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Master Thesis

The relation between religion and entrepreneurship

The relation between religion and different types of entrepreneurship at the country level

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Abstract

This thesis examines the relation between religion and five types of entrepreneurship at the country level. In addition to this general relation, it also tests if different religions have a different effect on the level of entrepreneurship and if the relation between religion and entrepreneurship is mediated by culture. To test these relations, regressions are run and to test for the mediation effect the Sobel Goodman mediation test is used. The data in the analysis mainly comes from three databases: the Global Entrepreneurship Monitor, the World Religion Project and the Hofstede database. Most data comes from the year 2010. There is no statistically significant evidence found for a (positive) effect of religion on entrepreneurship, and neither for the hypothesis that different religions have a different effect on entrepreneurship. It is therefore not surprising that no significant mediation effect of culture between religion and entrepreneurship could be revealed. The conclusion is that the association between religion and entrepreneurship at the country level is very weak or absent. Still, it is possible that with analyzing more observations these relations can be revealed, so further research on this subject is recommended.

Key words: Entrepreneurship, Religion, Culture

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1. Introduction

In this research the relation between religion and entrepreneurship is analyzed at the country level. The databases from the Global Entrepreneurship Monitor (GEM), the World Religion Project (WRP) and Hofstede are used to get an answer on the research question: "*What is the relation between religion and different types of entrepreneurship at the country level?*".

Because entrepreneurs are expected to create value, come up with incremental innovation, create jobs, have spillover effects and stimulate the economy; a lot of governments try to promote new business start-ups (Audretsch, 2009; Carree & Thurik, 2010; Van Praag & Versloot, 2007).

Nevertheless, around the topic of entrepreneurship, especially on the macro level, there is still something that is not that well researched yet. There is a lot unknown about the causes of the big cross-country variances in levels of entrepreneurship. So far it is not exactly known what the exact reasons are for these differences, but there is a great need for explanation so policies can be adapted on this information (Wennekers, Uhlaner & Thurik, 2002).

The aim of this research is to analyze whether countries with different prevalences of religious inhabitants also differ in their level of entrepreneurship. Also, might that be the case, whether specific religions relate differently to entrepreneurship or that the relation is shared across religions.

By providing evidence for a possible religious background of the persistent cross-country differences in entrepreneurship this research can help to establish the important but under-researched role of institutions and culture on entrepreneurship.

If an answers would be provided on the research question, policymakers could use that knowledge and adapt their policies on it. E.g. If the findings are that high levels of religion adherers in a country are not beneficial for the level of entrepreneurship, they could for example test how religious people can be reached and be informed about entrepreneurship in order to encourage them to become more entrepreneurial.

To answer the research question it is necessary to have some strong, workable and measurable definitions for terms such as 'religion', 'entrepreneurship' or 'culture'. In this thesis clear definitions and matching measures are used for all these terms. The term 'entrepreneurship' is treated as a special case, for this term five different measures are used in all the analyses.

The relevance of this study is determined by several aspects. First, this research, that comprises a cross country study, contributes to the understanding of the complex mechanisms involved in the relation between entrepreneurship and religion. This might help explain the persistent cross-country differences in entrepreneurship rate.

Second, this study distinguishes among five different types of entrepreneurship, namely: owning an established business, owning a young or established business, owning a young business, owning a young business with the major reason being seeing an opportunity and owning a young business with the major reason being necessity. These five types of entrepreneurship may relate differently to religion, because they measure a slightly different dimensions of entrepreneurship.

To guide the research three hypotheses have been formulated. After researching the literature, as described in the literature section, these are the logically conclusions based on earlier research outcomes that, all three together, make a good job describing the relation between religion and entrepreneurship.

H1: '*There is a positive relation between religion and entrepreneurship at the country level.'*

H2: '*The relation between religion and entrepreneurship at the country level differs per religion.'*

H3: '*The effect of religion on entrepreneurship is mediated by culture.'*

The outline of this research is as follows. First, the existing research and studies around this topic are presented. The issues around the subjects entrepreneurship and religion are shortly given attention to. After that, in the data and methods section, more information is provided about the several databases that are used in this research. In addition, that section describes the definitions and variables that are used and in which way the different

hypotheses are intended to be answered. In the subsequent section the results can be found for the different analyses that are run. The results are described with a short interpretation. Lastly this research ends with a conclusion. Here the results are summarized and the results with respect to the hypotheses are reviewed. In addition, a discussion of the results, some limitations of this work, policy implications and some recommendations for future research are provided.

2. Literature Review

This chapter contains the literature body of this research. The role is to investigate the previous literature and research on the relation between religion and entrepreneurship and in the last part also the role of culture is shortly taken into account. First the terms religion and entrepreneurship are discussed shortly. After that the empirical and theoretical studies describing religion, several different religions and culture are explored and specifically their link or relation to entrepreneurship. In line with the findings, the three hypotheses are formulated.

2.1 Definitions

2.1.1 Religion

Religion is defined in many different ways, probably because it is difficult to catch in one easy and measurable way that includes all parts of aspects associated with it (Saroglou, 2002). However, in scientific research there is a need for a more objective criteria for religion and/or religiosity. When should a movement or line of thinking be called a religion and when is an individual religious? There is a need for some clear dimensions that are universal for religions and can help us to understand religion more.

Hervieu-Léger (1999) made a model with quite a lot of impact on the research community. She proposed four major dimensions that are seen as two axes. The first axis consists out of emotions on the one end versus, in her words, culture on the other pole. This culture of her stands for beliefs and intellectual and symbolic heritage. On the second axis there is on the one pole ethics versus the other pole that is community. So all kind of religions differ on their levels on each of the two axes, but these four dimensions are key.

Sociologists of religion distinguish often between beliefs, behavior, and affiliation/identification (Voas, 2007). So they work with three dimensions.

In psychological research a classical widely used model that is used has two dimensions, it found that people differ with their motivations to be religious, these motivations can be either intrinsic or extrinsic (Allport & Ross, 1967).

In the model of Allport and Ross (1967) the intrinsic orientation is directed, *".. toward a unification of being, takes seriously the commandment of brotherhood, and strives to transcend all self-centered needs.*". Most of the religions emphasize unity and brotherhood in a certain way, individuals that are motivated in an intrinsic way will try to incorporate these values or norms in their daily lives. In the research of Bergin (1991) intrinsic religiosity is described as an internalized belief system that is followed regardless of social pressure.

The second dimension of model of Allport and Ross (1967) is extrinsic religiosity. This extrinsic orientation is *".. useful for the self in granting safety, social standing, solace, and endorsement for one's chosen way of life."* (Allport & Ross, 1967). There are more or less two scopes on extrinsic religiosity, a somewhat negative view and a more positive view. Bergin (1991) for example describes extrinsic religiosity as the use of religion to gain social acceptance or reward, it is seen as a dogmatic form of religiosity. Others see more positive associations, they reason that extrinsic religiosity contains elements of ritual and community, thereby providing the discipline needed for growing levels of spirituality (Galbraith and Galbraith, 2004) . Next to that the extrinsic religiosity may cause church attendance and this may cause the community and network one is in, to become more strong. When talking about entrepreneurship this network effect can have a inducing effect on becoming an entrepreneur. Later in this research this is discussed more.

A more recent research takes a look at a lot of these different fields with different dimensional models and comes up with a new model (Saroglou, 2011). This model has four components for religion: beliefs, rituals/emotions, moral rules and community. In his research a table is included that gives a good feeling of what the dimensions mean. Below is a shorter version of this table included.

Table 1. Major aspects and dimensions of religion in the model of Saroglou

Dimensions	Aspects	Products	Goals	Transcendence	Isolations Consequen-ces	Risks
Believing	Beliefs	Dogmas	Truth	Intellectual	Intellectual-ization	Dogmatism
Bonding	Emotions	Rituals	Awe	Experiental	Mysticism	Neurotic
Behaving	Morals	Norms	Virtue	Moral	Moralizat-ion	Rigorism
Belonging	Identity	Groups	Totality	Social	Religion as identity	Prejudice

Based on these dimension one can compare across cultural of religious groups, how much each dimension is emphasized, or the way the several dimensions interconnect. Also it differs religion from close social domains such as philosophy or paranormal beliefs.

In this research the data of the World Religion Project is used for information about religion and thus their definition of religiosity and religion are adopted. These definitions are discussed in more detail in the section about data. Their definition is one with elements that do appear most often in other definitions of religion and that offered the clearest indications of tangible elements of religions (Maoz & Henderson, 2013). The elements in their definition did contain the same as contained in the dimensions of Table 1 e.g. the group/social element, moral element, beliefs/dogmas element and rituals and/or feelings of awe are included.

2.1.2 Entrepreneurship

Throughout the literature there are a lot of different definitions for 'entrepreneurship'. Richard Cantillon is generally accredited for being the first to use the term 'entrepreneurship'. The word itself derives from the verb 'entreprendre' which means 'to undertake' in French. Cantillon defined entrepreneurs as risk takers who buy goods at a certain moment with the uncertainty for how much they can sell it in the future.

However after him many others have tried to capture the meaning in a useful and, even more important, measurably way. Table 2 gives an overview of the definitions used in the literature throughout the history (Ahmad & Seymour, 2008).

Table 2. Overview of definitions for the entrepreneur

Essence of definition	**Publication**
Entrepreneurs buy at certain prices in the present and sell at uncertain prices in the future. The entrepreneur is a bearer of uncertainty.	(Cantillon, 1755/1931)
Entrepreneurs are projectors.	(Defoe, 1887/2001)
Entrepreneurs attempt to predict and act upon change within markets. The entrepreneur bears the uncertainty of market dynamics.	(Knight, 1921, 1942)
The entrepreneur is the person who maintains immunity from control of rational bureaucratic knowledge.	(Weber, 1947)
The entrepreneur is the innovator who implements change within markets through the carrying out of new combinations. These can take several forms: · the introduction of a new good or quality thereof. · the introduction of a new method of production. · the opening of a new market. · the conquest of a new source of supply of new materials or parts. · the carrying out of the new organization of any industry.	(Schumpeter, 1934)
The entrepreneur is always a speculator. He deals with the uncertain conditions of the future. His success or failure depends on the correctness of his anticipation of uncertain events. If he fails in his understanding of things to come he is doomed…	(von Mises, 1949/1996)
The entrepreneur is coordinator and arbitrageur.	(Walras, 1954)

Entrepreneurial activity involves identifying opportunities within the economic system.	(Penrose, 1959/1980)
The entrepreneur recognizes and acts upon profit opportunities, essentially he is an arbitrageur.	(Kirzner, 1973)
Entrepreneurship is the act of innovation involving, endowing existing resources with new wealth-producing capacity.	(Drucker, 1985)
The essential act of entrepreneurship is new entry. New entry can be accomplished by entering new or established markets with new or existing goods or services. New entry is the act of launching a new venture, either by a start-up firm, through an existing firm, or via 'internal corporate venturing'.	(Lumpkin & Dess, 1996)
The field of entrepreneurship involves the study of sources of opportunities; the processes of discovery, evaluation, and exploitation of opportunities; and the set of individuals who discover, evaluate, and exploit them.	(Shane & Venkataraman, 2000)
Entrepreneurship is a context dependent social process through which individuals and teams create wealth by bringing together unique packages of resources to exploit marketplace opportunities.	(Ireland, Hitt, & Sirmon, 2003)
Entrepreneurship is the mindset and process to create and develop economic activity by blending risk-taking, creativity and/or innovation with sound management, within a new or an existing organization.	(Commission of the European Communities, 2003)

Peter Kilby (1971) probably grabs the issue of capturing the definition of entrepreneurship in an evident manner by his reference to an episode of Winnie The Pooh, where all characters were hunting the mysterious Heffalump. Like researchers and economists who are familiar with entrepreneurs and how they contribute to economic growth and who have been trying to define entrepreneurship, the hunters in Winnie The Pooh all claim to know about the Heffalump, but they could not agree with each other on its characteristics.

The overview in Table 2 may leave one paralyzed to choose for a definition. All researchers in this area experienced this difficulty and ended up choosing a definition that emphasizes the aspect of entrepreneurship they think is most important. For this definition they then take a good measure/variable and started their research. But on this point this research will stand out. Entrepreneurship in all aspects of the word, may not be so easy to catch in one definition, using several definitions and thus also using several measures for entrepreneurship may be preferred. Therefore in this research five different, but closely related, variables are used to measure entrepreneurship. This has never been done before concerning the relation between religion and entrepreneurship as far as I know, so this may effect in some interesting results. More about the several variables used in this research for entrepreneurship and about the Global Entrepreneurship Monitor database, where these variables come from, is written in the Data and Method section.

2.2 Religion and entrepreneurship

Religion has a very big influence on people their lives. Right now more than eight out of ten people on earth feels him/herself related to a religion (Pew Research Center, 2015). Religion is found to have a lot of influence on many people's daily life, but also on the choices they make (Iannaccone, 1998). Not only does it affect choices of attending a religious meeting, it affects far broader decisions and behavior. It affects economic and demographic behavior, including the choice of marital partner, fertility, time allocation, education, wealth , and wages (Lehrer, 2004). Next to that, it is not that surprising that Audretsch finds religion to shape the choice of becoming an entrepreneur too (Audretsch, 2009). Whether people individually behave entrepreneurial or not is thus affected by whether or not they are adhering a religion.

If we assume that religion shapes peoples choices and level of entrepreneurship at an individual level, it is very likely that the religiosity of a country also shapes the countries level of entrepreneurship and affect the policies they make. When looking at an individual level, religion can have some (indirect) impact on society, but if these effects are also interpretable on a country level it would mean that religiosity has enormous impact on societies

everywhere. Therefore it is very relevant to take a look at how religiosity affects entrepreneurship at the country level. It is clear that there is a high probability that there is a relationship between religion and entrepreneurship. Whether this relationship is positive or negative requires a more detailed examination of the literature.

Jones and Wadhwani, in 2006 write: *"In the United States, immigrant Jews in the early twentieth century formed informal and formal credit organizations to finance small businesses and trade when access to bank credit was not a possibility.*". Their main point being that ethnic groups or religious groups can function as credit networks, a thing that is very important for starting entrepreneurs especially in times where banks giving loans are scarce so there is no other way of getting (starting) capital. This is emphasized by research of Setyawati in 2011, who concludes that "… *learning and networking have a significant effect on innovation adoption. Consequently, innovation adoption significantly affects the success of the entrepreneurs*". So religious groups that form (credit) networks can have a big impact on entrepreneurship, by inducing innovation adoption which in turn pushes the success of entrepreneurs. James Peprah shows that also for the financial strategy such networks are crucial for entrepreneurs: "*An inclusive financial strategy must therefore emphasize on networking and use of existing networks.* " (Peprah, 2011).

Dana shows in his research that the credit networks and information networks of co-religionists do affect entrepreneurship, so that adherers of a religion have a positive effect from this because they have easier access to networks of credit, employees, information and supply (Dana, 2009). So not only for credit these networks have a positive effect, but also for other crucial points they will enrich the entrepreneur. In countries where people experience these advantages, that are countries with more inhabitants that adhere a religion, religion network effects will thus have a positive effect on the amount of (successful) entrepreneurs. In line with the reasoning above and the findings of the several earlier studies, hypothesis one states:

H1: There is a positive relation between religion and entrepreneurship at the country level.

2.3 Different religions and entrepreneurship

Every religion has its own values and believes and is based on a different foundation. Kriger and Seng give a nice overview of those believes in their paper in 2005, this overview is summarized in Table 3.

Table 3. Comparison of leadership in Judaism, Christianity, Islam, Buddhism and Hinduism

Religion	Judaism	Christianity	Islam	Buddhism	Hinduism
Leader as:	Teacher & question-asker	Role model	Servant of God and His creations	Teacher and role model	Role model of the 'gods'
Exemplars	Abraham	Jesus	Mohammed	The Buddha	Rama/Krishna
Leadership trough:	Meaning-making	Love & peace	Embodying the 99 names of God	Being an example	Example and stories
Validity primarily	Testing & perseverance	Faith	Belief	Meditation & investigation of awareness	Awareness & perception
Core vision	Oneness	Love	Surrendering to God	Wisdom & compassion	Liberation from duality
Revelation through:	Ten Commandments & the words of the prophets	Example & life of Jesus	The Qur'an through God's messenger Mohammed	Direct experience	Self-inquiry and practice
Core statement	"Hear, oh Israel, the Lord, our God, is One."	The Lord's prayer	"There is no God, but God"	Taking refuge in the Buddha, dharma, & sangha	"Thou art that"
Source of wisdom for leaders	The Torah	The Old and New Testaments	The Qur'an	Investigation of inner self.	Upanishads & Bhagavad Gita
Manifestation of the divine or spirit via:	The "Lightning Flash"	The Trinity	The 99 attributes or Names of God	Direct awareness	Divine play

Basis for moral leadership	The Mishnah (610 rules for correct behavior)	Moral virtues	Shari'ah (the Law) adab; remembrance	Cila; the 10 precepts; mindfulness	4 goals of life: meditation, pleasure, worldly success, liberation from rebirth

This table makes it clear that the five major religions have quite some differences. However it could be that these differences in the source of values or norms, end up in the same external actions or behavior. Stephan Bartke and Reimund Schwarze refute that. They come to the conclusion that for instance risk taking varies between several religions. They do not see proof that the several religions end up with their adherers behaving in the same way: "*We also find that willingness to take risks decreases with the strictness and comprehensiveness of behavioral rules, i.e. higher risk aversion among Muslims than Protestants*." (Bartke & Schwarze, 2008). Where willingness to take risks is one of the things that effects the chance of becoming an entrepreneur or starting a business (Caliendo, Fossen, & Kritikos, 2009). This means there is a good chance that different religions have a different tendency toward entrepreneurship, because they affect the willingness to take risks in different ways.

Looking further into the literature it is noticed that Saroglou, Delpierre and Dernellas, in 2004, find that several of the major religions do favor main values in the same way, this also seems to be the same for different denominations in one religion. So if the values one adheres would explain the extent to which one is entrepreneurial, one would expect that different religions have the same effect on entrepreneurship, based on the research of Saroglou.

On the other hand Audretsch, Bönte and Tamvada find that religion influences entrepreneurship and that different religions vary in the valence of this influence: "*In particular, some religions, such as Islam and Christianity, are found to be conducive to entrepreneurship, while others, such as Hinduism, inhibit entrepreneurship.*" (Audretsch, Bönte, & Tamvada, 2013). They conclude that religion and social class influence the occupational decision making and also that different religions have different effects: ".. *this*

paper finds that while some religions are relatively conducive to self-employment, some others have a negative impact on self-employment choices." (Audretsch, Bönte, & Tamvada, 2013).

The article of Audretsch et al. in 2013 is based on research in India. So it is questionable if these outcomes can be seen as generally applicable. It could be that research in other countries would give other results. For example Audretsch et al. (2013) found the Hindu religion inhibiting entrepreneurship, while Zelekha found that Hindus, after Jews, have the highest entrepreneurship tendency (Zelekha, Avnimelech, & Sharabi, 2014). Besides that, Zelekha et al. find the same conclusion: that various religions have a significantly different effect on entrepreneurship.

So the existing literature is not very consistent about which religion is the most conducive to entrepreneurship, but it seems most of them would agree that the various religions all have a different impact on entrepreneurship, therefore the second hypothesis states:

H2: The relation between religion and entrepreneurship at the country level differs per religion.

2.4 Religion, culture and entrepreneurship

Weber believes that cultural and religious factors determine how much entrepreneurial activity is seen in countries, especially the Protestant work ethics and values are highlighted in his argument (Weber, 1946).

Culture is defined by Mueller and Thomas as the underlying system of values peculiar to a specific group or society (Mueller & Thomas, 2001). Religion forms these sort of groups in society and thus influences culture. Dana links religion and related values, that effect culture as seen above, to entrepreneurship. He summarizes: "*there is considerable empirical support for the thesis that religion and related beliefs influence values and thus shape entrepreneurship*." (Dana, 2009).

McClelland formed a theory that gives socialization factors like parental influences as a reason for, by example, the need for achievement. This need for achievement in turn, generates entrepreneurial propensity in society. Also, he says that societies with a culture that emphasizes achievement, will also have higher levels of entrepreneurship compared with societies that do not emphasize this (McClelland, 1987).

Following this line of argument religious parents will educate their children in a way that creates a culture that emphasizes the values of their religion. Hence, countries with high levels of religion adherers will have a culture that will have higher (lower) entrepreneurial activity if this religion adheres values that encourage (discourage) entrepreneurship.

In the research discussed above there is an order in the reasoning. First there is religion that influences values, believes, etc., those values and believes shape the culture in a country. So religion affects culture. Consequently the believes and values, or the culture, in a country (partly) determine the level of entrepreneurship. Therefore religion will have an effect on entrepreneurship and it is very likely that this effect is mediated by culture. This is tested in the third hypothesis:

H3: The effect of religion on entrepreneurship is mediated by culture.

3. Data and Method

The databases used are from the Global Entrepreneurship Monitor (GEM), the World Religion Project (WRP), Hofstede's six dimensions, a small dataset from the World Data Bank about the workforce and another small database consisting of the Correlates of War (COW) state codes for all countries. All data is from the year 2010, except some information from the WRP. Because the WRP is about culture and culture does not change that fast this is not a problem (Sivakumar & Nakata, 2001). The information about the workforce is used as a control variable and is gathered from by the World Data Bank. The other three databases, GEM, WRP and Hofstede, are of more interest in this research so they are described more extensively.

3.1 Entrepreneurship

3.1.1 Database

The GEM is a worldwide research project. The data is conducted by several universities from all over the world (GEM Consortium, 2015). Target of their research is to get a better understanding of the relationship between entrepreneurship and national economic developments. It is a global study that started in 1999 and the information is gathered by specialized teams from around 70 countries.

The GEM data is gathered by questioning individual entrepreneurs, using an so called 'Adult Population Survey' (APS). Its goal is to measure the degree of entrepreneurial attitudes, activity and aspirations of individuals (Bosma, 2013). The questionnaires are administered to at least 2000 adults in each country who answered the survey by means of a door to door or telephone interview.

3.1.2 Variables

In this research entrepreneurship is measured by a few different variables from the Global Entrepreneurship Monitor (GEM) namely:

3.1.3 *Established Businesses*

Percentage of adults (18-64 years old) involved in an established firm as owner and manager for which salaries or wages have been paid for more than 42 months.

3.1.4 *Any Businesses*

Percentage of adults (18-64 years old) involved in entrepreneurial activity, either as a nascent entrepreneur, owner-manager of a baby business or of an established business.

3.1.5 *TEA*

Total (early) Entrepreneurial Activity (TEA): percentage of adults (18-64 years old) involved in a nascent- or young firm or both (if doing both, still counted as one active person).

3.1.6 *TEA Opportunity*

Percentage of adults (18-64 years old) involved in a nascent- or young firm or both (if doing both, still counted as one active person) who report opportunity as major motive.

3.1.7 *TEA Necessity*

Percentage of adults (18-64 years old) involved in a nascent- or young firm or both (if doing both, still counted as one active person) who report necessity as major motive.

By using these variables the relation between religion and entrepreneurship is researched.

3.2 Religion

3.2.1 Database

The World Religion Project (WRP) aims to provide detailed information about religious adherence worldwide. Next to that it has some religions split up in different 'religious families' and it contains information about the percentage of population in each state adhering a certain religion (Maoz & Henderson, 2013). In this research the National Religion Dataset was used, the units of analysis in this dataset are the individual states.

To assemble this dataset the conductors move through three stages. The first stage is forming a religion tree: making a model with a classification of the biggest religions and the 'religion families' within these religions. The next stage is the identification of big data sources of religious adherence, like registers of churches, and the collection of these data. The last stage consists of cleaning the data, harmonize discrepancies of information from the different sources.

3.2.2 Variables

There are a lot of different definitions for 'religion' (Saroglou, 2002). In this research the data of the World Religion Project is used and below is described shortly what shapes a religion in their eyes. Based on thorough research in various disciplines such as law, history and political science, they took elements that offered the clearest tangible elements of religion into account to come to the definition that religion is a belief system held by an individual or a group that contains the following elements (Maoz & Henderson, 2013):

- Belief in supernatural being/s (god/s).
- A distinction between sacred and profane objects.
- Ritual acts focused on sacred objects.
- A moral code believed to be sanctioned by the supernatural being(s)/god(s).
- Characteristically religious feelings (awe, sense of mystery, sense of guilt, obligation, duty, adoration), which tend to be aroused in the presence of sacred objects and during the practice of ritual, and which are ideationally connected to the gods.
- Prayer and other forms of communication with gods.
- A worldview or a general picture of the world as a whole and the place of the individual therein. This picture contains some specification of an overall purpose or point of the world and an indication of how the individual fits into it.
- A more or less total organization of one's life based on the worldview.
- A social group bound together by the above.

For the further classification of religions they used the criteria scriptures, institutions, historical evolution and a common class of rituals, believes and practices. Using these criteria they can distinct various major religions in the literature and also see which different

religious families and denominations there are within these religions. E.g. in Christianity there are several religious families (Catholics, Protestants, etc.) and within these families there are, in some, a lot denominations. In the protestant family you have for example the Presbyterian, Methodist, Mennonite and a lot more denominations.

But in conclusion the definition above is used by the WRP for religion. Their data is used for this research for the variable *Religion*. In H2 religion is split up. In the WRP dataset religion is split up in a whole list of different religions, the re-categorizing is discussed next.

In this research the religious families and religions are re-categorized into four categorical variables: *Christian, Islam, Other* and *None*. The several families in the major religions Christianity and Islam are put together. The several smaller religions like Judaism, Taoism and several more, are put together under the title of *Other* religions and lastly there is the category '*None*' for the people that do not adhere any religion at all. The category *None* is used as 'Base Category' in the regressions. The reason to choose for this distribution is that the main interest of this research is to look whether or not the religiosity of a country has an effect on the entrepreneurship level, hypotheses two will take a look at the question if there are differences in this effect between different religions. It is not necessary here to distinct all the several religions and families or denominations within these religions because that would be too excessive. Table 4 lists a detailed breakdown of the categorization used in the WRP dataset and the categorization in this research (Maoz & Henderson, 2013).

Table 4. Explanation categorization variables about religion

Religion Name in WRP Dataset:	**Categorized under:**
Protestant	Christianity
Roman Catholic	Christianity
Eastern Orthodox	Christianity
Anglican	Christianity
Other Christian	Christianity
Sunni	Islam
Shi'a	Islam
Ibadhi	Islam
Nation of Islam	Islam
Alawite	Islam
Ahmadiyya	Islam
Orthodox (Judaism)	Other
Conservative (Judaism)	Other

Reform (Judaism)	Other
Mahayana (Buddhism)	Other
Theravada (Buddhism)	Other
Zoroastrian	Other
Hindu	Other
Sikh	Other
Shinto	Other
Baha'i	Other
Taoism	Other
Confucianism	Other
Jain	Other
Syncretic Religions	Other
Animist	Other
Other	Other
Non-Religious	None

3.3 Culture

3.3.1 Database

There are some value dimensional schemes for comparative international research, the most acknowledged and used one is the one of Hofstede, that is also the one used in this research. Of course there are some other models that could be used and there is some criticism around the Hofstede method, but Wiengarten et al. sum up perfectly what the reasoning is to still choose for this method:

"*Recent research has reconfirmed the construct validity and relevance of Hofstede's measurement for business and management research* (Merritt, 2000). *Magnusson et al. found that despite all the criticism, Hofstede compares favourably to the other models* (Magnusson, Wilson, Zdravkovic, Zhou & Westjohn, 2008). *In fact, both Hofstede's and Trompenaars's constructs show strong convergent validity whilst the Schwartz and GLOBE constructs had the weakest validity* (Magnusson et al., 2008). *Finally, the widespread acceptability of Hofstede's scheme, as compared to the alternatives, confirms its importance and usability for management research. Numerous general management and OM studies are continuously applying Hofstede's concept to assess cultural differences* (Power, Schoenherr, & Samson, 2010). *So, while we note the limitations of Hofstede's model as well as the existence of alternative models, we chose to use Hofstede, because of its validity* (Merritt,

2000; Magnusson et al., 2008) *and widespread acceptance.*" (Wiengarten, Fynes, Pagell, & de Búrca, 2011).

The data from the Hofstede database comes from different years and tells something about the differences in country cultures using six different variables. The first information was collected by a study of IBM by surveying their employees (Hofstede, 2011). These employees worked and lived in different countries over the world. These data were collected between 1967 and 1973 out of more than 70 countries. Hofstede used only the 40 largest for his analysis and later extended this to 50 countries. In Hofstede's work since 2001 76 countries are covered in his data. The new data since 1973 is all based on extensions or replications of the IBM study on different international populations.

The values that distinguish country cultures from each other were categorized into four groups. Those groups are called 'the Hofstede dimensions of national culture'. The dimensions are: power distance (PDI), individualism (IDV), masculinity (MAS) and uncertainty avoidance (UAI). Based on more extensive research by Michael Harris Bond another dimension was added in 1991, called 'long-term orientation' (LTO). Another extension was made based on the analysis of Michael Minkov's analysis of the World Values Survey data (Minkov & Hofstede, 2011). So in 2010 there was a sixth dimension included called 'indulgence' (IND). The scores of all six dimensions can be considered up to date. Some scores are older than others, but since culture changes very slowly this is not a problem (Sivakumar & Nakata, 2001).

3.3.2 Variables

Below will follow a short description of the six dimensions of culture in the model of Hofstede, which are also the variables used for this research. They are described using the descriptions Hofstede gives in his article Dimensionalizing cultures: The Hofstede model in context (Hofstede, 2011).

3.3.3 *Power Distance* (PDI)

PDI is defined as the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally. This represents inequality (more versus less), but defined from below, not from above. It suggests that a society's level of inequality is endorsed by the followers as much as by the leaders. A lower power distance is been found positively associated with entrepreneurial activity so the expectation is that this variable is negatively associated with entrepreneurship (Urban, 2006).

3.3.4 *Uncertainty Avoidance* (UAI)

UAI is not the same as risk avoidance. UAI deals with a society's tolerance for ambiguity. It indicates to what extent a culture programs its members to feel either uncomfortable or comfortable in unusual or uncertain situations. Uncertainty avoiding cultures try to minimize the possibility of such situations by strict behavioral codes, laws and rules, disapproval of deviant opinions, and a belief in absolute truth. This way there is less room for innovation, new structures or (new) solutions; the entrepreneurial thinking is expected to be much less in countries with a high score for uncertainty avoidance. This is also found by earlier research (Mueller & Thomas, 2001).

3.3.5 *Individualism* (IDV)

Individualism on the one side versus collectivism, as a societal characteristic, on the other side. It is the degree to which people in a society are integrated into groups. On the individualistic side cultures are found in which the bonds inter between people are loose: everyone is expected to look after himself and his immediate family. On the collectivist side are cultures in which people are integrated into strong, cohesive groups, where from your birth on you have a kind of protection. This makes that people in a collectivism group or culture have less incentive to take risks and start something for themselves for instance (Mueller & Thomas, 2001). Therefore individualism probably has a positive effect on the level of entrepreneurship, while collectivism has a negative effect.

3.3.6 *Masculinity* (MAS)

Masculinity versus its opposite, Femininity, again as a societal characteristic. It refers to the distribution of values between the genders which is another issue for any society, to which a range of solutions can be found. Here it is seen that women's values differ less among societies than men's values and men's values from one country to another contain a range

from very assertive and competitive and maximally different from women's values on the one side, to modest and caring and similar to women's values on the other. The assertive pole is called 'masculine' and the caring pole 'feminine'. It is found by Hayton, among others, that a culture with high masculinity is inducing for entrepreneurship (Hayton, George, & Zahra, 2002).

3.3.7 *Long-term* versus short-term orientation (LTO)

At the long term pole values found are perseverance, thrift, ordering relationships by status, and having a sense of shame. They attach more importance to the future and foster pragmatic values oriented towards rewards. Values at the opposite, short term pole were reciprocating social obligations, respect for tradition, protecting one's 'face', and personal steadiness and stability. Probably the countries with a more long term orientation will also have a positive entrepreneurial climate. Hitt finds that countries with a culture that value investments in long-term and risky activities highly, are more likely to support entrepreneurship (Hitt, Hoskisson, Johnson, & Moessel, 1996).

3.3.8 *Indulgence* versus restraint (IVR)

The extent to which members in society try to control their desires and impulses. Indulgence stands for a society that allows relatively free fulfillment of basic and natural human desires related to enjoying life and having fun. Restraint stands for a society that controls gratification of needs and regulates it by means of strict social norms. Urban thinks that high levels of restricted behavior probably are positively associated with entrepreneurial activity, but it is only an approximation for not many studies have clear results on this yet (Urban, 2015).

3.3.9 Control variables

Several control variables are included in this research in order to check for unobservable characteristics. Several different characteristics of countries might have an effect on the level of entrepreneurship that is measured. The included control variables are *Age, Workforce* and two of three dummies referring to the kind of economy in a certain country, where *Factor-driven* is the 'Base category' and *Efficiency-driven* and *Innovation-driven* are included in the regressions. The dummy variables indicating the kind of economy are

harvested from the GEM database that is described in a previous section. When *Age* was included it was immediately clear it has no added value, because there are too less observations in the World Databank dataset about age that merged with the countries in the main dataset. Therefore, in the regressions where *Age* was included, the total count of observations reached such a low level that is was decided to leave out the variable *Age* after all. Lastly the control variable *Workforce* was added. Information about the percentage of the total population in a country that is counted as workforce based on age and whether or not they supply labor.

3.4 Method

In order to test all the hypotheses and answer the main research question, two kind of models are used. For hypotheses one and two an ordinary linear regression is used and for hypothesis three the Sobel Goodman mediation test is performed. First the regressions for H1 and H2 are discussed, after that the use of the mediation test is explained in more detail. Below is the standard formula used for H1 and H2, a simple linear regression.

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon$$

Because this research is looking at five different kinds of entrepreneurship, different regressions are run. Hypothesis one, stating: '*There is a positive relation between religion and entrepreneurship at the country level.*', is tested using the equation below. In this equation however, the dependent variable is *Entrepreneurship.* In the regressions run entrepreneurship is measured using five variables, respectively: *Established Businesses, Any Businesses, TEA, TEA Opportunity* and *TEA Necessity,*. Be aware that the variable '*Factor driven*' is left out of the equation because it is used as a 'Base category' for the related variables *Efficiency driven* and *Innovation driven*.

$$Entrepreneurship = \beta_0 + \beta_1 Religion + \beta_2 Efficiency\ \ driven + \beta_3 Innovation\ driven + \beta_4 Workforce + \varepsilon$$

Hypothesis two is a little more specific: '*The relation between religion and entrepreneurship at the country level differs per religion.*'. Therefore the variable *'Religion'*, as used in the models to test H1, has to be split up into several variables, with one 'Base category' that is excluded in the equation. In the models used to test H2 the variable '*Percentage not adhering any religion*' is left out as Base category for the related variables that measure the percentages of Christians, Islamists and Other religions. Below is the standard equation used to test H2, again this is the equation with *Entrepreneurship* as dependent variables. The equation with the actually used variables for entrepreneurship is the same, except for the dependent variable.

$$Entrepreneurship = \beta_0 + \beta_1 Percentage\ of\ Christians + \beta_2 Percentage\ of\ Islamists + \beta_3 Percentage\ adhering\ another\ religion + \beta_4 Efficiency\ driven + \beta_5 Innovation\ driven + \beta_6 Workforce + \varepsilon$$

For testing hypothesis three a more specific model is needed. Hypothesis three states: ' *The effect of religion on entrepreneurship is mediated by culture.*'. To test this the Sobel Goodman mediation test is used. With mediation the relation between the dependent and independent variable is hypothesized to be an indirect effect, that is pulled by another (third) variable, this (third) variable is called the mediator. If this is the case, the effect of the independent variable is reduced when the mediator variable is included in the regression, also the effect of the mediator is significant. The Sobel Goodman test is used to determine if the reduction of the independent variable's effect, when the mediator variable is included, is significant so that the mediation effect can be called 'statistically significant'.

Basically there are three equations needed first and after that the Sobel Goodman test will show if the mediation effect is statistically significant. Because in the dataset six dimensions of culture and five measures for entrepreneurship are used, there are 30 mediations carried out. That means that there are a lot of slightly different models that are used. It is needless to put all the different models down here, instead the three basic models that underlie the Sobel Goodman test are shown. In the example models below the *Entrepreneurship* is used again as dependent variable. *Culture* is used to represent a mediator variable, that is one of the six variables that measure a dimension of culture. Here again the *Factor driven* dummy

variable is left out to function as a Base category for the related dummy variables *Efficiency driven* and *Innovation driven*.

In the first model the dependent variable is regressed on the independent variable and the control variables.

$$Entrepreneurship = \beta_0 + \beta_1 Religion + \beta_2 Efficiency\ \ driven + \beta_3 Innovation\ driven + \beta_4 Workforce + \varepsilon$$

Next, in the second model the mediator variable is regressed on the independent variable and the control variables.

$$Culture = \beta_0 + \beta_1 Religion + \beta_2 Efficiency\ \ driven + \beta_3 Innovation\ driven + \beta_4 Workforce + \varepsilon$$

Lastly, in the third model the dependent variable is regressed on the independent variable, the mediator variable and the control variables.

$$Entrepreneurship = \beta_0 + \beta_1 Religion + \beta_2 Culture + \beta_3 Efficiency\ \ driven + \beta_4 Innovation\ driven + \beta_5 Workforce + \varepsilon$$

The Sobel Goodman mediation test analyzes whether or not there is a statistically significant mediation effect. So if the variable for culture mediates the effect of *Religion* on the entrepreneurship variable.

So basically the tests will show whether or not the culture variables mediate the relationship between religion and entrepreneurship. This can be visualized: $X \xrightarrow{a} M \xrightarrow{b} Y$. Here X is the independent variable *Religion,* M is the variable suspected of mediating, here one of the six variables for all cultural dimensions.

Y is the dependent variable, here one of the five measures of entrepreneurship. A and b are called the direct effects. The mediating effect, wherein X leads to Y via M, is called the indirect effect. The indirect effect is the portion of the effect between X and Y that is mediated by M.

4. Results

In this chapter the results of the analyses are discussed. The literature review already gives quite a clear indication for the direction of the expected outcomes of the results. The main aim of the analyses is to investigate the relation of religion with entrepreneurship at the country level. Like explained in the methods section, there are three different parts of analysis. For each hypothesis different models are used. To give a small impression of the dataset that is used, the descriptive statistics are shown first. Thereafter come the three parts of the analyses to test the hypotheses. First the linear regressions for hypotheses one and two are presented and after that the Sobel Goodman mediation test results for hypothesis three are shown.

4.1 Descriptive statistics

First in Table 5 the countries are shown that are in the sample to get a little bit of a feeling about which countries cause the results in our analyses.

Table 5. All countries in the sample

Angola	Costa Rica	Guatemala	Malaysia	Saudi Arabia	Uganda
Argentina	Croatia	Hungary	Mexico	Slovenia	United Kingdom
Australia	Denmark	Iceland	Montenegro	South Africa	USA
Belgium	Ecuador	Iran	Netherlands	Spain	Uruguay
Bolivia	Egypt	Ireland	Norway	Sweden	Vanuatu
Bosnia and Herzegovina	Finland	Israel	Pakistan	Switzerland	Zambia
Brazil	France	Italy	Peru	Taiwan	
Chile	Germany	Jamaica	Portugal	Trinidad and Tobago	
China	Ghana	Latvia	Romania	Tunisia	
Colombia	Greece	Macedonia	Russia	Turkey	

In Table 6 all the variables are shown with their number of observations, mean and standard deviation. A few things are standing out. First it is clear that the number of observations, ranging from 43 to 56, is not that high. Nevertheless, in comparative research it is relatively normal to not have thousands of observations, around ten observations per variable is roughly the minimum to do a justified analysis. Also it is noticeable that all the means are above 1 except for the means of the variables *Factor driven, Efficiency driven* and *Innovation driven.* This is because they are dummy variables which can only take on the number zero or one.

Table 6. The descriptive statistics sample

Variable	Observations	Mean	Standard Deviation
Established Businesses	56	8,554	6,171
Any Businesses	56	20,013	14,097
TEA	56	12,126	10,224
TEA Opportunity	56	8,086	6,765
TEA Necessity	56	3,611	3,890
Religion	56	98,509	2,169
Percentage of Christians	56	66,478	31,404
Percentage of Islamists	56	15,484	30,121
Percentage adhering another religion	56	7,808	16,907
Percentage not adhering any religion	56	10,228	9,319
Factor driven	56	0,214	0,414
Efficiency driven	56	0,429	0,499
Innovation driven	56	0,357	0,483
Workforce	55	65,166	5,179
Powerdistance	43	55,163	20,818
Individualism	43	46,651	25,579
Masculinity	43	46,395	19,839
Uncertainty Avoidance	43	68,256	23,235
Longterm Orientation	48	44,500	22,735
Indulgence	47	50,043	20,997

Table 7. The correlation matrix

	Established Businesses	Any Businesses	TEA	TEA Opportunity	TEA Necessity	Factor driven	Efficiency driven	Innovation driven	Religion	Percentage of Christians	Percentage of Islamists	Percentage adhering another religion	Percentage not adhering any religion	Workforce
Established Businesses	1													
Any Businesses	0.884***	1												
TEA	0.701***	0.951***	1											
TEA Opportunity	0.639***	0.904***	0.971***	1										
TEA Necessity	0.737***	0.913***	0.913***	0.804***	1									
Factor driven	0.420***	0.568***	0.600***	0.526***	0.594***	1								
Efficiency driven	-0.135	-0.068	-0.037	-0.035	-0.007	-0.452***	1							
Innovation driven	-0.220	-0.417***	-0.475***	-0.414***	-0.501***	-0.389***	-0.646***	1						
Religion	0.151	0.156	0.135	0.100	0.177	0.053	0.153	-0.204	1					
Percentage of Christians	0.081	0.202	0.255*	0.280**	0.164	-0.151	-0.029	0.159	-0.131	1				
Percentage of Islamists	-0.031	-0.114	-0.155	-0.188	-0.065	0.321**	0.012	-0.288**	0.252*	-0.793***	1			
Percentage adhering another religion	-0.006	-0.012	-0.016	-0.027	0.007	-0.087	0.111	-0.041	-0.035	-0.485***	-0.077	1		
Percentage not adhering any religion	-0.159	-0.289**	-0.331**	-0.286**	-0.353***	-0.372***	-0.145	0.469***	-0.312**	0.071	-0.422***	0.068	1	
Workforce	-0.410***	-0.606***	-0.651***	-0.577***	-0.636***	-0.691***	0.398***	0.185	-0.139	-0.219	0.104	0.027	0.342**	1

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Furthermore, also a correlation matrix is included as can be seen above in Table 7. Overall there are no very high correlations, so worrying about for instance multicollinearity is not needed. There are some high correlations seen however. Below the correlations that are statistically significant at a one percent level and have a correlation above 0,700 or below -0,700 are discussed shortly.

The variables to measure entrepreneurship: *Established Businesses, Any Businesses, TEA, TEA Opportunity and TEA Necessity* all have a high correlation with each other. These variables merely measure the same thing: entrepreneurship, they have a slightly different definition though, but it is logical that they correlate a lot. Because they are not used together in the regression this will not cause problems.

Another high correlation can be seen. *Percentage of Christians* has a correlation of -0,793 with *Percentage of Islamists.* This could indicate that countries mostly have either a Christian or a Islamic population. Looking at the dataset used in this research this indication can be verified. Most countries have either a very high value for *Percentage of Christians* and a very low value for *Percentage of Islamists*, or vice versa. In Table 8 the values of both variables can be seen for some countries where this phenomenon is very clear.

Table 8. Countries where one religion is very dominant

Name of state	Percentage of Christians	Percentage of Islamists
Bolivia	94.26	0.01
Colombia	97.01	0.06
Greece	94.38	2.40
Guatemala	95.00	0.01
Romania	97.51	0.40
Iran	0.16	99.00
Pakistan	1.70	95.69
Saudi Arabia	3.00	93.82
Tunisia	0.35	99.00
Turkey	0.42	98.58

4.2 Regressions and mediation tests

4.2.1 Regressions Hypothesis one

First H1 is tested. Therefore a few regressions are done. Table 9 shows the results of five regressions. For there are five different measures used for entrepreneurship there is one column for each dependent variable.

Table 9. Regression results H1 for different measures of entrepreneurship

Dependent variable	*Established Businesses*	*Any Businesses*	*TEA*	*TEA Opportunity*	*TEA Necessity*
Religion	0.266 (0.369)	0.208 (0.689)	-0.051 (0.455)	-0.092 (0.341)	0.055 (0.173)
Efficiency driven	-3.418 (2.821)	-4.867 (5.270)	-2.519 (3.483)	-1.221 (2.612)	-0.983 (1.323)
Innovation driven	-4.339 (2.675)	-12.970* (4.997)	-9.918** (3.303)	-5.602* (2.477)	-3.963** (1.254)
Workforce	-0.272 (0.213)	-1.239** (0.398)	-1.031** (0.263)	-0.621** (0.197)	-0.372** (0.100)
Constant	3.083 (40.454)	87.060 (75.590)	89.040^{+} (49.963)	60.280 (37.461)	24.350 (18.975)
R^2	0.219	0.477	0.565	0.441	0.567
Observations	55	55	55	55	55

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

From this table it can be observed that *Religion* does not have a statistically significant effect on one of the measures for entrepreneurship. Not even at a ten percent significance level. The P-value for each term tests the null hypothesis that the coefficient has no effect (is equal to zero). Therefore the null hypothesis for the variable *Religion* cannot be rejected because the p-value is too high; the P-value suggests that changes in the level of entrepreneurship are not associated with changes in the percentage of the population being religious. The variable *Efficiency driven* is also not statistically significant and therefore the null-hypothesis of beta being equal to zero cannot be rejected. Hence, the results of *Religion* and *Efficiency driven* cannot be interpreted. This implies that there is no significant evidence for H1: '*There is a positive relation between religiosity and entrepreneurship at the country level.'*. Possibly the effect of religion on entrepreneurship is small, or it does not exist at all.

Besides this model also a 'Basic model' was tested. Here the control variables are left out. The results of the Basic models and Full models can be compared because the outputs of all the regressions are put in one table below.

Table 10. Regression results H1 of the Basic Models and Full Models with the five different dependent variables of entrepreneurship

Dependent variable	*Established Businesses*		*Any Businesses*		*TEA*		*TEA Opportunity*		*TEA Necessity*	
Religion	0.429 (0.383)	0.266 (0.369)	1.016 (0.874)	0.208 (0.689)	0.634 (0.636)	-0.051 (0.455)	0.312 (0.422)	-0.0924 (0.341)	0.317 (0.240)	0.055 (0.173)
Efficiency driven		-3.418 (2.821)		-4.867 (5.270)		-2.519 (3.483)		-1.221 (2.612)		-0.983 (1.323)
Innovation driven		-4.339 (2.675)		-12.970* (4.997)		-9.918** (3.303)		-5.602* (2.477)		-3.963** (1.254)
Workforce		-0.272 (0.213)		-1.239** (0.398)		-1.031** (0.263)		-0.621** (0.197)		-0.372** (0.100)
Constant	-33.710 (37.717)	3.083 (40.454)	-80.040 (86.083)	87.060 (75.590)	-50.370 (62.635)	89.040^{+} (49.963)	-22.63 (41.614)	60.280 (37.461)	-27.65 (23.669)	24.350 (18.975)
R^2	0.023	0.219	0.024	0.477	0.018	0.565	0.010	0.441	0.031	0.567
Observations	56	55	56	55	56	55	56	55	56	55

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

When comparing the Basic and Full model it is easy to see that there are no big changes in the regression coefficients. Of course the values of the Constant and the coefficient for *Religion* are different, but still the P-values for *Religion* are way too high to reject the null-hypothesis of beta being equal to zero, and so the results still cannot be interpreted.

When looking at the Full model something else is interesting. Besides nothing is statistically significant in the model with *Established Businesses* as dependent variable, in the other four models it is possible to see some similarities. In the models with respectively *Any Businesses, TEA, TEA Opportunity* and *TEA Necessity* as dependent variables, the independent variables *Innovation driven* and *Workforce* are statistically significant at a five percent level and some even at a one percent level. Meaning that we can reject the null-hypothesis of a beta of zero. Therefore we can interpret them. Both the control variables have a negative valence with different values per model. For *Workforce* therefore it can be concluded that it has a negative relationship with entrepreneurship (if measured by *Any Businesses, TEA, TEA Opportunity* or *TEA Necessity).* If the percentage of people in a country that are counted as workforce increases by one percent, that will effect in a decrease of entrepreneurs of 1,24%, 1,04%, 0,62% and 0,37% for respectively *Any Businesses, TEA, TEA Opportunity* and *TEA Necessity,* ceteris paribus. This decreases can of course be a little bit higher or lower because of the standard errors. For *Efficiency driven* it can also be concluded that it has a negative relationship with entrepreneurship (if measured by *Any Businesses, TEA, TEA Opportunity* or *TEA Necessity)*. This variable however is a dummy variable and has *Factor driven* as a base category. With this mind it can be said that if a country is efficiency driven, ceteris paribus, the percentage of entrepreneurs is 12,97%, 9,92%, 5,6% and 3,96% lower compared to a factor driven country for respectively *Any Businesses, TEA, TEA Opportunity* and *TEA Necessity* . Again this can deviate based on standard errors.

4.2.2 Regressions Hypothesis two

Next topic of interest is hypothesis two. To test the second hypothesis, "*The relation between religion and entrepreneurship at the country level differs per religion.*", there is need for more detailed information than just the percentage of inhabitants of a country that adheres any religion therefore the religious beliefs of people are captured in the category

variables *Percentage of Christians, Percentage of Islamists, Percentage adhering another religion* and *Not religious at all* (short: *Christian, Islam, Other* and *None*). These variables respectively stand for the percentage of inhabitants that adhere Christianity, Islam, any other religion or none religion at all. The category that is not religious serves as Base category and is therefore left out of the regression.

Again five regressions are run, for each different dependent variable that measures entrepreneurship one, the results are in the Table 11.

Table 11. Regression results H2 for several religions on different measures of entrepreneurship

Dependent variable	*Established Businesses*	*Any Businesses*	*TEA*	*TEA Opportunity*	*TEA Necessity*
Percentage of Christians	0.004 (0.112)	0.121 (0.198)	0.140 (0.123)	0.105 (0.093)	0.038 (0.050)
Percentage of Islamists	-0.027 (0.101)	-0.031 (0.179)	0.000 (0.111)	0.004 (0.084)	0.003 (0.045)
Percentage adhering another religion	0.021 (0.134)	0.178 (0.237)	0.185 (0.147)	0.131 (0.112)	0.061 (0.060)
Efficiency driven	-4.697 (3.292)	-12.060* (5.806)	-9.293* (3.607)	-6.148* (2.740)	-2.650^{+} (1.469)
Innovation driven	-6.144^{+} (3.269)	-20.770** (5.766)	-16.760** (3.582)	-10.490** (2.721)	-5.700** (1.458)
Workforce	-0.187 (0.260)	-0.678 (0.459)	-0.482^{+} (0.285)	-0.218 (0.216)	-0.238* (0.116)
Constant	24.990 (21.205)	68.060^{+} (37.403)	42.960^{+} (23.235)	20.800 (17.652)	19.290* (9.460)
R^2	0.227	0.539	0.661	0.553	0.613
Observations	55	55	55	55	55

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Now religion is split up, there still is no statistically significant effect from one of the dummy categories *Christians, Islamists* or *Other* on one of the five types of entrepreneurship. Hence the results for these variables are not interpretable. Again this is the Full model with all the control variables. Let's take a look at the Basic model and see if there are a lot of differences.

Table 12. Regression results H2 of the Basic Models and Full Models with the five different dependent variables for entrepreneurship

Dependent variable	*Established Businesses*		*Any Businesses*		*TEA*		*TEA Opportunity*		*TEA Necessity*	
Percentage of Christians	0.139 (0.099)	0.004 (0.112)	0.619** (0.213)	0.121 (0.198)	0.528** (0.149)	0.140 (0.123)	0.322** (0.099)	0.105 (0.093)	0.194** (0.058)	0.038 (0.050)
Percentage of Islamists	0.114 (0.091)	-0.027 (0.101)	0.485* (0.195)	-0.031 (0.179)	0.407** (0.136)	0.000 (0.111)	0.237* (0.091)	0.004 (0.084)	0.160** (0.053)	0.003 (0.045)
Percentage adhering another religion	0.139 (0.113)	0.021 (0.134)	0.614* (0.242)	0.178 (0.237)	0.522** (0.169)	0.185 (0.147)	0.312** (0.113)	0.131 (0.112)	0.198** (0.066)	0.061 (0.060)
Efficiency driven		-4.697 (3.292)		-12.060* (5.806)		-9.293* (3.607)		-6.148* (2.740)		-2.650^{+} (1.469)
Innovation driven		-6.144^{+} (3.269)		-20.770** (5.766)		-16.760** (3.582)		-10.49** (2.721)		-5.700** (1.458)
Workforce		-0.187 (0.260)		-0.678 (0.459)		-0.482^{+} (0.285)		-0.218 (0.216)		-0.238* (0.116)
Constant	-3.547 (8.803)	24.990 (21.205)	-33.450^{+} (18.884)	68.060^{+} (37.403)	-33.380* (13.167)	42.960^{+} (23.235)	-19.450* (8.802)	20.800 (17.652)	-13.290* (5.118)	19.290* (9.460)
R^2	0.037	0.227	0.151	0.539	0.215	0.661	0.199	0.553	0.181	0.613
Observations	56	55	56	55	56	55	56	55	56	55

Standard errors in parentheses
$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$

Comparing the full and basic model, by looking at Table 12, quite some differences are seen. The model with *Established Businesses* as dependent variable is ignored for now. Because, with this dependent variable, in the basic- as well as the full model, nothing is statistically significant at a five percent level, even at a ten percent level only one value is significant.

In the other four models the values for *Christians, Islamists* and *Others* are all statistically significant in the Basic models and turn out insignificant in the full model where the control variables are added. Hypothesis two states: "*The relation between religion and entrepreneurship at the country level differs per religion.*". If only the Base models are considered, without the model with *Established Businesses,* and you look at them one by one, it can be said that the variables *Christians, Islamists* and *Others* are statistically significant at a one or five percent level and the effects of all the religions (*Christian, Islam* and *Others*) have a positive effect on entrepreneurship compared to the none religious countries.

Also it can be seen that the regression coefficients of each type of religion variable is different. Therefore the effect on entrepreneurship is significant different in the basic models. So based on the basic models H2 cannot be rejected and there is a good chance that the relation between religion and entrepreneurship differs per religion. Looking at the full models though, nothing can be interpreted about the religion variables for they are not statistically significant. So then H2 too cannot be rejected.

Besides this, the religion variables are not significant at all in the full model and it is probably better to not lean too much on the basic model without any control variables. Also the basic models have a very low R^2, which means that not a lot of the variance is explained by the included variables. So it is better to look at the full models. The control variables here are mostly significant, except in the ignored model with *Established Businesses* as dependent variable. Like the model tested for hypothesis one, the *Innovation driven* categorical variable has a negative effect on entrepreneurship, ceteris paribus. Which means that a country that is innovation driven has a lower percentage of entrepreneurs compared to a country that is factor driven, ceteris paribus, if one measures entrepreneurship with either *Any Businesses, TEA, TEA Opportunity* or *TEA Necessity.* The same holds for the categorical variable *Efficiency driven.* When looking at the magnitude the *Innovation driven* variable has a bigger negative

effect than the variable *Efficiency driven.* So based on these data it is correct to say that if only looking at the kind of economy, ceteris paribus, if the country is factor driven there are probably more entrepreneurs relatively to an efficiency driven country where there are less entrepreneurs. In an innovation driven economy there are even less entrepreneurs.

4.2.3 Sobel Goodman mediation tests

In the last part of the results section the results of the Sobel Goodman mediation tests are discussed. There are 30 mediation tests run. Below are the results in six tables: Table 13 to 18. The results of the 30 mediation tests are separated into six tables based on the mediation variable, there are six mediation variables: for each cultural dimension one. Each table contains test results of five mediation tests: for all measures of entrepreneurship one. Here H3 is tested: " *The effect of religion on entrepreneurship is mediated by culture.*".

In Table 13 are the results of five mediation tests. To represent the cultural part of the model the variable *Powerdistance* is used. As variable for entrepreneurship respectively *Established Businesses, Any Businesses, TEA, TEA Opportunity* and *TEA Necessity* are used. In none of the five mediation tests is found any statistically significant result. This means that there is no statistical evidence that the mediation effect of *Powerdistance* has a statistically significant indirect effect on any of the measures for entrepreneurship here used.

In Table 14 are the results of five mediation tests. To represent the cultural part of the model the variable *Individualism* is used. As variable for entrepreneurship respectively *Established Businesses, Any Businesses, TEA, TEA Opportunity* and *TEA Necessity* are used. In none of the five mediation tests is found any statistically significant result. This means that there is no statistical evidence that the mediation effect of *Individualism* has a statistically significant indirect effect on any of the measures for entrepreneurship here used.

In Table 15 are the results of five mediation tests. To represent the cultural part of the model the variable *Masculinity* is used. As variable for entrepreneurship respectively *Established Businesses, Any Businesses, TEA, TEA Opportunity* and *TEA Necessity* are used. In none of the five mediation tests is found any statistically significant result. This means that there is no statistical evidence that the mediation effect of *Masculinity* has a statistically significant indirect effect on any of the measures for entrepreneurship here used.

In Table 16 are the results of five mediation tests. To represent the cultural part of the model the variable *Uncertainty Avoidance* is used. As variable for entrepreneurship respectively *Established Businesses, Any Businesses, TEA, TEA Opportunity* and *TEA Necessity* are used. In none of the five mediation tests is found any statistically significant result. This means that there is no statistical evidence that the mediation effect of *Uncertainty Avoidance* has a statistically significant indirect effect on any of the measures for entrepreneurship here used.

In Table 17 are the results of five mediation tests. To represent the cultural part of the model the variable *Longterm* is used. As variable for entrepreneurship respectively *Established Businesses, Any Businesses, TEA, TEA Opportunity* and *TEA Necessity* are used. In none of the five mediation tests is found any statistically significant result. This means that there is no statistical evidence that the mediation effect of *Longterm* has a statistically significant indirect effect on any of the measures for entrepreneurship here used.

In Table 18 are the results of five mediation tests. To represent the cultural part of the model the variable *Indulgence* is used. As variable for entrepreneurship respectively *Established Businesses, Any Businesses, TEA, TEA Opportunity* and *TEA Necessity* are used. In none of the five mediation tests is found any statistically significant result. This means that there is no statistical evidence that the mediation effect of *Indulgence* has a statistically significant indirect effect on any of the measures for entrepreneurship here used.

None of the Sobel Goodman Mediation tests turn out to have statistically significant results. This means that the mediation effect of none of the cultural dimension variables has a statistically significant indirect effect on any of the entrepreneurship variables here used. Hence H3 can be rejected. This is not very surprising, keeping in mind that there are no statistically significant results for H1.

Table 13. Sobel Goodman Mediation test results for culture dimension *Powerdistance*

Dependent variable	*Established businesses*		*Any businesses*		*TEA*		*TEA Opportunity*		*TEA Necessity*	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Indirect effect	-0.022	0.625	-0.062	0.536	-0.040	0.528	-0.032	0.511	-0.020	0.4540
Direct effect	0.292	0.262	0.307	0.533	0.022	0.943	-0.086	0.705	0.098	0.339
% Mediated	-0.083		-0.251		2.2360		0.2713		-0.258	

Table 14. Sobel Goodman Mediation test results for culture dimension *Individualism*

Dependent variable	*Established businesses*		*Any businesses*		*TEA*		*TEA Opportunity*		*TEA Necessity*	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Indirect effect	-0.015	0.770	-0.040	0.766	-0.026	0.766	-0.016	0.767	-0.008	0.767
Direct effect	0.284	0.264	0.285	0.548	0.008	0.978	-0.101	0.646	0.086	0.395
% Mediated	-0.054		-0.162		1.467		0.138		-0.098	

Table 15. Sobel Goodman Mediation test results for culture dimension *Masculinity*

Dependent variable	*Established businesses*		*Any businesses*		*TEA*		*TEA Opportunity*		*TEA Necessity*	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Indirect effect	-0.007	0.810	-0.008	0.830	0.000	0.981	0.000	0.975	-0.004	0.806
Direct effect	0.277	0.282	0.254	0.606	-0.018	0.955	-0.118	0.604	0.082	0.429
% Mediated	-0.027		-0.033		0.018		-0.003		-0.045	

Table 16. Sobel Goodman Mediation test results for culture dimension *Uncertainty Avoidance*

Dependent variable	*Established businesses*		*Any businesses*		*TEA*		*TEA Opportunity*		*TEA Necessity*	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Indirect effect	-0.038	0.509	-0.054	0.562	-0.016	0.729	-0.015	0.669	-0.008	0.637
Direct effect	.3077	0.231	0.300	0.542	-0.002	0.995	-0.102	0.654	0.086	0.409
% Mediated	-0.141		-0.222		0.894		0.131		-0.104	

Table 17. Sobel Goodman Mediation test results for culture dimension *Longterm*

Dependent variable	*Established businesses*		*Any businesses*		*TEA*		*TEA Opportunity*		*TEA Necessity*	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Indirect effect	-0.104	0.396	-0.245	0.314	-0.146	0.297	-0.121	0.273	-0.023	0.538
Direct effect	0.234	0.619	0.036	0.964	-0.220	0.603	-0.309	0.303	0.113	0.505
% Mediated	-0.796		1.170		0.399		0.282		-0.259	

Table 18. Sobel Goodman Mediation test results for culture dimension *Indulgence*

Dependent variable	*Established businesses*		*Any businesses*		*TEA*		*TEA Opportunity*		*TEA Necessity*	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Indirect effect	-0.089	0.545	-0.190	0.537	-0.107	0.537	-0.086	0.534	-0.019	0.577
Direct effect	0.277	0.541	0.079	0.914	-0.215	0.593	-0.317	0.263	0.126	0.453
% Mediated	-0.472		1.718		0.333		0.214		-0.181	

5. Discussion

In this chapter the results are analyzed and discussed. First the results from the analysis for H1 are summarized, followed up by the results of the analyses for H2 and H3. Also possible explanations for the (in)significant results are discussed.

5.1 Summary of the results

First the results from the analysis for H1 are summarized. In the first regressions was looked at the relation between religion and entrepreneurship. Because in this research we have different measures for entrepreneurship, different regressions needed to be run. For each measure for entrepreneurship one. This way the results will show if there is a statistically significant relation between religion and one of the five types of entrepreneurship.

None of the regression results had coefficients for religion that were statistically significant, not even at a ten percent significance level. So one can conclude that the effect of religion on entrepreneurship is quite small or does not exist at all.

After that the regressions for H2 were run. In these regressions the focus was different. Here the *Religion* variable was split up in four categories. This way one is able to differentiate the effect of the percentage of Christians on entrepreneurship from the effect of the percentage of Islamists on entrepreneurship for instance. Just like the regression for H1, this regression was run five times, for each measure of entrepreneurship once.

Again, there were no statistically significant results found. In none of the regressions, not even at a ten percent significance level. Only in the basic model some results were significant, but not one control variable was added in this basic model and the R^2 was so low that this basic model does not make it possible to conclude anything.

At last, Sobel Goodman mediation tests were run in order to check for a mediation effect. These analyses have thrown a light on whether culture mediates the effect of religion on

entrepreneurship. For culture the six dimensions of Hofstede are used and therefore there are six variables that could be mediating the relation between religion and entrepreneurship. Because of the five measures for entrepreneurship thirty mediation tests had to be run.

None of the Sobel Goodman tests had statistically significant results, not even at a significance level of ten percent. So there is no statistically significant mediation effect from culture on the relation between religion and entrepreneurship.

5.2 Significant results

In none of the full models the variables of major interest are statistical significant. In the results of the regressions for H1 and H2 there was found a statistically significant coefficient for the control variables *Workforce* and *Innovation driven.* In some of the regressions for H2 the control variable *Efficiency driven* was also significant.

First of all, a few things are noticed about the control variable *Workforce*. In the analyses results of the regressions done for H1 as well in those for H2 the coefficient of *Workforce* is always negative. This means that if the percentage of all inhabitants of a certain country who are reckoned to be grouped under workforce increases, ceteris paribus, this will result in a lower percentage people that are entrepreneurial. By entrepreneurial is meant that they fall in one of the five definitions used in this research for entrepreneurship.

Now when taking a look at the variables *Efficiency driven* and *Innovation driven*, keep in mind that these are dummy variables and the base variable is *Factor driven.* Now the two variables are not in every model statistically significant, but for a lot of models they are. *Efficiency driven* is only significant in some regressions for H2. In all the results the same patterns are seen. *Efficiency driven* has a negative coefficient and *Innovation driven* has an even more negative coefficient. So, ceteris paribus, you could conclude that in factor driven economies the level of entrepreneurship is relatively high, followed by efficiency driven economies and in innovation driven economies the level of entrepreneurship is relatively low.

5.3 Insignificant results

As already mentioned a few times the major variables of interest: in the regressions of H1 *Religion* and in the regressions of H2 split up in *Christians, Islamists*, *Others* and *None* are not statistically significant so their effect on the different kinds of entrepreneurship cannot be interpreted. Next to that the Sobel Goodman mediation tests run for H3 neither give statistically significant results.

An explanation for these insignificant results could be that the effects are too small to detect given the relatively small sample size. If the sample is too little, the standard error is large. If the standard error is large, the significance level of all the coefficients decreases. So with more observations this problem would probably be solved.

Another explanation could be that there is no relation between the variables and therefore the variables do not have a statistical significant effect. That would be contrasting the findings of earlier research, but this option should be taken into account.

6. Conclusion

This study examines the effect of religion on entrepreneurship at the country level. More specifically the effect of religion on five types of entrepreneurship is analyzed, whether different religions have a different effect on these five types of entrepreneurship is analyzed and lastly it is tested if the effect of religion on the several types of entrepreneurship is mediated by culture. From previous research it was expected that religion, in the general sense of the word, has a positive effect on entrepreneurship. The sample that is used is constructed mainly from the GEM, the WRP and Hofstede datasets with data from 2010 for the first two databases, for the Hofstede database the data is from several years. It contains data from 56 countries in the world. The total number of observations is 56 too. In this final chapter the conclusions are discussed. Per hypothesis there is considered if something definitive can be concluded and finally the main research question is answered. After that the limitations of this study are examined and the possible policy implications are discussed. In conclusion some suggestions are made for future research.

6.1 Religion and entrepreneurship

The first hypothesis states: *'There is a positive relation between religiosity and entrepreneurship at the country level.'*. There is no statistically significant evidence to reject this hypothesis. In the results section this is also discussed. Even though the hypothesis cannot be rejected, neither is it possible to say that H1 is true, to conclude that would be a classical mistake. *Religion* does not have a statistical significant effect on one of the variables for entrepreneurship and therefore there is not really a strong conclusion for the effect of religion on entrepreneurship. It can be assumed though that if the effect was very big, it would probably be caught in our analyses, so probably either this effect does not exist or it is quite small.

6.2 Different religions and entrepreneurship

For H2 religion is split up into several categories to test if: *'The relation between religion and entrepreneurship at the country level differs per religion.'*. This hypothesis also cannot be rejected, none of the coefficients for all three categories included in the regressions were statistically significant, so a higher percentage of Christians, Islamists or adherers of another religion compared to people adhering none religion at all does not have a significant effect on any of the variables measuring entrepreneurship. Again it is not correct to state that because H2 cannot be rejected it must be true. In the regressions without control variables sometimes the coefficients of the several categorical variables for the different type of adherers were significant. Here the coefficients differed a lot so there is a small indication that H2 quite possible could be true. But again this was in the model without any control variables so not too much weight should be given to this indication.

6.3 Religion, culture and entrepreneurship

The last hypothesis states: *'The effect of religion on entrepreneurship is mediated by culture.'*. None of the thirty Sobel Goodman mediation tests proofed a statistical significant mediation effect of culture on the relation of religion on entrepreneurship, hence this hypothesis can be rejected. The effect of religion on entrepreneurship is not mediated by culture, at least not with the variables and data used in this research. Of course it is a bit odd to conclude this, because with the same variables and data it was concluded that there is no significant relationship between religion and entrepreneurship (see section 6.1). If there is no significant proof for a relationship between two variables it would be strange if there would be significant proof that another variable mediates the effect of one of the variables on the other.

6.4 Main Research Question

In this research the main focus was to give an answer on the question: '*What is the relation between religion and different types of entrepreneurship at the country level?'.* This study gives no clear cut answer to this question. Based on all the analyses done in this research it can be seen that there are some small indications that religion might have a positive effect on the level of entrepreneurship, but these indications are merely based on insignificant coefficients so not too much weight should be given to these indications. In order to find more conclusive evidence for a positive relation between religion and entrepreneurship, future research is needed. There was no significant mediating effect of culture on the effect of religion on entrepreneurship that could be found in one of the mediation tests, this possible mediating effect also should be carried out again in future research because the theoretical bases for this assumption is quite logical and strong, so it would be interesting to test this again.

6.5 Limitations

During this study, several limitations arise. The results of this study therefore must be treated carefully and more research has to be done on this subject, before clear policy advice can be given.

First, in this research mainly data from 2010 is included. Therefore not much can be said about how religion affects entrepreneurship, even if statistical significant results were found. Namely, if high religious countries have a higher percentage of entrepreneurship in 2010, it would not immediately mean that religion causes more entrepreneurial behavior. Unless the percentage entrepreneurs in this highly religious country is relatively high in several years and also increases over years were the percentage of religion adherers increased, it would be too soon to conclude a positive effect of religion on entrepreneurship. A fruitful path for future research would be to include data from several years in the research sample.

Next to that there are only about 56 countries included in the dataset. In addition to the problems this fact causes to the significance of the results, this limitation might cause specific dynamics from not included countries being missed. Possibly resulting in magnitudes of correlation between the independent variables and the several variables measuring entrepreneurship that don't include the effects of these specific dynamics. Including more countries would probably solve the problems around the significance and make the research more external valid.

In H3 there is tested for a mediation effect of culture on the relation between religion and entrepreneurship. Even though this is not proven significantly it could be that in an analysis with more observations, this mediation effect can be proven after all. However also other factors might mediate the effect of religion on entrepreneurship. In the results of H1 and H2 it can be seen that the type of economy: factor-, efficiency- or innovation driven, have respectively a relatively positive-, negative- and more negative effect on entrepreneurship levels. This indication of an association between economic development and entrepreneurship, implies that the level and rate of economic development might mediate the impact of religion on entrepreneurship.

Finally, this research includes religion as measured by the WRP and for H2 religion is split up in four categories, but there could be other religious indicators that are important in explaining the level of entrepreneurship. This limitation also counts for the control variables. Controlling for more possibly indicators, which influence the level of entrepreneurship, will improve the analysis. In this research this is not done because there are not a lot of observations, so doing this would not improve the results.

6.6 Policy implications

In this section a few policy implications are discussed, for this section only the significant results from the several regressions are taken into account.

The major variables of interest in this research are of course *Religion,* and the variables when *Religion* is split up: *Christians, Islamists,* Others and None. In addition the five variables

that all in a different way measure entrepreneurship: *Established Businesses, Any Businesses, TEA, TEA Opportunity* and *TEA* Necessity. Because none of the analyses provided sufficient statistical significant results about these variables, policy implications are very difficult or impossible to make for the main topics of interest of this research. Because no significant effect of religion on entrepreneurship was found, it can be concluded that if there is such an effect it is probably quite small so that for policy makers that want to induce entrepreneurship it would be more interesting to focus on other possible factors that could induce entrepreneurship.

In addition, workforce and the kind of economy in a country were not the main interests of this research, however a few interesting things can be said about these factors. So below a few implications for policy makers are suggested around these two topics.

The first implication for policy makers refers to the workforce in a country. In this research the variable *Workforce* is about the percentage of the total population in a country that is counted as workforce based on age and whether or not they supply labor. The results of the regressions run for H1 and H2 show that *Workforce* is negative related to the level of entrepreneurship. This implies that the percentage of inhabitants that are accounted for as workforce is negatively related to the percentage of entrepreneurs. When reasoning very straightforward policymakers that want to induce a higher level of entrepreneurship should make policy to make the group, in their country that is accounted as workforce, smaller. This is quite a strange policy and it is not logical. Probably the effect of *Workforce* on entrepreneurship works indirectly or is mediated. A better advice would be to do more research around this subject and include more specified variables for age groups of a country in the analysis.

Next, policymakers should look at the kind of economy in their country. From the regressions for H1 and H2 can be seen that *Innovation driven* for H1 and *Innovation driven* as well as *Efficiency driven* for H2 have a statistical significant effect on entrepreneurship. Both variables have the same base category: *Factor driven*. From the value of the coefficients it is clear that *Efficiency driven* has a negative effect on entrepreneurship compared to *Factor driven,* ceteris paribus. *Innovation driven* has an even more negative effect on entrepreneurship compared to *Factor driven,* ceteris paribus. This implies that the

policymaker that wants to induce entrepreneurship should give more support and encouragement to make inhabitants behave more entrepreneurial in his policy if he lives in a country with an efficiency driven economy. Even more if he lives in a country with an innovation driven country. An example of such an encouragement could be a better fiscal climate for nascent entrepreneurs.

It is crucial to take into account that these policy implications may not be completely clear. This is due to the earlier described limitations. Future research will be needed to state if these implications have the desired effect and if there are no (negative) externalities.

6.7 Recommendations future research

One of the most important aspects for future research refers to the possible small number of observations. These observations can be increased by using other kind of databases. Probably the WRP and GEM databases in coming years will contain information of more countries, but also totally other sources of information could be used.

Another suggestion for future research is to use data from several years. This way the effect of religion on entrepreneurship can be researched giving more deeper insights. Because if in a research like the present one, significant evidence would be found for a positive effect of religion on entrepreneurship, still this effect could be affected or mediated by a lot (unknown) factors. If one would analyze data from several years one could also check if countries with an increasing percentage of religion adherers are also increasing in their level of entrepreneurship.

As a control variable there are two dummy variables included about the kind of economy. They indicate, together with the base category, whether a country is factor-, efficiency- or innovation driven. Based on the results of the regressions that are run to test H1 and H2 it can be said that there is a clear and often also statistical significant effect noticed between the kind of economy and entrepreneurship. This effect seems to indicate that factor driven economies are the most inducing for entrepreneurship followed by respectively efficiency

driven and innovation driven. This effect was not at all the aim of this research but could be interesting for future research.

Finally, not a lot of control variables were included in this research. Future research should include more investigation on factors with possible influence on the level of entrepreneurship of a country. For instance the technological knowledge in a country, level of education or income per capita.

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