, 2003, pp. 4-5). Iannaccone, a prominent proponent of rational choice theory in religion, summarizes sociology of religion as “rich in generalization, weak in theory” (Iannaccone, 1988, p. S241, quoted in Tracey, 2012).

This lack of strong theoretical basis to sociology of religion has meant that the search for a grounded theory of the role of religion in entrepreneurship, as well as in other fields of study of human behaviour, has been somewhat elusive. As a starting point it should be noted that sociologists of religion are not concerned with whether particular religious views or positions are true or correct; their concern is with the study of religion as a vehicle through which individuals interpret a wide variety of phenomena and are able to ascribe meaning or value to those phenomena (Beckford, 2003). In summary religiosity continues to demonstrate potential for impact across widespread areas of human life. Organizational activity and business formation are of course legitimate phenomena for inquiry. There seems no *a priori* case for excluding entrepreneurship from this impact.

Secularization and pluralism

In the 21st century a number of key themes continue to attract discussion and controversy. Secularization and pluralism in particular are salient to the present discussion because both may offer explanation for the declining role of traditional measures of religion

as explanatory factors for economic activity. Secularization is the hypothesis that as human development progresses, humankind has a tendency to abandon affiliation to religious institutions and religious practices (Dobbelaere, 1981). Although precise interpretations are contested, this suggests the demise of any clear causal association between religion, both as individual belief and a source of institutional force, and wider socio-economic development. This has been hotly debated over time by sociologists, and not only in the context of advanced western societies (Berger, 1999; Martin, 1991, 1999, 2011; Beckford, 2003; Turner, 2010; Davie, 2013).

There is a range of reasons why the search for associations between measures of religious affiliation and socio-economic development may be elusive. Trends in religious belief and activity across the globe are not uniform, and causal processes between religion and indicators of socio-economic development appear more complex than initially assumed. Contrary empirical evidence from the global south, in particular, has been marshalled (Berger, 1999; Martin, 2002). This is seen in the development of contemporary expressions of what have been termed the evangelical, Pentecostal and charismatic Christianity movements (abbreviated to EPCM Christianity by Heslam, 2014).

On the other hand, particularly perhaps in the developed north, expressions of religiosity have tended to become both more diverse and private, implying that unitary institutions such as the Christian church are no longer able to mediate the relationship between individuals and their god or gods. Protestant Christianity in particular is seen as instrumental in this process (Bruce, 1999). Secularization may be multi-faceted, covering institutions, practices and social marginalization (Dobbelaere, 1981).

Furthermore, declining membership of formal religious institutions need not imply a decline in human religiosity; nor does declining religious participation necessarily imply an

attenuated cultural influence for religion on wider society (Davie 2013). Secularization may operate at the level of societal influence exerted by religious institutions, but this is not necessarily consistent with declining levels of personal religious commitment (Berger, 1999). The regulation of religion is also offered as an explanation for the secularization hypothesis (Gill, 1999). But religious institutions may adapt to secularization rather than simply cease to exist. Many societies may be best understood as post-secular, in which religion has returned to, or perhaps never departed from the public sphere (Davie, 2013, see also Demerath and Schmitt, 1998). Despite the onward acceptance of scientific rationalism as a worldview, religiosity in a wide range of expressions and forms appears remarkably persistent (Martin, 1991; Bruce, 1999). Specifically the growth of Pentecostal Christianity has attracted much attention (Martin, 1990, 1999, 2002; Meyer, 2010; Attanasi and Yong, 2012).

The second theme, pluralism, addresses the apparent fragmentation of religious affiliation and practice. It encompasses at least three different aspects: diversity of religious membership and practices (what might be termed descriptive pluralism), trends towards increased public acceptance of religious diversity (objective pluralism) and a growing appreciation of pluralism as a societal value (normative pluralism). The significance of pluralism as a key topic in the study of the sociology of religion is in the shift from a focus on well-defined formal religious institutions towards shared beliefs, practices and identities espoused by porous and potentially overlapping groupings. Pluralism may emerge from particular societal and population trends. However state and societal regulation of religion may restrict free religious choice and lower both objective and normative pluralism. Previous research on the economic development-religion relationship has investigated the mediating impact of state and societal regulation (McCleary and Barro, 2006a, 2006b).

Rational choice theorists see pluralism as a positive force, indicative of greater religious competition (Iannaccone, 1998; McCleary and Barro, 2006a, 2006b; Lechner,

2008). Pluralism as a force also raises questions about the value and representativeness of religious affiliation data based on traditional institutional categories and boundaries. Pluralism, therefore, focuses greater consideration on bottom-up expressions of religiosity, and less attention on the potentially declining role of traditional formal religious institutions.

This leads to the tentative conclusion that attention has been focused on the wrong institutions and wrong data (Beckford, 2003). Implicitly secularization demarcates a boundary that says that religion no longer need be considered relevant to an understanding of human organization and activity (Miller, 2015). However this conclusion may be too simplistic. In the present context therefore the issue of whether particular forms of religion and expressions of religiosity influence behaviour in the economic domain remains a live one. Does religious pluralism support the transmission of pro-entrepreneurial values and beliefs, and, specifically, will more flexible or overlapping indicators of religious affiliation lead to stronger conclusions about the relationship between religion and entrepreneurship?

Religion and entrepreneurship

As noted at the beginning of this section, researchers in the fields of entrepreneurship and organizational studies have begun to pay increased attention to the role of religion (Dana, 2009; Tracey, 2012; Balog et al., 2014, Park et al., 2014). Most extant discussions of entrepreneurship and religion focus on the role of individual religious affiliation and orientation. These surveys highlight the fragmented and multidimensional aspects of these literatures. Contributions in leading field journals remain few, and this sparsity perhaps reflects the difficulties researchers have encountered in trying to ground theoretical perspectives on business enterprise with reference to sociology of religion. So, how relevant

is religion, contextualised through trends towards secularization and pluralism, to the study of business organization and entrepreneurship?

A useful starting point is the popular theory of planned behaviour (TPB), applied to the formation of entrepreneurial intentions in various guises (Ajzen, 1991, Krueger and Carsrud, 1993; Krueger et al, 2000). This identifies two particular drivers of intentions that are relevant to a discussion of the influence of religion. These are the perceived social acceptability and the perceived feasibility of entrepreneurship. They may be considered as analogous to Dana's values and social capital routes through which religion may act an explanatory variable for entrepreneurship (Dana, 2009), and connect to the notion that spiritual capital, measured as faith maturity, may support entrepreneurial activity (Neubert et al., 2015).

In terms of perceived social acceptability, religion plays a potential role as an imparter of values and societal norms. Religious identities are socially constructed, encompassing wider cultural and social considerations, and cannot be confined to the individual (Beckford, 2003). In TPB social norms provide linkage between the cognitive psychology of entrepreneurial intention and action, and wider social and environmental influences. Although previous research has tended to focus on influences on belief formation at the individual level (such as parental and other role models), these influences might encompass a wide range of perspectives on ethical behaviour, corporate responsibility, environmental ethics and sustainability (Tracey, 2012). Entrepreneurship is a values-based phenomenon which may be framed by both intrinsic and extrinsic religious orientation (Balog et al., 2014).

In particular the issue of work ethic arises, pointing back to the seminal work of Max Weber (Weber, 1905). Do certain forms of religion (in Weber's case Calvinist Protestantism)

specifically promote an entrepreneurial or capitalist work ethic and provide moral force to the vocation of business venturing? These forms need not necessarily be Protestant-Christian in form. They may emerge in other contexts (Collins, 1997). Religion may not necessarily explicitly promote or inhibit entrepreneurial activity, but rather may propagate particular cultural value systems in particular societal contexts, that in turn frame attitudes towards entrepreneurship (Collins, 1997; Dana, 2009). Forms of emerging religious activity, which display high salience and strong emphasis on the establishment of behavioural norms and on shared but distinct experience, may have a particular role to play in stimulating entrepreneurial activity (Drakopoulou-Dodd and Gotsis, 2007). Evangelical Christianity is a form which emphasizes personal faith commitment and conversion experience. In the case of charismatic or Pentecostal Christianity this is typically reinforced through distinct but shared manifestations of religious experience, and allegiance to formal denominational grouping by members of these blocs may be blurred in traditional data categorizations (Mandryk, 2010).

The perceived feasibility of entrepreneurship (entrepreneurial self-efficacy) may be influenced, again both positively and negatively, by the impact of religion on social networks, social capital and societally expressed constraints on individual behaviour (such as actively restricting on religious grounds certain forms of business venturing activity). The recently proposed notion of spiritual capital may directly influence entrepreneurial feasibility (Neubert et al., 2015). However, conclusions here are likely to be highly context-specific (Drakopoulou-Dodd and Gotsis, 2007). Few researchers consider the macro-level role of religion as contributing to the munificence of the socio-cultural environment (Balog et al., 2014). This is curious because research in other disciplines has shown that religion may impact human behaviour not just directly through individual religious orientation but also through the wider social and community impact that religion may have on non-religious domains (Adamczyk and Palmer, 2008; Park et al. 2014).

For established entrepreneurs the opportunity to maintain social identity and networking is likely to be important for continued success (Greve and Salaff, 2003; Hoang and Antoncic, 2003; Slotte-Kock and Coviello, 2009). Religion may create and promote institutional structures and social networks that build connection and trust between nascent and established entrepreneurs who are co-religionists.

In summary, extant research points towards a number of avenues for the influence of religiosity on entrepreneurship, which might readily be incorporated in popular models of entrepreneurial behaviour. Returning to the open issue of the relationship between particular forms of religion and entrepreneurial behaviour leads to a first main research question: is there an association between the extent of religious participation and rates of entrepreneurial activity across different societies? What is meant by extent depends on the unit of observation. At the individual level it may refer to degree of affiliation or engagement in religious activity. In the present context, where the focus is at societal level and where nations vary considerably by population size, it is, for convenience and ease of access to data, it might be indicated by the population share of particular religions.

Institutions and entrepreneurship

New institutional theory is viewed as an important avenue for future research on religion and organizations and ought legitimately to be incorporated into the present discussion. It defines institutions across a range of perspectives, covering formal rule sets, *ex ante* agreements between social actors, and less formal shared interactional sequences (North, 1990; DiMaggio and Powell, 1991; Bruton et al., 2010). It is in the last of these that religion may exert greatest impact, even though on the surface religious institutions may be seen to place explicit rules of conduct and social engagement on their adherents. Religious

institutions may continue to exert very significant cultural presence, even though the extent to which those rules exercise explicit influence on falling numbers of adherents may have declined (Demerath et al., 1998).

A well-known formulation describes three dimensions or pillars of institutional force (Scott, 2013). Regulative force, as typically discussed in the institutional economics literature, sanctions and guides economic behaviour, through formal and informal means, by establishing rules, creating monitoring arrangements and enforcing compliance (North, 1990). Normative force, most commonly discussed by sociologists (DiMaggio and Powell, 1991), focuses attention on social and organizational obligations, and the role they play in guiding behaviour in social and commercial contexts. The cultural influence of religion on entrepreneurship may operate at least as much at the normative as at the regulative level. Cognitive force describes the taken-for-grantedness of rules and meanings which sanction and limit human behaviour, including that within the domain of enterprise. Each of these pillars may have significant theoretical implications for entrepreneurial activity (Bruton et al., 2010; Parboteeah et al. 2015).

Surprisingly, in an important review of institutional theory and entrepreneurship no mention is made of religion (Bruton et al. 2010). This review, however, argues strongly that the absence of formal or substitute-informal institutional structures around entrepreneurs discourages entrepreneurial activity. These authors also observe that institutions may equally discourage entrepreneurship, if they impose excessive rules and expectations. Religious institutions cannot be exempt from this point. Each of Scott's pillars provides legitimacy for entrepreneurial activity, but the importance of the normative and cognitive pillars ought, in particular, to be noted in the context of discussion about the influence of religion. Specifically, in less economically developed societies religious groups and networks may support, as substitute-informal religious institutions, the legitimacy and stability of

entrepreneurship. They promote religious social networking as well as establish norms of behaviour that are not clearly articulated through the stronger formal governance and legal structures found typically in better-developed economies.

Aside from individualistic cost-benefit considerations which rational choice theorists argue lie behind choices to participate in religious activity and organizations (Warner, 1993; Finke and Iannaccone, 1993; Iannaccone and Stark, 1994), other qualitative research focuses on questions of individual identity and sense of calling (Heslam, 2014). High levels of religious commitment and identity may serve to sanctify particular individual goals and thus raise self-efficacy (McCullough and Willoughby, 2009). A religious institutional perspective here might focus more on underlying cognitive forces, rather than explicit goal formation (Scott, 2013). Religious identity provides a basis for preconscious behaviour, which in turn may be associated with particular individual behaviour including that in the entrepreneurial domain. The role of religion in promoting particular individual values and behavioural norms should not be divorced from a wider consideration of the cultural and social influence of religion of shaping the formation of societal norms about enterprise.

With close resonance to the regulative pillar (North, 1990), an institutional economics perspective suggests that religious institutions may strengthen clearly defined property rights and therefore support business venturing, through providing moral force to support the rule of law (Acemoglu and Johnson, 2003). Economic benefits flow through reduced transactions costs. Religious institutions may also provide an institutional context for entrepreneurial networking and social capital building, as distinct from market-based relationships (Granovetter, 1973), and may be particularly effective where state governance systems are weak (Licht and Siegel, 2006). Reputational bonding may serve as an important entrepreneurial strategy to signal trustworthiness with suppliers and customers, through social embeddedness (Granovetter, 1985; Aldrich and Zimmer, 1986; Guiso et al., 2003; 2006;

Licht and Siegel, 2006)). Membership of a religious organization may further facilitate the entrepreneur to embed within a dense religious social network. Social capital may arise from a variety of sources (Portes and Sensenbrenner, 1993), including value introjection (being born into a particular religious group identity), reciprocity exchange, bonded communality (shared experiences of common events which might be of a religious nature) and enforceable trust between those who are both co-religionists and partners in business activity. Recent research, albeit focused on developed economies, helpfully ties together the potential religion-entrepreneurship nexus across Scott's three dimensions: the cognitive aspect in which religion sanctifies personal goals; the normative aspect through which religion and religious networks promote values and behavioural norms; and the regulative aspect through which state and society may influence and encourage/discourage religious activity and its ability in turn to affect entrepreneurial activity (Parboteeah et al. 2015). If state or society is able to discourage religious activity or favour one particular religion over others then this will also be manifest in a lower level of religious pluralism. This discussion can be summarised in a second main research question: is the impact of a given level of religiosity on entrepreneurship mediated by the role of institutional and regulatory arrangements or, as a possible alternative indicator of permissiveness towards religion, the level of religious pluralism?

There is here a potentially rich agenda for research inquiry. In the investigation that follows the focus is on broad associations in societal-level data. At this level of analysis there is a further confounding consideration. The direction of causation in any association between the stage of economic and social development of a society and its levels of religiosity is open to question (McCleary and Barro, 2006b). This has implications for any association between religion and entrepreneurship, because of the possible link between entrepreneurship (as a source of innovation) and economic development. This relationship may be complex, with

findings inconclusive (Wennekers and Thurik, 1999; Carree and Thurik, 2003; Acs and Storey, 2004; Wong et al. 2005; Audretsch et al. 2006). Entrepreneurship may be an important driver of economic growth. However the strength of this may vary across different levels of economic development. For example, Wennekers et al. (2005) find, using GEM data, the relationship between entrepreneurship and the level of economic development (in cross-section) to be U-shaped. For present purposes it is important to note that an association between entrepreneurship and religion may be confounded by the rate of economic prosperity enjoyed by a particular society, as well as by population age structure (Delmar and Davidsson, 2000; Verheul et al., 2002). Research suggests that age structure may more accurately proxy stage of economic growth (Bloom et al., 2007).

Methods

Previous research that focuses explicitly on the relationship between religion and entrepreneurship is relatively scarce. Three types of study exist, and to some extent these mirror the discussion above. One examines the relationship between entrepreneurship and national level indicators of culture and social capital (Shane, 1993; Davidsson and Wiklund, 1997; Kwon and Arenius, 2010). A second type looks within a particular national context at correlation between individual entrepreneurial activity and individual religious affiliation (Drakopoulou-Dodd and Seaman, 1998; Audretsch et al., 2007, Nunziata and Rocco, 2011; Supphellen et al. 2012; Parboteeah et al., 2014). A third type adopts qualitative methods or discursive analysis to examine specific national case-studies (e.g Anderson et al. 2000; Basu and Altinay, 2002; Tong, 2012).

The approach adopted here, therefore, is a quantitative one based on data linkage from various cross-national sources, and is intended to be illustrative and exploratory. This is

chosen on grounds of potential generalizability of conclusions, and in preference to, say, one based on a range of detailed societal case studies. However, such an approach based on investigating associations between national level indicators of entrepreneurial and religious activity is by nature preliminary, adopted at the expense of being able to provide detailed analysis of potential causal processes. Two forms of analysis are undertaken: bivariate correlation and mediated multiple regression analysis.

International comparative data on religious activity is available through surveys such as the World Values Survey and from a range of other secondary sources collated by the Association of Religious Data Archives. However such data sources typically report membership levels of broad religious and denominational groupings, and fail to take account of the importance, within Christianity, of trans-denominational blocs, discussed above, who may share common emphases on personal commitment and religious experience. The EPCM bloc or blocs may fall specifically into this category. One source, which does provide data on these blocs, collated from a wide range of national-level sources and contacts, is Mandryk (2010). This is a periodically updated compendium produced primarily as a resource for Christian churches, and compiles data drawn from international surveys, notably the World Christian Database (www.worldchristiandatabase.org)¹, supplemented by intra-country denominational statistics and extensive personal correspondence and questionnaire material obtained from local sources.²

Percentage affiliation estimates are provided for all major world religions, including an estimate of “non-religious”. Mandryk (2010, pp. xxx-xxxiii) operationalizes, as far as possible, consistent definitions for denominational and trans-denominational Christian blocs across countries. Six Christian denominational blocs are defined: Protestant, Independent/Indigenous, Anglican, Catholic, Orthodox, Marginal and Unaffiliated. The Marginal bloc includes groups such as Mormons and Jehovah’s Witnesses. A further

“double-affiliated” category is also defined to account for multiple affiliations, for example Catholics in Latin America who may also attend new Pentecostal denominational meetings. Mandryk (2010) also provides data on three “transbloc” EPCM groupings. These groupings are not mutually exclusive. Data for 226 nations, including autonomous regions and dependencies, are available and all data relate to the position in 2010. In previous research religious pluralism has been measured using a religious concentration measure, constructed typically using a Herfindahl-Hirschman index.³ This is the approach followed here. However it is important to note that a structural measure such as this may at best only imperfectly capture the wider objective and normative dimensions to pluralism discussed earlier.

Measures of governmental and societal regulation of religion are obtained from Grim and Finke (2006). These take the form of ordinal scales measured from 1 (low) to 10 (high), and are based on the collation of expert assessment of conditions in each country. They are provided in in the cross-national data files of the Association of Religion Data Archives (ARDA).⁴ The measures used to capture the social and economic development of each country are median population age⁵ and growth in real GDP per capita between 2000 and 2010. Median population age for 2010 is from the ARDA data files and GDP data are taken from the Penn World Tables 7.1 data set.⁶

These data are matched to the total entrepreneurial activity (TEA) indicator from the 2011 and 2012 Global Entrepreneurship Monitor surveys (Kelley et al., 2012; Roland Xavier et al., 2013), which, when combined, provide data for a sub-sample of 74 countries. Where both years are available the 2012 data are used. GEM indicators are generally familiar to entrepreneurship researchers.⁷ Total Entrepreneurial Activity (TEA) is the percentage of the population aged between 18 and 64 who involved in setting up a new business or have a business which has been trading and paying its owners for less than 42 months, and

represents the widest of the definitions of entrepreneurial activity which GEM attempts to measure consistently across countries.

Data analysis and findings

Data description

Table 1 provides summary information for religious groupings. Christian denominational membership is divided into three groups. The first is “hierarchical, representing those denominations in which church governance is through a formal, generally episcopal hierarchy. The main members of this group are Roman Catholics, for whom membership across the full sample averages 29%. Anglicanism (although significant in the English-speaking world) and Eastern Orthodox Christianity are much smaller globally. The second group are Protestant denominations, excluding Anglicans. This group includes various forms of Methodism, Baptists, Presbyterians and Lutherans, as well as a wide range of smaller denominations. Across the sample membership averages 15%. The final group labelled “independent” includes those who are members of a wide range of new (non-traditional denominations) including new church networks. Globally this group are highly heterogeneous, and there may be significant overlap with the EPCM trans blocs. The largest of these intersecting groups are evangelicals who average almost 10% of the population of the countries in the sample. Of the non-Christian religions, Muslims are, by some considerable margin, the largest, averaging 22% across the sample. Variance is high across countries, with much higher percentages in the Middle East and North Africa. Those professing no religion average 7.6% across the sample. Absence of stated religious affiliation is higher in European advanced economies and in some former Communist societies. This group accounts for 34% of the population in the UK and 19% in Russia.

The table reports sample summary information for the religious pluralism index and regulation of religion index. The mean pluralism index of 0.46 suggests that the average nation has a religious structure equivalent to just over 2 equally sized religious groups. Sub-sample information is also reported for those countries for which GEM data is available. There are some differences between the averages for this sub-sample and the full sample, but these are generally not large. GEM appears to slightly better represent Christian countries rather than Muslim ones, and those with a higher non-religious population.

Table 1 also reports summary information on the GEM TEA indicator of entrepreneurial activity used in the research. An average of 13% of national populations are engaged in early stage entrepreneurial activity (TEA) across the available sample. Finally the table reports summary information on variables for median population age and on GDP growth.

Because the available data contain a number of intersecting measures of the various transbloc groupings that comprise EPCM Christianity, these data need to be treated with caution. In the absence of information about the extent to which the component categories do or do not overlap in particular countries, any composite indicator may be biased, since the degree of overlap across the transblobs will not be the same in all countries. So, the analysis focuses on the population share of independent Christians and the share of evangelicals.⁸ Evangelicals are typically the largest of the EPCM transblobs (see Table 1). For other religious groupings population share measures are used.

Table 2 reports a correlation matrix for the various religion indicators, as well as indicators of economic and social development and the TEA measure. It shows both significant positive and negative associations between the prevalence of particular religions and religious blocs. The correlation across the sample of countries between the share of

independent Christians and the share of evangelicals measure is quite high ($r=0.41$) and statistically significant. A more pluralistic structure is associated with higher levels of independent Christian and evangelical affiliation and lower levels of Muslim affiliation. This suggests that these high commitment/experiential forms of Christianity are more likely to thrive in societies where there is already religious diversity. State regulation of religion is positively associated with high shares of Muslim affiliation and is negatively associated with higher population shares of all forms of Christian affiliation, as well as a higher share of non-religious. It may be problematic to draw direct inference from bivariate correlations for entrepreneurial activity with religion shares and with state regulation, since the latter two are correlated.

Bivariate correlations with entrepreneurial activity

In addressing the first research question posed earlier, Table 2 reveals some sizeable and significant correlations between the size of particular religious groups and entrepreneurial activity (TEA). The first is for the population share of independent Christian denominations ($r=0.37$). Even larger, more significant correlations are found with TEA for the population share of evangelicals ($r=0.58$). The only other statistically significant correlation for TEA with a religion share is found for the non-religious ($r=-0.31$). Here the correlation is negative – a greater share of non-religious in the population is associated with lower levels of entrepreneurial activity. This finding seems likely to be confounded by population age, since Table 2 also reveals a high inter-correlation. Table 2 also shows that there is a positive and significant association between religious pluralism and entrepreneurial activity (0.30). There is also evidence in the table of a strong negative association between

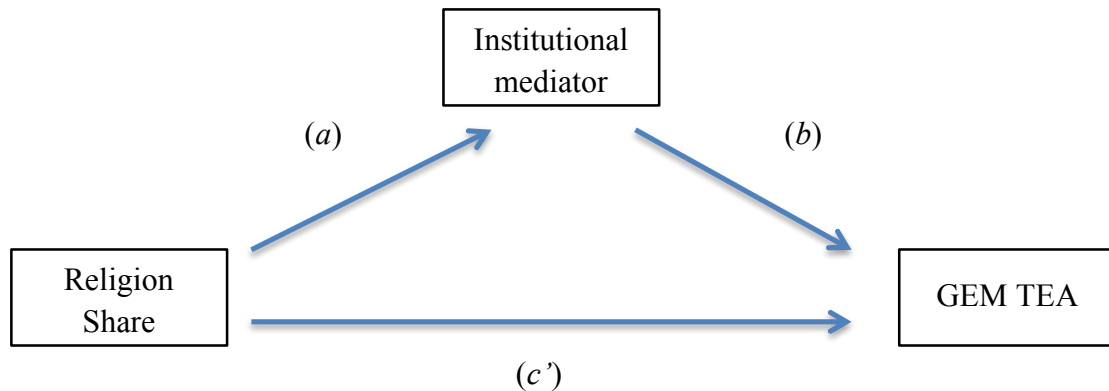
greater social regulation of religion and entrepreneurial activity (-0.34). The negative correlation with state regulation of religion is lower and not statistically significant

These findings provide some support for the proposition in the first research question that religiosity is associated with entrepreneurship, although they suggest that there is a far from uniform relationship between particular religious groupings and entrepreneurial activity. In particular independent and evangelical forms of Christianity are positively correlated with early stage entrepreneurial activity across the countries in the GEM sample. Furthermore these results confirm support for the proposition in the second research question of the mediating influence of institutional and regulatory structures, in the positive association between religious pluralism and entrepreneurial activity and the finding that regulation of religion is associated with lower entrepreneurial activity.

There is no support in Table 2 for any significant correlation between the strength of particular religious groupings and the pace of economic development as measured by GDP growth. In short faster growing economies do not appear to be more secularised. Table 2 does show a significant positive association between faster economic growth and TEA, but the absence of any correlation between religion and economic growth points against any confounding influence of economic development on the strength of any association between religion and entrepreneurship. This finding does not however hold for population age. Table 2 shows a strong and significant negative correlation between an older population and a number of measures of religious strength, notably the alternative measures of evangelical Christianity and the size of the Muslim population. In the table there is also a strong negative correlation between population age and TEA across the sample. These findings point to the potential confounding importance of population age in assessing the strength of any association between religion and entrepreneurial activity.

Mediated regression tests

Findings from the second area of exploratory data analysis, focused on the second research question, are now discussed. The literature review points to the potential mediating impact of institutional and regulatory structure on the extent to levels of religiosity, represented by data on religious adherence, influence entrepreneurial activity. Mediated regression analyses are presented for government regulation of religion (Table 3), societal regulation of religion (Table 4) and the religious pluralism measure (Table 5) in turn. This analysis is presented for the population shares of independent Christianity, evangelical Christianity, and for the two other largest religious groupings in Table 1, Muslim and non-religious. This choice is also informed by the pattern of correlation observed in Table 2. The mediation test adopts the following structure:



Coefficient a captures the association between a particular religion share and the institutional mediator. Coefficient b captures the impact of the mediator on total entrepreneurial activity, and the product ab is the total indirect mediation effect. Coefficient c' captures the direct impact of religion share on entrepreneurial activity. The total effect of religion on

entrepreneurial activity is captured by $c = c' + ab$. In each table each coefficient is reported, including the statistical significance of ab , the Sobel (1982) mediation test. In each case the regression models include other religion shares, median population age and GDP growth as control variables.

In Table 3 the results for independent and evangelical Christianity shares show a statistically significant direct impact (c') on TEA but little if any evidence for a mediation effect via government regulation of religion. There is some weak evidence, in the second column that, lower government regulation is associated with higher TEA. In the third column the results show a strong statistically significant association between the Muslim population share and higher government regulation, confirming the correlation in Table 2, but no evidence for any significant direct or indirect relationship with TEA. In the final column the results show no association, direct or indirect, between the population share of the non-religious and TEA.

Similar findings emerge in Table 4 for societal regulation of religion. Here, for the two Christian shares, the total effect on TEA is statistically significant, in both cases at the 6% level. However in first column the indirect mediation pathways are not individually significant, suggesting that overall the results are inconclusive about the manner (direct or mediated) in which a higher independent Christian share is associated with higher TEA. In the second column there is a statistically significant association between a higher evangelical share and lower societal regulation. For the third and fourth columns the same findings emerge as in Table 3.

In Table 5 there is stronger evidence that national religious structure, as captured by a descriptive indicator of religious pluralism, mediates the impact of religiosity on entrepreneurship. In all four columns the indirect effect (mediation) paths a and b are

statistically significant. There is a particularly strong positive association between the share of evangelical Christians and the measure of pluralism shown in the second column, confirming the bivariate correlation analysis in Table 2. This group has the strongest total mediation effect. However the significance of the Sobel test (at the 8% level) suggests that mediation may not be complete. The estimated mediated proportion of the total association between evangelical Christianity and TEA is 40 per cent. In the first column a largely similar picture is found for the relationship between independent Christianity and TEA, although coefficients and their individual significant are not as strong. Just over a quarter of the association appears to be mediated. The pattern in the third column for the Muslim population share is different. The association between the Muslim share and pluralism is negative and strongly significant, again confirming Table 2. This more than offsets the positive association between pluralism and TEA, with the conclusion that indirect and direct effects, although not significant, offset each other. In the final column positive associations are found between the share of the non-religious and pluralism and between pluralism and TEA. This supports the conclusion that an association between a higher non-religious share and TEA is an indirect, mediated effect. However, even though the estimated proportion mediated is 40%, the total effect is not statistically significant.

Discussion

The review and data analysis above offers pointers to the mechanisms proposed in the literature through which religious driving forces operating through construction of social identity and religious institutions may be associated with entrepreneurship (Drakopoulou-Dodd and Gotsis, 2007; Dana, 2009; Balog et al., 2014). The findings provide an exploratory, macro-level investigation of potential observable associations. They point to some significant

bivariate associations between the GEM TEA construct and indicators of the extent of allegiance to particular religious groupings, and in particular affiliation to high salience evangelical and independent forms of Christianity. There is also a positive association between entrepreneurial activity and a descriptive indicator of religious pluralism, alongside negative associations with indicators of state and societal regulation of religion.

Further analysis points the potential role that religious structure in particular may play in mediating any association between religiosity and entrepreneurship. Sociologists of religion have suggested that the key phenomena of secularization and pluralism cannot be understood outside the context of religious institutions and regulation (Gill, 1999; Beckford, 2003). Evangelical and independent forms of Christianity appear to attract adherents in countries where pluralism is higher and regulation lower. In societies in which high salience, high behavioural commitment forms of Christianity are able to flourish, religion appears to contribute positively as a cultural factor to environmental munificence for entrepreneurial activity (Balog et al., 2014; Parboteeah et al., 2015) just as other forms of culture and institutional arrangements influence entrepreneurship (Hayton et al. 2002; Bruton et al., 2010). It is the conditions under which religion is able to flourish that are at least as important as the observed levels of religious adherence. One explanation for not finding a correlation between TEA and other religions, where those religions also involve high social and personal commitment and expression, is that a supportive pluralist and, possibly, deregulated religious environment may be absent. The findings here are not inconsistent with potential hypotheses about the impact on religion on the formation of social norms about the desirability of entrepreneurship (Krueger et al., 2000), as well as on the feasibility of entrepreneurship through the formation of religiously-based social networks and trust building (Guiso et al., 2003, 2006; Licht and Siegel, 2006).

These ideas are summarized in Figure 1, which, in the light of the findings in the article abduces a grounded and integrated framework for relating religion to entrepreneurial activity. It does this, starting from the key sociology of religion influences of secularization and pluralism (Beckford, 2003; Davie, 2013), by proposing that these are refracted, via the lens of new institutional theory (Bruton et al., 2010), in each of regulative, normative and cognitive institutional forces (Scott, 2013). It is important to note that secularization is considered here to encompass not only considerations of the religious numerical importance but also of the wider societal salience of religion; and that pluralism encompasses both the “market” structure of religious adherence and the porosity of religious organizational boundaries. In turn these institutional forces impact on two key drivers of entrepreneurial activity as described in the theory of planned (entrepreneurial) behaviour (Ajzen, 1991; Krueger et al, 2000). These are, firstly, the desirability of entrepreneurship as expressed through social norms and values potentially shaped positively and negatively by religion, and, secondly, the feasibility of entrepreneurship (entrepreneurial self-efficacy) as influenced positively and negatively by the influence of religion on social networks, capital and constraints.

The empirical analysis here is not able to confirm the underlying causal processes in Figure 1 – what is offered is a potential conceptual framework for addressing these in future research. As noted, explanations of the entrepreneurship-religion relationship might include a range of mediating factors. These might encompass individual psychological factors that raise entrepreneurial self-efficacy. Broader cultural or sociological/normative institutional explanations might include support for local entrepreneurial social and networking capital provided by dense networks of like-minded religious adherents who share common values and build social identity. Such networks may provide a more effective basis for trust-building

and the sanctioning of social penalties for breaking of that trust. It is hoped that a stronger conceptual discussion will provide a more robust framework for future analyses.

One further question remaining is whether government and societal regulation of religion exert similar or distinct influences on entrepreneurship. Significant bivariate correlation with TEA is observed for societal regulation, but the association is not significant for government regulation. Evidence for mediating influences was less conclusive still. This may reflect data quality, but could point to underlying differences. Grim and Finke (2006) define social regulation as “the restrictions placed on the practice, profession, or selection of religion by other religious groups, associations, or the culture at large” (p.8). Such restrictions may be more effective than those promoted by official regulation or registration. Certain governments in certain contexts may formally frown on the activities of particular religious institutions, and therefore indirectly impede the entrepreneurial activities of particular groups, or may promote expressions of religion which are inimical to entrepreneurship. However forms of social opprobrium, potentially reinforced by the force of law or regulation, may extend to entrepreneurial activity. This warrants further detailed research.

It is important to highlight the limitations of the present analysis. The findings are perhaps at best suggestive, hampered by the challenges of working with a small sample of aggregative data drawn from a range of sources, which at best only approximate the underlying constructs of interest. Correlations observed in macro-level data shed limited and inconclusive light on underlying causal processes. It hardly needs to be emphasised that much further work, both quantitative and qualitative, is required to look at the “whys” and both qualitative and quantitative work at a lower levels of analysis (the individual or group, rather than nation) to investigate in further detail the ideas here.

Conclusion

The potential for religiosity and religious institutions to act as drivers of entrepreneurial activity is not one that can be safely ignored by researchers. A developing literature highlights the importance of institutional and cultural drivers on entrepreneurship (Hayton et al., 2002; Bruton et al., 2010), but has been largely silent on religion and an important expression of culture and as a source of institutional munificence. As discussed, insufficient grounding in social theory is acknowledged as a major concern by leading sociology of religion scholars themselves. Furthermore a cursory reading of work on sociology of religion pointing to key forces such as secularization and pluralism may tempt researchers into sidelining religion as an influence. However such a conclusion is not warranted by a more considered reading and evaluation (Davie, 2013). Post-secular understandings of the societal role of religion do not dismiss religion as irrelevant but point to a widening range of ways in which religion informs and frames human culture and behaviour. Pluralist perspectives support this position by arguing that beliefs, practices and religious identities have become increasingly porous and negotiated from the bottom-up.

Recent surveys of the literature relating religion to management or to entrepreneurship suggest a fragmented and multidimensional body of work (Tracey, 2012; Balog et al., 2014). However these do succeed in identifying potential avenues for religion, as an imparter of values, societal norms and identities, to impact business activity. Data findings, drawn from an analysis of aggregate societal-level indicators of religiosity and Global Entrepreneurship Monitor data, highlight correlations with particular forms of religion, in particular high salience forms of Christianity. These findings also provide a glimpse on the potential mediating influence of religious pluralism and state and societal attitudes expressed through the extent of regulation of religious organizations.

This article argues that new institutional theory may provide a useful lens for exploring these mediating influences through which religion may provide environmental munificence for entrepreneurial activity. In the discussion above a richer conceptual framework for setting the religion-entrepreneurship link is proposed in the light of the data findings. New institutional theory is helpful because it highlights not only the regulative impact of institutions, but also the normative and cognitive forces that institutions may provide. Religious organizations and institutions, sometimes with the support or complicity of government, may support or hinder entrepreneurial development through each of these routes. As suggested in the literature, religious institutions may act as substitute-formal structures in the presence of weak government, supporting and legitimizing social networks within which entrepreneurial activity can flourish.

However precise linkages need considerably more exploration. Countries where potentially supportive forms of religious expression are stronger tend also to be those where religious pluralism (in a descriptive structural sense) is higher and societal and state regulation lower. These conclusions point to important considerations when trying to understand why levels of entrepreneurial endeavour appear to vary so much from place to place. Potential causal explanations for the religion-entrepreneurship nexus, while explored conceptually here, need urgently to form the subject of a much wider research agenda, encompassing the full range of disciplinary perspectives on entrepreneurship, beyond the preliminary discussion and assessment contained in this article. In particular research might focus on individual experience rather than aggregate associations and explore in further the depth the manner in which institutional arrangements mediate the impact of religion on entrepreneurship.

Notes

¹ The World Christian Database is published by Gordon-Conwell Theological Seminary, US, and was originally based on reports published in 1981 and 2001 for the benefit of faith-based organizations. It now attracts usage from a wider audience including academic researchers (e.g. Grim and Finke, 2007), and is based on data compiled from a range of methods and informants. Hsu et al. (2007) report that the WCD data appear to correlate with information from other sources and does not suffer inherently from bias.

² Mandryck's data are aligned closely to the World Christian Database, particularly for traditional denominations, but Mandryk takes a more cautious approach in assigning new (post-1945) denomination and movements to the WCD independent denomination category. Mandryk uses a different definition of evangelicals as WCD, assigning particular denominations as evangelical on the basis of stated theological position and therefore tends to define this group more widely than WCD. Mandryk also includes within evangelicals an estimate of the proportion of affiliated individuals in mainstream denominations who hold evangelical views (Mandryk (2010, Appendix 5, p. 959). So, although largely Protestant, some evangelicals are Catholic or Orthodox. A similar pattern is observed and adopted in the data for charismatics. Pentecostals are defined according to formal denominational group (but many Pentecostals might also identify as evangelical). See Mandryk 2010, Appendix 6, pp. 964-966 for further details.

³ This measure, commonly used as an indicator of industrial concentration, is constructed as the sum of the squared population shares of the religious groups for each country (excluding the intersecting trans blocs). The inverse of this measure is sometimes used to indicate the hypothetical number of groups that would hold if all groups were of equal size.

⁴ See <http://www.thearda.com/Archive/CrossNational.asp> (accessed 15-April-2016). The ARDA source also includes a similar measure of societal regulation of religion, often by other religions. This was included in initial data analysis but not found to be associated with measures of entrepreneurial activity.

⁵ There is considerable survey evidence that younger population groups are less likely to report religious affiliation. See, for example, <http://www.pewresearch.org/fact-tank/2015/05/12/millennials-increasingly-are-driving-growth-of-nones/> (accessed 15-April-2016). However this appears to contradict the aggregate data used in this article, which reveal a strong, significant positive correlation between age and numbers of non-religious (Table 2). The median is selected as in many, particularly less developed countries population age pyramids are very skewed, and therefore the average age may mask high mortality rates and large proportions of younger age groups.

⁶ Centre for International Comparisons at the University of Pennsylvania, see <https://pwt.sas.upenn.edu> (accessed 8-April-2014)

⁷ See <http://www.gemconsortium.org/docs/download/414> (accessed 15-April-2016)

⁸ Principal component analysis (PCA) was investigated as a potential alternative data reduction strategy. A PCA conducted on the four items yields one component with an eigenvalue of above 1. This component generates a variable which has a correlation of 0.93 with the population share of evangelicals. However the validity of PCA here is called into question because none of the individual variables satisfies tests for normality.

References

- Acemoglu, D. and Johnson, S.H. (2003) Unbundling institutions. *National Bureau of Economic Research Working Paper*, No. 9934, Cambridge MA: NBER.
- Acs, Z. and Storey, D. (2004) Introduction: entrepreneurship and economic development. *Regional Studies* 38(8): 871-877.
- Adamczyk, A. and Palmer, I. (2008) Religion and initiation into marijuana use: The deterring role of religious friends. *Journal of Drug Issues* 38(3): 717-742.
- Aldrich, H.E. and Zimmer, C. (1986) Entrepreneurship through social networks. In D. Sexton and R. Smiler (eds.) *The Art of Science of Entrepreneurship*, New York: Ballinger.
- Anderson, A.R., Drakopoulou-Dodd, S.L. and Scott, M.G. (2000) Religion as an environmental influence on enterprise culture: the case of Britain in the 1980s. *International Journal of Entrepreneurial Behaviour and Research* 6(1): 5-20.
- Attanasi, K. and Yong, A. (2012). *Pentecostalism and Prosperity*. New York NY: Palgrave Macmillan.
- Audretsch, D.B., Keilbach, M. and Lehmann, E. (2006) *Entrepreneurship and Economic Growth*. New York: Oxford UP.
- Audretsch, D.B., Boente, W. and Tamvada, J.P. (2007) Religion and entrepreneurship. *Centre for Economic Policy Research Discussion Paper* No. 6378, London: CEPR.
- Ajzen, I. (1991) The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes* 50(2):179-211
- Balog, A.M., Baker, L.T. and Walker, A.G. (2014) Religiosity and spirituality in entrepreneurship: a review and research agenda. *Journal of Management, Spirituality and Religion* 11(2): 159-186
- Basu A. and Altinay E. (2002) The interaction between culture and entrepreneurship in London's immigrant businesses. *International Small Business Journal* 20(4): 371-94
- Beckford, J.A. (2003) *Social Theory and Religion*. Cambridge: Cambridge University Press.
- Berger, P (ed.) (1999) *The Desecularization of the World: Resurgent Religion and World Politics*. Grand Rapids MI: Eerdmans Publishing.
- Bloom, D.E., Canning, D., Fink, G. and Finlay, J.E. (2007) Does age structure forecast economic growth? *International Journal of Forecasting* 23(4): 569-585.
- Bruce, S. (1999) *Choice and Religion: A Critique of Rational Choice*. Oxford: Oxford University Press.
- Bruton, G.D., Ahlstrom, D. and Li, H-L. (2010) Institutional theory and entrepreneurship: where are we now and where do we need to move in the future. *Entrepreneurship Theory and Practice* 34(3): 421-440.

- Carree, M. A. and Thurik, R. (2003) The impact of entrepreneurship on economic growth. In Audretsch, D.B. and Acs, Z.J. (eds.), *Handbook of Entrepreneurship Research*, Boston/Dordrecht:Kluwer Academic Publishers pp. 437–471.
- Collins, R. (1997) An Asian route to capitalism: religious economy and the origins of self-transforming growth in Japan. *American Sociological Review* 62(6): 843-865.
- Dana, L.P. (2009) Religion as an explanatory variable for entrepreneurship, *International Journal of Entrepreneurship and Innovation* 10(2): 87-99.
- Davidsson, P. and Wiklund, J. (1997) Values, beliefs and regional variations in new firm formation rates. *Journal of Economic Psychology* 18(2-3), 179-199.
- Delmar, F. and Davidsson, P. (2000) Where do they all come from? Prevalence and characteristics of nascent entrepreneurs. *Entrepreneurship and Regional Development* 12(1): 1-23.
- Davie, G. (2013) *The Sociology of Religion*. 2nd Ed., London: Sage.
- Demerath, N.J. and Schmitt, T. (1998) Transcending sacred and secular: mutual benefits in analysing religious and non-religious organizations. In Demerath, N.J., Hall, P.D., Schmitt, T. and Williams, R.H. (eds.) *Sacred Companies: Organizational Aspects of Religion and Religious Aspects of Organizations* Oxford: Oxford University Press, pp. 381-400
- DiMaggio, P.J. and Powell, W.W. (eds.) (1991) *The New Institutionalism in Organizational Analysis*. Chicago: University of Chicago Press.
- Dobbelaere, K. (1981) Secularization: a multidimensional concept. *Current Sociology* 20(2): 1-216.
- Drakopoulou-Dodd, S. and Gotsis, G. (2007) The interrelationships between entrepreneurship and religion. *Entrepreneurship and Innovation* 8(2): 93-104.
- Drakopoulou-Dodd, S. and Seaman, P. (1998) Religion and enterprise: an introductory exploration. *Entrepreneurship Theory and Practice* 23(1): 71-87.
- Finke, R. and Iannaccone, L.R. (1993) Supply-side explanations for religious change. *The Annals of the American Academy of Political and Social Sciences* 527: 27-39.
- Gill, A. (1999) Government regulation, social anomie, and Protestant growth in Latin America: A cross-national analysis. *Rationality and Society* 11(3):287–316.
- Granovetter, M.S. (1973) The strength of weak ties. *American Journal of Sociology* 78(6): 1360-1380.
- Granovetter, M.S. (1985) Economic action and social structure: the problem of embeddedness. *American Journal of Sociology* 91(3): 481-510.
- Greve, A. and Saloff, J.W. (2003) Social networks and entrepreneurship. *Entrepreneurship Theory and Practice* 28(1): 1-22.

- Grim, B.J. and Finke, R. (2006) International religion indexes: government regulation, government favoritism and social regulation of religion. *Interdisciplinary Journal of Research on Religion*, 2 (Baylor University, TX)
- Guiso, L., Sapienza, P., and Zingales, L. (2003) People's opium? Religion and economic attitudes. *Journal of Monetary Economics* 50(1): 225-282.
- Guiso, L., Sapienza, P., and Zingales, L. (2006) Does culture affect economic outcomes?. *Journal of Economic Perspectives* 20(2): 23-48.
- Hayton, J.C., George, G. and Zahra, S.A. (2002) National culture and entrepreneurship: a review of behavioural research. *Entrepreneurship Theory and Practice* 26(4): 33-53.
- Heslam, P. (2014) Christianity and the prospects for development in the global south. In P. Oslington (ed.), *Oxford Handbook of Christianity and Economics*, Oxford; Oxford University Press, pp. 359-383.
- Hoang, H., and Antoncic, B. (2003) Network-based research in entrepreneurship: a critical review. *Journal of Business Venturing* 18(2): 165-187.
- Hsu, B., Amy Reynolds, A., Conrad Hackett, C. and James Gibbon, J. (2008) Estimating the religious composition of all nations: an empirical assessment. *Journal for the Scientific Study of Religion* 47(4): 678-693
- Iannoccone, L.R. (1988) A formal model of church and sect. *American Journal of Sociology* 94 (Supplement): S241-S268.
- Iannaccone, L.R. (1998) Introduction to the economics of religion. *Journal of Economic Literature* 36(3): 1465-1496.
- Iannaccone, L.R. and Stark, R. (1994) A supply-side interpretation of the secularization hypothesis. *Journal for the Scientific Study of Religion* 33(1):76-88.
- Kelley, D.J., Singer, S., Herrington, M. (2012) *Global Entrepreneurship Monitor: 2011 Global Report*. Global Entrepreneurship Research Association.
- Krueger, N.F., and Carsrud, A.L. (1993) Entrepreneurial intentions: applying the theory of planned behaviour. *Entrepreneurship and Regional Development* 5(4): 315-330
- Krueger, N.F., Reilly, M.D., and Carsrud, A.L. (2000) Competing models of entrepreneurial intentions. *Journal of Business Venturing* 15(5-6): 411-432.
- Kwon, S-W. and Arenius, P. (2010) Nations of entrepreneurs: a social capital perspective. *Journal of Business Venturing* 25(3): 315-330.
- Lechner, F.J. (2008) Rational choice and religious economics. In Beckford J.A. and Demerath, N.J, *The Sage Handbook of The Sociology of Religion* London: Sage pp. 81-97.
- Licht, A.N. and Seigel, J.I. (2006) The social dimensions of entrepreneurship. In M. Casson and B. Yeung (eds.) *Oxford Handbook of Entrepreneurship*, Oxford: Oxford University Press.

- Mandryck, J. (2010), *Operation World*. 7th Ed., Westmont IL: Intervarsity Press.
- Martin, D. (1990) *Tongues of Fire: The Explosion of Protestantism in Latin American*. Oxford: Blackwell.
- Martin, D. (1991) The secularization issue: prospect and retrospect. *British Journal of Sociology* 42(3): 466-74.
- Martin, D. (1999) The protestant upsurge and its political implications. In (ed.) P.L. Berger, *The Desecularization of the World: Resurgent Religion and World Politics*. Grand Rapids MI: Eerdmans pp. 37-50.
- Martin, D. (2002) *Pentecostalism: The World their Parish*. Oxford: Blackwell.
- Martin, D. (2011) *The Future of Christianity: Reflections on Violence and Democracy, Religion and Secularization*. Farnham: Ashgate.
- Meyer, B. (2010) Pentecostalism and globalization. In Anderson, A., Bergunder, M., Droogers, A., and van der Laan, C. (eds). *Studying Global Pentecostalism: Theories and Methods*, Berkeley CA: University of California Press pp. 113-129.
- McCleary, R.M. and Barro, R.T. (2006a) Religion and political economy in an international panel. *Journal for the Scientific Study Religion* 45(2): 149-175.
- McCleary, R.M. and Barro, R.T. (2006b) Religion and economy. *Journal of Economic Perspectives* 20(2): 49-72.
- McClelland, D.C. (1961) *The Achieving Society*. New York: Free Press.
- McCloskey, D. (2007) *The Bourgeois Virtues: Ethics for an Age of Commerce*. Chicago: Chicago University Press.
- McCullough, M.E. and Willoughby, B.L.B. (2009) Religion, self-regulation, and self-control: associations, explanations, and implications. *Psychological Bulletin*, 235 (1): 69-93.
- Miller, K. (2015) Organizational research as practical theology. *Organizational Research Methods* 18(2): 276-299.
- Neubert, M.J., Bradley, S.W., Ardianti, R. and Simiyu, E.M. (2015) The role of spiritual capital in innovation and performance: evidence from developing economies. *Entrepreneurship Theory and Practice* (in press) DOI: 10.1111/etap.12172.
- North, D.C. (1990) *Institutions, Institutional Change and Economic Performance*. Cambridge UK: Cambridge University Press.
- Nunziata, L. and Rocco, L. (2011) The implications of cultural background on labour market choices; the case of religion and entrepreneurship. *IZA Institute for Labor Discussion Paper* No. 6114, Bonn: IZA.
- Parboteeah, K.P., Walter, S.G. and Block, J. (2015) When does Christian religion matter for entrepreneurial activity? The contingent effect of a country's investments into knowledge. *Journal of Business Ethics* 130(2): 447-465.

- Park, J., Greibel, J., Neubert, M.J. and Dougherty, K.D. (2014) Workplace-bridging religious capital: connecting congregations to work outcomes. *Sociology of Religion*, 75(2): 309-331.
- Portes, A. and Sensenbrenner, J. (1993) Embeddedness and immigration: notes on the social determinants of economic action. *American Journal of Sociology* 98(6): 1320-1350.
- Roland Xavier, S., Kelley, D., Kew, J., Herrington, M. and Vorderwulbecke, A. (2013) *Global Entrepreneurship Monitor: 2012 Global Report*. Global Entrepreneurship Research Association.
- Scott, W.R. (2013) *Institutions and Organizations*. 4th ed., Thousand Oaks CA: Sage Publications.
- Shane, S. (1993) Cultural influences on national rates of innovation. *Journal of Business Venturing*, 8(1): 59-73.
- Slotte-Kock, S. and Coviello, N. (2009) Entrepreneurship research on network processes: a review and ways forward. *Entrepreneurship Theory and Practice* 34(1): 31-57.
- Sobel, M.E. (1982) Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology* 13: 290-312.
- Supphellen, M., Haugland, S, and Oklevik, O. (2012) Entrepreneurial orientation, self-efficacy, and religious attitudes in small third-world enterprises. unpublished paper, Norwegian School of Economics and Business Administration.
- Tong, J. K-C. (2012) *Overseas Chinese Christian Entrepreneurs in Modern China: a case study of the influence of Christian ethics on business life*. London and New York: Anthem Press.
- Tracey, P. (2012) Religion and organization: a critical review of current trends and future directions. *The Academy of Management Annals* 6(1): 87-134.
- Turner, B. (2010) Introduction: mapping the sociology of religion. In Turner, B. (ed.), *The New Blackwell Companion to the Sociology of Religion*. Chichester: Wiley-Blackwell, pp. 1-19.
- Verheul, I, Wennekers, A.R.M., Audretsch, D.B. and Thurik, A.R. (2002) An eclectic theory of entrepreneurship. In D.B. Audretsch, A.R. Thurik, I. Verheul and A.R.M. Wennekers (eds.) *Entrepreneurship: Determinants and Policy in a European-US Comparison* Boston/Dordrech: Kluwer Academic Publishers, 11-81.
- Warner, R.S. (1993) Work in progress toward a new paradigm for the sociology of religion in the United States. *American Journal of Sociology* 98(5): 1044–93.
- Weber, M. (1905) *The Protestant Ethic and the Spirit of Capitalism*. (translated P. Baehr and G.C. Wells, 2002, Harmondsworth: Penguin).
- Wennekers, S. and Thurik, R. (1999) Linking entrepreneurship and economic growth. *Small Business Economics* 13(1): 27-55.

Wennekers, S., van Wennekers, A., Thurik, R. and Reynolds, P. (2005) Nascent entrepreneurship and the level of economic development. *Small Business Economics* 24(3): 293-309.

Wong, P.K., Ho, Y.P. and Autio, E. (2005) Entrepreneurship, innovation and economic growth: evidence from GEM data. *Small Business Economics* 24(3): 335-350.

Table 1: Religious Groups and Diversity

Percentage	Mean - all (N=226)	Std Dev - all	Mean – GEM sample (N=74)	Std Dev – GEM sample
Christian groups:				
All Christian				
a) Hierarchical	37.4	32.3	40.2	32.7
- Anglican (Episcopalian)	2.9	8.8	2.2	7.3
- Catholic	29.1	31.7	31.7	32.7
- Orthodox	5.2	17.1	6.3	18.3
b) Protestant (excl. Anglican)	15.3	20.9	14.6	20.0
c) Independent	6.5	10.5	6.4	10.9
Christian EPCM “transblocs”:				
- Unaffiliated	3.2	5.7	3.4	5.5
- Marginal	1.6	4.4	1.0	1.2
- Evangelicals	9.6	10.7	8.8	10.0
- Charismatic	7.6	9.1	7.7	9.4
- Pentecostal	4.0	5.7	3.9	5.6
Muslim	22.0	34.7	16.7	30.5
Hindu and Sikh	2.0	8.8	1.2	4.3
Buddhist	3.6	14.2	3.8	14.0
Jewish	0.5	5.1	1.3	8.8
Chinese/Asian religions	1.4	7.3	1.7	7.9
Other religions	3.9	7.8	2.3	4.8
Non-religious	7.6	12.2	11.8	15.0
Religious Pluralism Index	0.459	0.229	0.480	0.219
Government regulation of religion index 2008, scale 1-10 (N=196)	2.51	3.19	1.90	2.77
Societal regulation of religion index 2008, scale 1-10 (N=196)	3.79	3.59	4.03	3.41
Growth in real GDP per capita 2000-2010 % (N=190)	34.0	38.6	31.0	27.3
Median population age years 2010 (N=182)	27.8	8.4	32.3	8.4
GEM Total Entrepreneurial Activity (TEA)	-	-	12.9%	8.7

Source: author’s own calculations from GEM data, Mandryk (2010) religious affiliation data, Penn World Tables and ARDA data.

Table 2: Correlation matrix

	Hierarchical Christian	Protestant Christian	Independent Christian	Evangelical Christian	Muslim	Hindu/Sikh	Buddhist	Non- religious	Religious pluralism	Government regulation	Societal regulation	GDP growth	Median age
Protestant Christian	-0.290												
Independent Christian	-0.153	0.122											
Evangelical Christian	0.069	0.383	0.407										
Muslim	-0.474	-0.292	-0.233	-0.291									
Hindu/Sikh	-0.251	-0.091	-0.021	-0.042	0.116								
Buddhist	-0.306	-0.135	-0.139	-0.139	-0.086	0.368							
Non-religious	-0.080	0.030	-0.092	-0.209	-0.331	-0.133	-0.031						
Religious pluralism	-0.102	0.221	0.464	0.484	-0.456	0.116	0.015	0.331					
Government regulation	-0.346	-0.346	-0.274	-0.274	0.714	0.094	0.053	-0.167	-0.374				
Societal regulation	-0.096	-0.377	-0.413	-0.512	0.558	0.063	-0.004	-0.098	-0.468	0.565			
GDP growth	0.010	-0.010	0.070	0.098	-0.059	0.048	0.067	0.106	0.181	0.168	0.034		
Median age	0.133	0.026	-0.300	-0.480	-0.359	0.066	0.183	0.549	0.008	-0.212	0.058	-0.203	
GEM total entrepreneurial activity	0.056	0.124	0.373	0.580	-0.099	-0.118	-0.065	-0.307	0.301	-0.161	-0.341	0.312	-0.700

Source: author's own calculations.

Notes: N = 74; *italic* denotes statistical significance at or below 10%, **bold italic** at or below 5%.

Table 3: Mediated Regression Tests – Mediating Variable: Government Regulation of Religion

Independent variable:	% Independent Christian	% Evangelical Christian	% Muslim	% Non-religious
Indirect effect:				
IV on MV (<i>a</i>)	-3.912 (0.352)	-2.087 (0.536)	4.428 (0.028)	-1.812 (0.487)
MV on DV (<i>b</i>)	-0.005 (0.143)	-0.006 (0.098)	-0.005 (0.143)	-0.005 (0.143)
Total indirect effect (<i>ab</i>) (Sobel test):	0.020 (0.352)	0.012 (0.561)	-0.023 (0.223)	0.009 (0.531)
Direct effect IV on DV (<i>c'</i>):	0.153 (0.095)	0.166 (0.075)	0.020 (0.726)	0.076 (0.301)
Total Effect (<i>c</i>):	0.173 (0.059)	0.178 (0.059)	-0.002 (0.970)	0.085 (0.248)
Proportion of total mediated:	0.115	0.066	10.485	0.109

Source: author computations (full results available on request).

Notes: p-values in brackets; IV: independent variable; MV: mediating variable; DV: dependent variable (GEM Total Entrepreneurial Activity); regression models all include all other religion shares, median population age and GDP growth as control variables.

Table 4: Mediated Regression Tests – Mediating Variable: Societal Regulation of Religion

Independent variable:	% Independent Christian	% Evangelical Christian	% Muslim	% Non-religious
Indirect effect:				
IV on MV (<i>a</i>)	-7.107 (0.116)	-10.744 (0.021)	4.950 (0.077)	-3.582 (0.324)
MV on DV (<i>b</i>)	-0.003 (0.244)	-0.003 (0.221)	-0.003 (0.245)	-0.003 (0.245)
Total indirect effect (<i>ab</i>) (Sobel test):	0.021 (0.350)	0.033 (0.280)	-0.015 (0.332)	0.011 (0.452)
Direct effect IV on DV (<i>c'</i>):	0.152 (0.102)	0.145 (0.137)	0.012 (0.831)	0.075 (0.314)
Total Effect (<i>c</i>):	0.173 (0.059)	0.178 (0.059)	-0.002 (0.970)	0.085 (0.248)
Proportion of total mediated:	0.121	0.184	6.733	0.124

Source: author computations (full results available on request).

Notes: p-values in brackets; IV: independent variable; MV: mediating variable; DV: dependent variable (GEM Total Entrepreneurial Activity)); regression models all include all other religion shares, median population age and GDP growth as control variables.

Table 5: Mediated Regression Tests – Mediating Variable: Religious Pluralism

Independent variable:	% Independent Christian	% Evangelical Christian	% Muslim	% Non-religious
Indirect effect:				
IV on MV (<i>a</i>)	0.541 (0.054)	0.781 (0.005)	-0.380 (0.029)	0.412 (0.067)
MV on DV (<i>b</i>)	0.085 (0.032)	0.091 (0.025)	0.085 (0.032)	0.085 (0.032)
Total indirect effect (<i>ab</i>) (Sobel test):	0.046 (0.151)	0.071 (0.080)	-0.032 (0.126)	0.035 (0.164)
Direct effect IV on DV (<i>c'</i>):	0.127 (0.165)	0.106 (0.272)	0.030 (0.597)	0.050 (0.498)
Total Effect (<i>c</i>):	0.173 (0.059)	0.178 (0.059)	-0.002 (0.970)	0.085 (0.248)
Proportion of total mediated:	0.267	0.401	15.011	0.414

Source: author computations (full results available on request).

Notes: p-values in brackets; IV: independent variable; MV: mediating variable; DV: dependent variable (GEM Total Entrepreneurial Activity)); regression models all include all other religion shares, median population age and GDP growth as control variables.

Figure 1: Conceptual framework