Cultural determinants of social entrepreneurship

A multilevel model of social entrepreneurship activity

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Abstract

This thesis provides an explorative account of the cultural determinants of social entrepreneurship. Nine hypotheses concerning cultural factors are formulated. Data from the 2009 Global Entrepreneurship Monitor, the first harmonized global dataset including social entrepreneurship measurements, and the World and European Value survey are combined, resulting in approximately 122.000 individual data points for a total of 34 countries. Multilevel models are estimated to compare social entrepreneurs with both their commercial counterparts and the non-entrepreneurial population. The results show that culture has a considerable influence on the probability that an individual engages in social entrepreneurship relative to no entrepreneurship. Specifically, there is evidence that confidence in public institutions, self-expression orientated values, prominence of religion, generalized trust and risk-aversion are significantly related to social entrepreneurial activity. Furthermore, this research supports the application of multilevel model techniques in the field of social entrepreneurship.

Acknowledgements

Inhoud

Introduction

Social entrepreneurs may well hold the key to social innovations addressing the needs of marginalized people all over the world. Although the worldwide poverty rates are slowly decreasing, there are still 2.4 billion people living on less than 2$ a day (WorldBank, 2011). Hence, the need for innovative solutions to poverty-related issues is tremendous. Moreover, human beings are using 50% more resources than the earth can replenish and the World Wildlife Fund (2012) projects that this percentage will increase rapidly, so that in 2030 having two planets would not even be enough. Recently, hopes are pinned on social entrepreneurs to come up with environmentally sustainable solutions to change the way people treat earth's resources.

Hence, it is not surprising that social entrepreneurship receives more and more attention from both scholars and policymakers (Dees, 1998; Hoogendoorn, Pennings, & Thurik, 2010; Peredo & McLean, 2006; Roper & Cheney, 2005). Many see social entrepreneurs such as Mohammed Yunus, founder of the Grameen Bank for microcredit, and Bunker Roy, founder of the Barefoot College, as modern social heroes. These 'social heroes' improve the living conditions in underdeveloped economies plagued by resource scarcity and instable governments (Elkington & Hartigan, 2008; Zahra, Gedajlovic, Neubaum, & Shulman, 2009). Also in the developed world social entrepreneurs are exploiting opportunities for social change. For example, Guillaume Bapst responded to the needs of nearly 4 million people in France that live on less than 2 euro's a day, when he set up the Association Nationale De Dévelopement des Epiceries Solidaires (ANDES). ANDES is a new system for delivering food to the poor in France (Ashoka, 2013a). There are already several organizations providing pre-prepared meals to disadvantaged citizens, but Guillaume Bapst noticed that those meals are generally low in nutritional value leading to malnourishment, high blood pressure etc. Moreover, these pre-prepared meals deprive families from their freedom of choice and distance them from their traditions. Guillaume set up a supermarket chain selling foods for 10 to 30 percent of the original price as to empower families to eat healthy food in their own traditions. ANDES now comprises approximately 60 groceries and it serves 24.000 people per year.

There are many of these success stories about social entrepreneurs providing services for the socially excluded or improving social and environmental conditions in an innovative way. In 2009 the Global Entrepreneurship Monitor (GEM) showed that worldwide on average 4.4% of the adult population was active as social entrepreneur. However, social entrepreneurship rates differ considerably per country. Whereas GDP per capita is often mentioned as determinant of regular entrepreneurship (Highfield & Smiley, 1987; Reynolds, Miller, & Maki, 1995), it only explains a

rather small part of the cross-country variance in social entrepreneurship activity. Hence, there must be other factors at play. Research into commercial entrepreneurship indicates that culture has a significant impact on a country's entrepreneurship rates (Freytag & Thurik, 2007; Stephan & Uhlaner, 2010; Wennekers, Uhlaner, & Thurik, 2002). However, the effects of culture on social entrepreneurship have not yet been extensively explored. This research aims to fill this gap.

Most studies in the field of social entrepreneurship are based on case studies (Dart, Clow, Armstrong, 2010; Hoogendoorn, Pennings, & Thurik, 2010; Short, Moss, & Lumpkin, 2009). These are insightful but their results can neither be generalized to other settings nor do they give insight into the difference across country's social entrepreneurship rates. The Global Entrepreneurship Monitor of 2009 contained a special section on social entrepreneurship. This is the first, and up till this moment, the only global data set available on social entrepreneurship. Hence, for the first time, levels of social entrepreneurship activity can be compared across countries and the differences can be analyzed. Little research has been done with this dataset yet. The 2009 annual report of the GEM included a section in which the data was explored, but this analysis only contained descriptive statistics. In a working paper, Hoogendoorn and Hartog (2011) used the GEM 2009 social entrepreneurship data to research the effect of several country characteristics on social entrepreneurship rates and more recently, Estrin, Mikiewicz and Stephan (2013) studied the relationship between social capital, a cultural determinant, and social entrepreneurship. This thesis continues on these two works, but focuses specifically on a set of cultural factors. As this is the first study to provide an account of the relationship between social entrepreneurship and a set of different cultural variables, it has a rather explorative nature. This research does not pretend to provide the complete story of the cultural factors at play regarding the decision to engage in social entrepreneurship. Instead, it looks into some potential factors that could explain the differences in social entrepreneurship rates across countries.

This thesis applies multilevel models to social entrepreneurship. These regression models allow for the inclusion of data with a hierarchical structure. In this case the hierarchical structure derives from the fact that both individual characteristics and country level factors are included. Though multilevel modeling is increasingly found in 'commercial entrepreneurship' research (Block, Thurik, Van der Zwan, & Walter, 2012; Bosma, 2009; Shepherd, 2011), the method has only been used once in the social entrepreneurship literature (Estrin, Mickiewicz, & Stephan, 2013). I explain the multilevel method and show that the use of non-hierarchical models to study

hierarchical data structures has a considerable influence on the results, leading to a high risk of type I errors.

Hence, the contribution of this paper is threefold. First, it is one of the first studies that analyses the cross-country differences in social entrepreneurship activity. Second, it explores the cultural determinants of social entrepreneurship and accordingly presents a foundation for further research into culture and social entrepreneurship. Finally, it provides insights into the application of multilevel models in the field of social entrepreneurship. As such this research is highly relevant for the field of social entrepreneurship research, because it confirms that culture has a significant impact on social entrepreneurship activity and supports the use of multilevel models in the field. Moreover, the results of this study are relevant for national governments and supranational organizations such as the European Union. In these times, when governments reduce their budgets, but many social and environmental issues remain pressing, governments attach high hopes to entrepreneurs to address these issues (Hoogendoorn & Hartog, 2011; Sharir & Lerner, 2006; Zahra et al., 2009). Yet, it is still rather unclear what factors exactly influence the social entrepreneurship rate and accordingly it is hard to tailor policies as to stimulate it. This research shows that besides government expenditures, several cultural factors influence social entrepreneurship activity. Although it may be harder to influence culture than certain political or economic factors, this research emphasizes the importance of culture when designing policies to promote social entrepreneurship.

This thesis begins with an explanation of social entrepreneurship and continues with a section on culture and commercial entrepreneurship. Subsequently, the theoretical framework is outlined, explaining the supply and demand side theory. Then, hypotheses are formulated, followed by a description of the data and the multilevel model. Next, the results are reported, from which it is concluded that confidence in public institutions, self-expression orientated values, prominence of religion, and generalized trust are significantly related to social entrepreneurial activity.

Definition of social entrepreneurship

Although social entrepreneurship has been a popular subject of academic research and several scholars aimed to define social entrepreneurship (Dees, 1998; Peredo & McLean, 2006), there is not yet a generally accepted definition (Hoogendoorn et al., 2010; Sullivan Mort, Weerawardena, & Carnegie, 2003). The area is relatively poor delineated and many are unsure what the exact criteria for social entrepreneurship are (Dart, Clow, & Armstrong, 2010; Galera & Borzaga, 2009). Hence, the concept still means different things to different people (Dees, 1998). Most scholars agree that

social entrepreneurs address social needs, but disagree on the methods these entrepreneurs employ. Particularly, there is no consensus on the extent to which a social entrepreneur can be profit-seeking. Some argue that social entrepreneurs should exclusively have a social goal and that social enterprises are necessarily located in the non-profit sector (Dees, 1998; Defourny & Nyssens, 2008; Sharir & Lerner, 2006). Others argue for a broader perspective on the subject, and claim that the primary goals of social entrepreneurs can be placed along a continuum with non-profit enterprises on one side and profit-seeking companies on the other (Ashoka, 2013b; Austin, Stevenson, & Wei-Skillern, 2006; Elkington & Hartigan, 2008; Galera & Borzaga, 2009). Moreover, while some explicitly underline that social entrepreneurs have to take an innovative and businesslike approach, others put considerably less emphasis on this aspect (Defourny & Nyssens, 2008). Zahra et al. (2009) provide a rather extensive overview of the definitions proposed. In this thesis the definition of the GEM (2010) is adhered to: *Social entrepreneurs are individuals engaged in entrepreneurial activities with a social goal*. This definition is rather broad and covers all activities with a social purpose, including social or community work, and for profit efforts. Accordingly, social entrepreneurship shows overlap with the idea of civil society or third sector, whilst also including businesses and organizations that strive for a social goal.

Culture and entrepreneurship

Culture has been defined as "the collective programming of the mind that distinguishes members of one group or category from people from another" (Hofstede, 1984) or as "stereotyped patterns of learned behavior that are handed down from one generation to the next" (Barnouw, 1979). Culture shapes the actions of individuals by providing them with a certain set of values and a coherent pattern of actions (Stephan & Uhlaner, 2010). Cultural orientations are developed early in life and are modified seldom during one's lifetime (Hofstede, 1984). Hence, cultures change with the influx of new generations and even this change is rather slow, as institutions reinforce the old cultural orientations. Culture influences and is influenced by institutions, where institutions have been defined as 'humanly devised constraints that structure political, economic and social interactions' (North, 1990). It is important to note that distinct cultures exist on many different levels (Stephan & Uhlaner, 2010). Firms, towns, nations and even continents have some kind of cultural identity. In this research, the focus lays on national culture, because this level is most insightful for policymakers and most measurements of culture and values are on the country level. However, it is recognized that subcultures and immigrant cultures exist within a nation.

Because culture cannot be directly measured, the proper measurement of culture is still under academic debate (Hofstede, 1984; Stephan & Uhlaner, 2010). Culture and values are often measured through questionnaires, from which a national score on certain exhibits can be calculated. The most famous attempt to map culture comes from Hofstede (1984), who analyzed data of a large survey of IBM subsidiaries in 40 countries. He constructed five different indices; power distance (PDI), individualism versus collectivism (IDV), masculinity versus femininity (MAS), uncertainty avoidance (UAI) and long-term orientation (LTO). Recently, these indices were criticized, as the methodology would be flawed and the predictive power of the indices low (McSweeney, 2002). The World and European Value Survey (WVS/EVS) are more recent attempts to measure cultural values, using surveys that are randomly distributed in approximately 100 countries. Both Inglehart (2000) and Schwartz (2006) constructed cultural indices from the WVS/EVS. Moreover, researchers can construct their own measures of cultural exhibits as the WVS/EVS data is freely available. In this research, the EVS/WVS measurement of culture is used. Most of the indices are self-constructed, but also Inglehart's survival vs. self-expression index is used.

In the entrepreneurship literature, it is acknowledged that culture has an profound impact on several aspects of entrepreneurship (Hayton, George, & Zahra, 2002) Most research up till now concerns the value orientations developed by Hofstede (1984). Results show that uncertainty avoidance is positively correlated with the prevalence of business ownership, while individualism, power distance and masculinity are negatively related to entrepreneurial activity (Hofstede et al., 2004; Wennekers, Thurik, Van Stel, & Noorderhaven, 2010). Moreover, Uhlaner and Thurik (2007), using Inglehart's four item post-materialism index, show that post-materialism has a negative effect on total entrepreneurial activity. Hayton et al. (2002) provide a detailed overview of the research into the effects of culture on entrepreneurship.

Theoretical background and hypothesis formulation

In this section, first the demand and supply framework is explained. Subsequently, details are provided regarding previous research on the determinants of the demand for social entrepreneurship. Four hypotheses pertaining to the demand-side cultural determinants of social entrepreneurship follow this literature review. Afterward, previous research on supply-side determinants is briefly reviewed. This review is followed by five hypotheses regarding the supply-side determinants of social entrepreneurship.

Social entrepreneurship encompasses many different activities and sectors, including but not limited to health services, education, work integration projects, environmental protection, and

poverty reduction (Elkington & Hartigan, 2008; Hoogendoorn & Linssen, 2013; Mair & Marti, 2006; Sharir & Lerner, 2006). Accordingly, there are many different factors that could affect someone's decision to involve in social entrepreneurship. In the literature on commercial entrepreneurship factors have been split into demand and supply side determinants, where the demand side represents the opportunity or need for entrepreneurship in a certain context and the supply side is determined by the characteristics of the individual under scrutiny (Verheul, Wennekers, Audretsch, & Thurik, 2002; Wennekers et al., 2002; Zwinkels, De Wit, Bosma, & Wennekers, 2000). Thus, the determinants on the demand side are in general environmental factors such as unemployment, while the supply determinants depend on individuals' characteristics and perceptions (e.g. educational attainment). To complicate matters, individuals' perceptions are influenced by environmental factors and environmental factors by individual perceptions. Abdukadirov (2010) and Nicholls (2006) applied the demand and supply framework to social entrepreneurship.

Supply and demand side determinants of social entrepreneurship can be contradictory. For example, it has been argued that GDP can have both a positive and a negative effect on social entrepreneurship rates (Hoogendoorn & Hartog, 2011). On the demand side, GDP is closely related to the extent to which welfare services are provided (Barr, 1992). A weak economic situation would lead to relatively weak welfare states, many unmet needs and a higher demand for social entrepreneurship. Accordingly, the propensity to engage in social entrepreneurial activity would be negatively related to GDP. On the supply side, on the other hand, GDP increases the financial means available to a social entrepreneur to finance the start of an enterprise. Moreover, it has been argued that only when one's own needs are fulfilled, one will turn to the needs of others (Hoogendoorn & Hartog, 2011; Levie & Bosma, 2010). The opportunity costs of social entrepreneurship may simply be too high, when one cannot be sure of one's own survival. Therefore, the supply of social entrepreneurs may be positively related to GDP. Estrin et al. (2013) and Hoogendoorn and Hartog (2011) find evidence that GDP per capita is positively related to social entrepreneurship, suggesting that regarding GDP, the supply side dominates the demand side determinants.

In brief, in line with the entrepreneurship literature it is assumed that the decision of an individual to become a social entrepreneur depends on demand and supply determinants. This research looks at seven cultural factors at the supply and demand side of social entrepreneurship. These factors are outlined in the following two sections.

Demand side theory

The main determinant of demand for social entrepreneurship is the prevalence of unmet needs in society (Zahra, Rawhouser, Bhawe, Neubaum, & Hayton, 2008). The demand for social entrepreneurship is high when government, commercial businesses and civil society are unable or unwilling to fulfill demands. Commercial businesses strive to maximize returns for their shareholders. Although this profit maximization often coincides with the creation of social wealth, market failures such as externalities, imperfect competition, increasing returns to scale and the tragedy of the commons exclude some social needs from commercial interest (Barr, 1992; Bator, 1958). Moreover, many marginalized people are too poor to effectively participate in the market in the first place. As a result, businesses do not fulfill all social and environmental needs. As social entrepreneurs generally regard market failures as opportunities or challenges rather than problems, they can bridge the gap (Austin et al., 2006; Cohen & Winn, 2007).

Commonly, government interventions are regarded desirable when markets fail to fulfill certain societal needs (Barr, 1992). Especially pertaining to public and non-excludable goods, government intervention is often preferred. In modern welfare states, governments provide citizens with a considerable level of services in the areas of education, health care, cash benefits and housing. However, in many countries, particularly developing countries, the quality and quantity of welfare services is inadequate and many pressing social and environmental problems are left unsolved. Here many people live below the poverty line and hence have significant unmet needs, while governments have too little tax revenues to supply the required services. Moreover, the public sector in developing countries is often rather inefficient. Government failures such as corruption, bureaucracy and disagreements between political parties can make it hard to design policies for social programs and timely implement these (Daron Acemoglu & Verdier, 2000).

However, also in modern welfare states governments are neither able nor prepared to fulfill all social and environmental needs. Since the financial crisis, governments of traditional welfare states have been pressured to decrease their budgets and reduce the level of services provided (Zahra et al., 2009). Moreover, the public sector may not have the right people with the right knowledge to solve certain social and environmental problems. Elkington and Hartigan (2008) argue that in general entrepreneurs have a different mindset than politicians. Where politicians see the tremendously big problems, entrepreneurs would think in solutions to small parts of the problem. They would be able to recognize and act upon hidden opportunities for change in the face of scarce resources and risk (Thompson, 2002). Finally, politicians often may follow the median

voter, because they need quick results to increase the chances of being reelected (Weisbrod, 1975). Many of the big societal problems concern marginalized groups of the society and cannot be solved in a four or five year term. Hence, there are many societal needs that the public sector does not address. These needs are in turn opportunities for social entrepreneurs (Zahra et al., 2008).

Behavioral theory suggests that entrepreneurs aspire to solve the problems that are most salient in their own environment (Elkington & Hartigan, 2008; Zahra et al., 2008; Zahra et al., 2009). Therefore, social entrepreneurship does not simply emerge when there are unmet needs, these must be salient in one's mind. Moreover, an individual must see an attainable way to fulfill the need. The extent to which unmet needs are salient in an individual's environment and whether there is an attainable way to fulfill these needs, can hardly be measured directly. However, the confidence in public institutions may be strongly related to it.
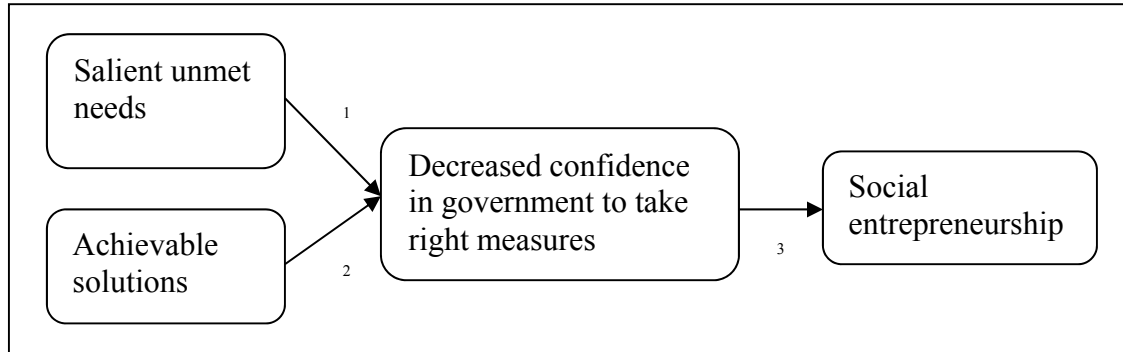
Figure 1 Mechanism linking confidence in public institutions to social entrepreneurship. Arrow 1 and 2 are moderated by the regime type

Confidence in public institutions is to a great extent determined by "the satisfactions that members of a system feel they obtain from the perceived outputs and performance" (Easton, 1975, p.437).[1] Governments are commonly desired to intervene when markets do not perform effectively and companies cannot fulfill basic human needs (Barr, 1992). To what degree governments are expected to get involved in social matters, differs per regime type (Kerlin, 2013; Salomon et al., 2000). In liberal economies such as the U.S., citizens expect less government assistance than in countries characterized by a welfare-partnership regime or social democratic government, such as the Northern European countries. Nevertheless, when governments fail to intervene as desired, individuals may decrease their level of confidence in public institutions. This is particularly the case

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[1] According to Easton (1973) public support consists of specific and diffuse support for government, where specific support refers to satisfaction with the perceived outputs of a government and diffuse support derives from the satisfaction with the governmental system as a whole. Here, confidence in public institutions is considered as specific support rather than diffuse, although it is recognized that the two concepts necessarily overlap.

when individuals feel that solutions to market failures are attainable. The two most left arrows in figure 1 depict this mechanism. In such a case, there is demand for individuals to fulfill those tasks in which the government has failed. If government does not provide the right services, citizens may provide them themselves as to achieve social improvements. The third arrow in figure 1 depicts this mechanism. If individuals base their decision to become a social entrepreneur at least partly on the demand for innovative social solutions, low confidence in governance may well be related to a higher propensity to engage in social entrepreneurship[2].

Hypothesis 1: Social entrepreneurship is negatively related to confidence in public institutions.

Closely related to the functioning of government is the degree of cultural fractionalization. In countries where many ethnic and cultural groups have different needs, government may find it hard to reach an agreement on which public goods to offer, decreasing their provision (Salamon, Sokołowski, & Anheier, 2000). Because governments have incentives to particularly fulfill the needs of the median voter, needs of the marginalized voter may not be met (Weisbrod, 1975). Evidence is indeed found that between-group inequality is significantly and negatively related to public good provision (Alesina, Baqir, & Easterly, 1999; Baldwin & Huber, 2010). As a result, marginalized groups could increase the demand for social entrepreneurship. Moreover, it has been shown that ethnic diversity is related to conflict and decreased economic performance (Alesina & Ferrara, 2004; Easterly & Levine, 1997; Mauro, 1995; Montalvo & Reynal-Querol, 2005). Consequently, ethnic diversity may increase the number of unmet needs in society at large and intensify the demand for social entrepreneurship.

There is no research yet that analyses the link between social entrepreneurship and cultural diversity. In a descriptive data analysis Salamon et al. (2000) find no evidence for a relationship between religious diversity and the size of the non-profit sector. The relationship may however be moderated by omitted variables such as the quality of institutions. Research in the field of commercial entrepreneurship shows that cultural diversity positively affects entrepreneurial activity in the U.S (Dutta, Roy, & Sobel, 2010). The intuition behind this finding is that in a country with good institutions exchange between people with different backgrounds involves the exploitation and

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[2] Confidence in public institutions can be regarded to be both an institutional and cultural determinant of social entrepreneurship (see Easton, 1973). Confidence is measured in the WVS/EVS and refers to an attitude or certain values held regarding institutions. See Easton (1975) for the argument why public support is at least partly determined by culture.

combination of cultural knowledge, spurring new opportunities. The following hypothesis is formulated:

Hypothesis 2: The degree of cultural diversity is positively related to the propensity to engage in social entrepreneurship activity.

Besides the market and the government, there are traditional institutions that influence the extensiveness of unmet needs. Two prominent traditional institutions are family and religion. People of the same family or religious tradition share part of their identity and are to a certain degree expected to take care of each other. Accordingly, in societies where many needs are fulfilled by either family or religious support, the demand for social entrepreneurial activities may be lower than in societies where family and religion are of less importance. Hoogendoorn and Hartog (2011) link the importance of religion and family to collectivism as measured by the Hofstede index. They indeed find that collectivism decreases the prevalence of social entrepreneurship.

The effect of family and religion on social entrepreneurship relates to the concept of social capital. Estrin et al. (2013) connect social entrepreneurship to social capital theory, where social capital is defined as "the ability to access resources through social relations" (p. 3). Social capital can be divided into strong-tie social capital, which refers to the cohesion in small groups and weak-tie social capital, which makes contact and cooperation among members of different groups possible. When family is considered very important, strong-tie social capital is strong. Such strong-tie social capital may substitute weak-tie social capital. Yet, Estrin et al. (2013) show that particularly weak-tie social capital positively affects social entrepreneurship. Therefore, the importance of family may be negatively related to social entrepreneurship. Hitherto the importance of family has not been researched as a determinant of social entrepreneurship. Accordingly, it is hypothesized:

Hypothesis 3: The importance attached to family is negatively related to the propensity to engage in social entrepreneurship activity.

For the importance of religion, similar forces are at play. Smidt (2003) argues that "religion provides social ties of exchange, obligations and trust, which produce social and human capital" (p. 22). Especially when this social capital is of the strong-tie kind, a variety of societal needs are fulfilled by the religious community, resulting in decreased demand for social entrepreneurship.

Moreover, when god is relied upon for support, the extent to which society's demand services may be diminished. Accordingly, it is hypothesized:

Hypothesis 4: The importance attached to religion is negatively related to the propensity to engage in social entrepreneurship activity.

Supply side theory

The supply side of social entrepreneurship looks quite distinct from its demand side. The supply of social entrepreneurs is determined by the number of people that are willing to spend time and resources to set up a social organization or enterprise with a specific social or environmental aim. It has been suggested that only when one's own needs are satisfied, one will turn to the needs of others (Levie & Bosma, 2010). Hence, while the demand for social entrepreneurship is positively related to unmet needs, there is a negative relation between unmet needs and the supply of social entrepreneurship.

Figure 2 Maslow Pyramid of needs (1943)
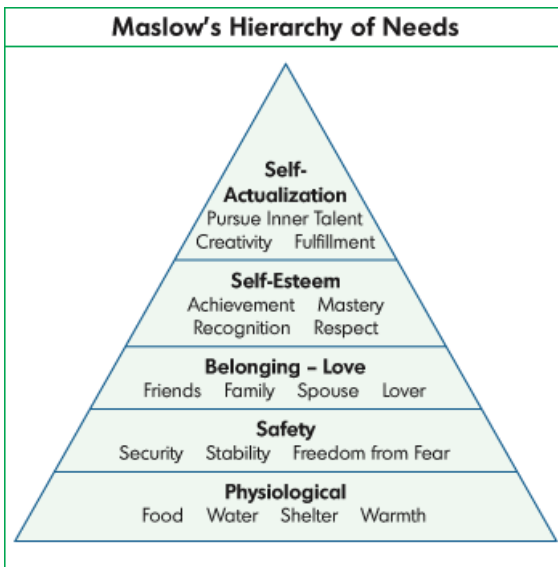
This idea relates heavily to Maslow's pyramid of needs (1943), which is depicted in figure 2. Maslow argued that there is a hierarchy of needs, where one first needs to fulfill basic physiological and safety needs such as food, shelter and stability, before one will attend the needs that are higher in the pyramid such as friends and family, and one level higher: the need for respect by others and self- esteem. When all these needs are fulfilled, individuals would strive for self-actualization, defined as the need for self-fulfillment. The self-actualization stage is characterized by creativity of mind, a well-developed set of values, little attention to social conventions and a focus of problems outside oneself (Heylighen, 1992; Maslow, 1943). Moreover, self-actualizers are willing to listen to, and especially learn from, people of any class, race, age, religion or ideology. These characteristics seem to correspond to those of the stereotype social entrepreneur; the social hero (Elkington & Hartigan, 2008).

Based on the Maslow's hierarchy of needs, it can be argued that the supply of social entrepreneurships is partially determined by the extent to which basic needs are fulfilled and

individuals are self-actualizing. However, it is impossible to test this hypothesis directly, as no direct measurement of self-actualization exists. Moreover, Maslow's pyramid has been criticized because it would have an American bias and cannot explain the self-sacrificing behavior that has been observed in for example concentration camps in the Second World War (Heylighen, 1992).

Inglehart and Baker (2000) argued for a theory that is quite similar to the Maslow hierarchy. However, while Maslow focuses on needs, they emphasize personal values. They show that when societies experience industrialization and economic growth, the values prevalent in those societies develop from survival towards self-expression orientated. Self-expression values put emphasis on environmental protection, tolerance of diversity, and participation in decision making in economic and political life; all values that seem conducive to social entrepreneurship supply. Moreover, there is a parallel between Maslow's self-actualization and Inglehart's self-expression values. Both emphasize that individuals turn to problems outside of themselves when basic survival needs are fulfilled. It may be that the positive relationship between GDP and social entrepreneurship found in earlier work is partly due to the change in values from survival to self-expression orientated, as the shift from survival to self-expression values follows GDP (Inglehart & Baker, 2000).

Hypothesis 5: There is a positive relationship between the prevalence of self-expression values in society and the propensity to become a social entrepreneur.

Above it was argued that the importance of family may have a negative effect on the demand for social entrepreneurship. On the supply side, the importance of family may actually increase social entrepreneurship. Family can provide individuals with a certain safety net, decreasing the opportunity cost of engaging in social entrepreneurial activities. Moreover, family can provide resources that can make it easier to start-up a social enterprise. Research on commercial entrepreneurship shows that family ties may influence the supply of entrepreneurship, as family often provides resources for the start-up of an enterprise (Aldrich & Cliff, 2003). Hence, a decrease in the importance of family may lead to difficulties in mobilizing resources for social entrepreneurial activities. It should however be noted that social entrepreneurs rely relatively little on family resources (Elkington & Hartigan, 2008; Shaw & Carter, 2007); therefore, a decrease in the importance of family probably leads to a rather small effect on the supply of social entrepreneurs. Yet, the following hypothesis is formulated:

Hypothesis 6: The importance of family is positively related to the propensity to engage in social entrepreneurial activity.

Above it was hypothesized that religion is negatively related to the demand for social entrepreneurship. In societies in which religion plays an important role, the church can be relied on for social support, decreasing the demand for social entrepreneurship (Hoogendoorn, Van der Zwan, & Thurik, 2011). On the other hand, religion, and particularly certain religious values, can be a motive to involve in social entrepreneurial activities (Nicholls, 2006; Salamon & Anheier, 1998). Most religions emphasize values of honesty, compassion, cooperation and mercy. It has been argued that religion elevates people's concerns above purely materialistic ones (De Tocqueville & Frohnen, 2003). Church congregations in the U.S. play an important role in organizing social activities and services (Smidt, 2003). Likewise, religious values may induce individuals to engage in social entrepreneurship. Social entrepreneurship would be one of the many ways in which one can express religious values such as compassion, cooperation, moderation and support of the poor.

The extent to which these values are prominent within a religion and increase social entrepreneurship, may differ across religions. Religions that are rather closed off from other groups in the society may be less inclined to help members outside of their own religious group. Such religions are characterized by strong in-group cohesion and in accordance with social capital theory; members can sometimes exclude or be hostel to outsiders. On the other hand, religions that function at the heart of society and value cooperation and compassion are rich in weak-tie social capital. According to Estrin et al (2013), weak-tie social capital decreases transaction costs, prevents exclusion from certain markets, and increases mobility and as a result, weak-tie social capital supports social entrepreneurship. Involvement in religious associations is correlated with volunteering and charitable contributions for both secular and religious organizations (Jackson, Bachmeier, Wood, & Craft, 1995; Lam, 2002). Especially, Protestantism, characterized by the appeal to treat all people morally, appears to be related to extensive involvement in civil society (Lam, 2002; Weber, Tawney, & Parsons, 1930). Accordingly, I assume that in most cases religions are rather strong in weak-tie social capital and can increase the supply of social entrepreneurs. Hence, the following hypothesize is articulated:

Hypothesis 7: The importance of religion is positively related to the propensity to engage in social entrepreneurial activity.

Generalized trust influence the supply of social entrepreneurs. Trust is defined as the belief that others will not hurt us if they can avoid doing so and will look after our interest if they can (Delhey & Newton, 2005; Newton, 2001). Generalized trust is a specific sub-class and concerns impersonal trust between strangers. Do people *in general* have good intentions? Or will they not hesitate to take advantage of others? Today's world is characterized by an abundance of prisoner's dilemmas. Communities in which generalized trust is high, can more easily surpass these collective dilemmas. Therefore, it has been argued that generalized trust promotes economic performance, government efficiency, social integration, civic engagement, and personal life satisfaction (Brehm & Rahn, 1997; Delhey & Newton, 2005; Fukuyama, 2001; Putnam & Leonardi, 1993).

Generally, social entrepreneurship involves cooperation and accordingly trust. For example, the Grameen Bank provides individuals with credit without collateral. Individuals, mostly woman, are expected to make good use of the credit and are trusted not to default on these loans (Hossain, 1988). Social entrepreneurship aims to 'make the world a better place' and accordingly relies on the belief that the world *can* be a better place. It involves the belief that people are inherently good and competent. Furthermore, generalized trust is closely related to the concept of weak-tie social capital and is even used as a measurement proxy for it (Fukuyama, 2001). As is argued above, weak-tie social capital may be conducive to social entrepreneurial activity. Estrin et al. (2013) tested the relationship between generalized trust and social and commercial entrepreneurial activity. They found that generalized trust supports social entrepreneurial activity, but does not have an effect on commercial entrepreneurship. Finally, data from the World and European Value Survey show that the levels of generalized trust are rather unevenly distributed across the globe (Delhey & Newton, 2005). Accordingly, generalized trust could help explain the varying levels of social entrepreneurship.

Hypothesis 8: The level of generalized trust in a country is positively related to the propensity to engage in social entrepreneurial activity.

Finally, the risk profile of individuals may influence their propensity to become a social entrepreneur.[3] Parker (2009) showed that commercial entrepreneurs score generally lower on risk-aversion measurements than the average citizen. Similar results have been found for social

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[3] Fear of failure is partly culturally defined. Hofstede (1984) created the uncertainty avoidance dimension to measure this specific element of culture. In our sample the percentage of people that are characterized as risk-averse differ considerably per country. Whereas in the Netherlands only 23.45% of the respondents answers that fear of failure would prevent them from starting a business, this percentage is 53.58 in Greece.

entrepreneurs (Harding & Cowling, 2006; Mort, Weerawardena, & Carnegie, 2003; Zahra et al., 2008). The results of the 2006 UK Social Entrepreneurship Monitor show that though social entrepreneurs are less risk-averse than the general UK population, they are more afraid of failure than their commercial counterparts (Harding & Cowling, 2006). Likewise, Hoogendoorn, Van Der Zwan and Thurik (2011) find that social entrepreneurs are particularly more afraid of bankruptcy and personal failure, such as losing their credibility or damage their social network, than commercial entrepreneurs. However, they find no evidence of a difference in attitudes towards the risk of job insecurity or loss of personal income. In general, it can be expected that social entrepreneurs are less risk-averse than the general population, albeit slightly less risk-neutral than commercial entrepreneurs. Accordingly, the following hypothesis is formulated:

Hypothesis 9: A risk of failure negatively relates to the propensity to engage in social entrepreneurial activity.

Data and methodology

The main data source for this research is the Global Entrepreneurship Monitor (GEM) 2009. This is the first survey that measured social entrepreneurship globally. The GEM 2009 provides a harmonized dataset that makes cross-country comparison possible. A total of 49 countries participated in the GEM 2009. In each country at least 1500 randomly selected adults participated in the interviews which were conducted either on the phone or face-to-face[4]. The GEM measures *self-declared* (social) entrepreneurship and hence it has a subjective nature. The questionnaire is designed as to reduce the bias resulting from this subjectivity by means of the inclusion of clarification and verification questions. The data is supplemented with several country variables, most deriving from the World and European Value Survey.

Dependent variable

The dependent variable in this research measures whether an individual is engaged in social entrepreneurship. The variable is a dummy, which is one if an individual is engaged in social entrepreneurship and zero otherwise. The questions on social entrepreneurship included in the 2009 GEM are used to construct the variable, which is operationalized in two ways. The first variable

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[4] In most countries, the sample consists of 2.000 respondents. However, the Moroccan sample includes only 1.500 respondents, while the samples of the U.K. and Spain are considerably larger than 2.000 respondents (30.002 and 28.888 respectively).

measures all social entrepreneurship, while the second only measures young and nascent entrepreneurship.

The 2009 GEM identifies social entrepreneurs with the following question: "*Are you, alone or with others, currently trying to start or currently owning and managing any kind of activity, organization or initiative that has a particularly social, environmental or community objective? This might include providing services or training to socially deprived or disabled persons, using profits for socially orientated services, organizing self-help groups for community action, etc*". If an individual answers yes to this question, a follow-up question is asked to filter out individuals that are trying to start a social enterprise, but have not yet taken any steps. Merely a serious thought on establishing a social business, does not qualify as social entrepreneurship. Subsequently, questions are asked verifying whether the respondent has an active role in the organization and enquiring about revenue models and innovativeness. I refer to Lepoutre, Terjesen, Justo and Bosma (2013) for more information on the exact methodology. On the basis of the answers, the GEM divides social entrepreneurial activity up into several categories: nascent, new, early-stage, established and total social entrepreneurial activity (Lepoutre et al., 2013). These categories correspond to those used by the GEM to categorize commercial entrepreneurship. Table 1 provides an overview of what the categories entail.

My first measure of social entrepreneurship, the general social entrepreneurship activity (GSEA), includes all social entrepreneurs. It combines total early stage social entrepreneurial activity and established social entrepreneurs, and is a rather broad measure of social entrepreneurship. The GSEA measure includes social businesses founded more than a century ago and entrepreneurs that are just taking steps to set up their organization. This could be problematic. This research studies the propensity of individuals to engage in social entrepreneurship considering several cultural factors. However, those businesses that are more than a century old were founded in a different environment with a different culture. Accordingly, the establishment of these older social enterprises can hardly be explained by looking at today's culture. The second measure of social entrepreneurship, addresses this problem, as it only includes total social entrepreneurship activity (SEA), the social equivalent of the TEA. As a result, companies older than 3.5 year are excluded. The disadvantage of the SEA measure is that for some countries the number of social entrepreneurs becomes very limited (2 for Malaysia, 6 for Brazil, 6 for Morocco). Therefore, both measures are reported for comparison.

Table 1: GEM indicators for entrepreneurship (Reynolds et al., 2005)

GEM variable	definition
Total early-stage Entrepreneurial Activity (TEA)	% of 18-64 population who are either a nascent entrepreneur or owner-manager of a new business
New Business Ownership Rate	% of 18-64 population who are currently a owner-manager of a new business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than three months, but not more than 42 months
Nascent Entrepreneurship Rate	% of 18-64 population who are currently a nascent entrepreneur, i.e., actively involved in setting up a business they will own or co-own; this business has not paid salaries, wages, or any other payments to the owners for more than three months
Established Business Ownership Rate	% of 18-64 population who are currently owner-manager of an established business, i.e., owning and managing a running business that has paid salaries, wages, or any other payments to the owners for more than 42 months

Across all countries included in the sample, 4.6% of the adult population is engaged in social entrepreneurship (GSEA) and a total of 3.3% is nascent or baby entrepreneur. Figure 3 and 4 depict the GSEA and SEA rates per country. The bar charts show that there is considerable variation across countries. In Norway 13.9% of the adult population is engaged in SEA, whereas the SEA rate is only 0.3% in Malaysia. For a more detailed description of the data I refer to Lepoutre et al. (2013) and Hoogendoon and Hartog (2011).
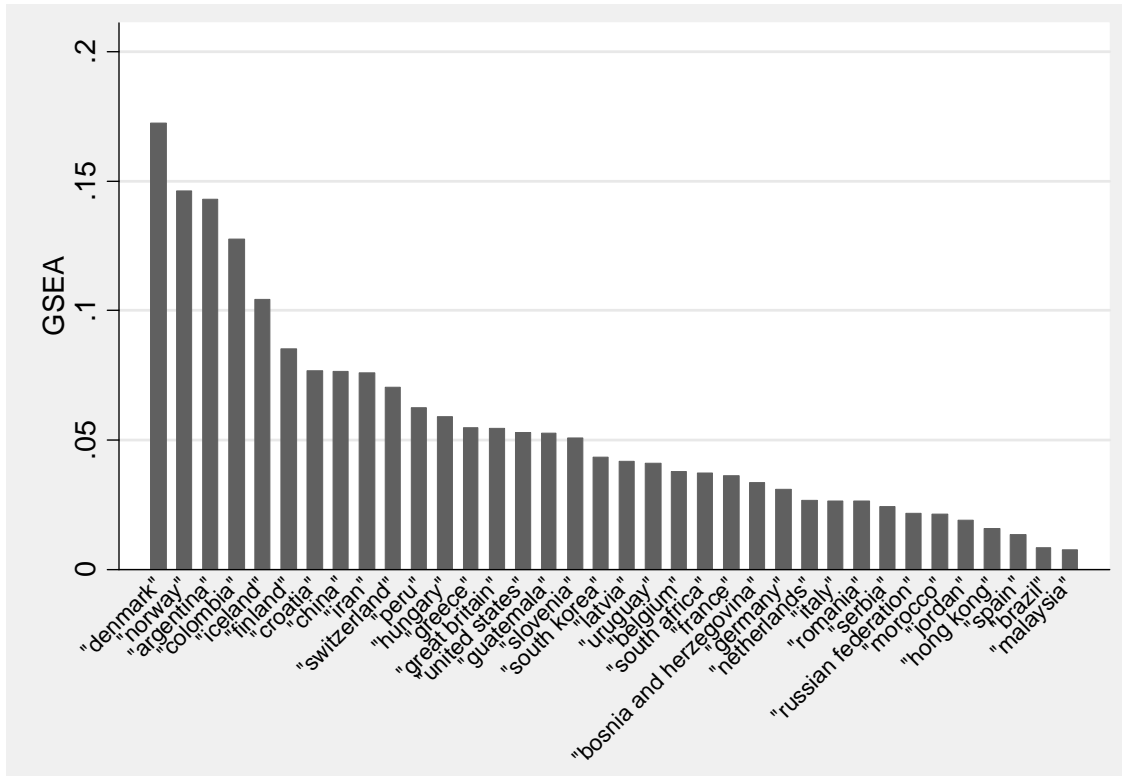
Figure 3: GSEA rates per country
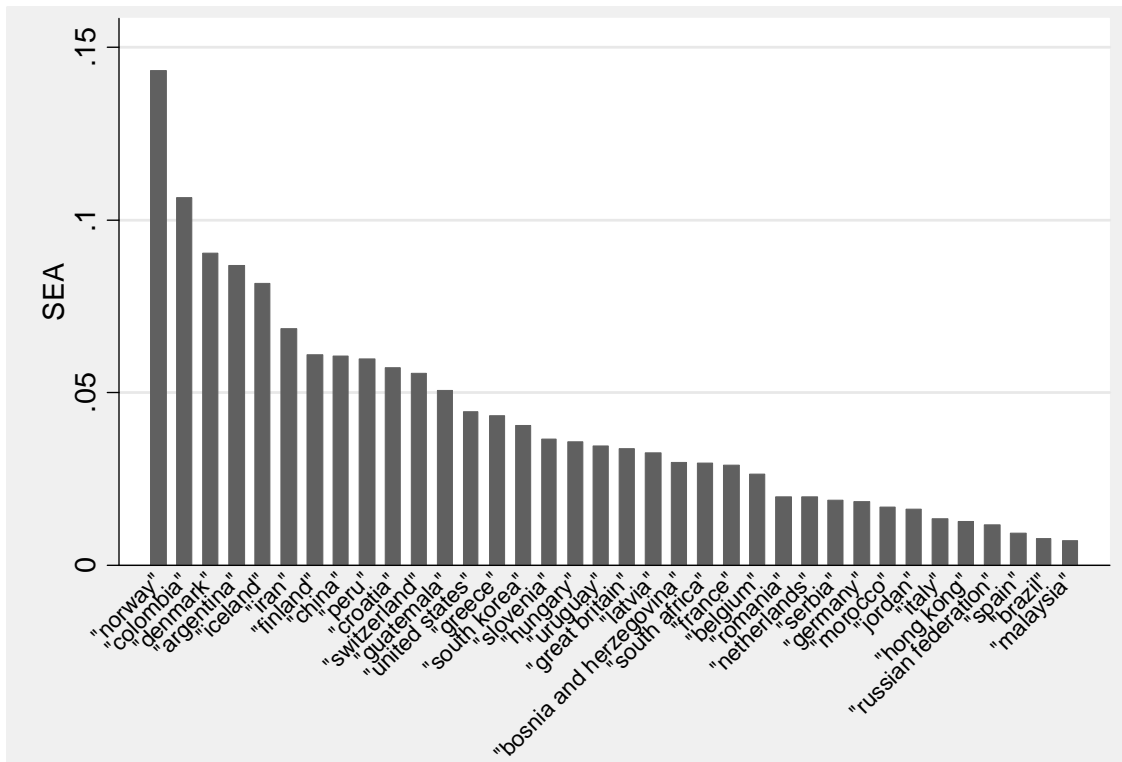
Figure 4 SEA rates per country
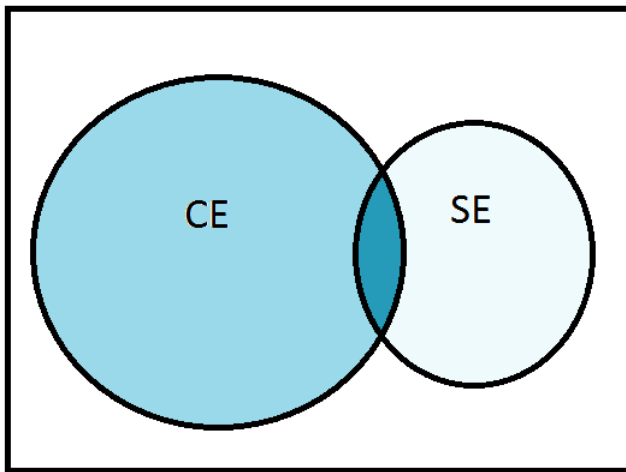
Figure 5: Social entrepreneurs, commercial entrepreneurs and the overlap between them.

The GEM questionnaires measure social and commercial entrepreneurship in two different sections. Accordingly, the sample can be divided into non-entrepreneurs, social entrepreneurs and commercial entrepreneurs. In figure 5, non-entrepreneurs are depicted as the white square excluding the two circles. Commercial entrepreneurs are represented by the left circle and social entrepreneurs by the right. The figure clearly shows that there is some overlap between commercial and social entrepreneurship. A total of 968 individuals that answered positive to the question on commercial entrepreneurship, refer to the same company when they are asked about their social entrepreneurship activity (see figure 3). This overlap is likely when a social entrepreneur manages an organization centered on a conventional business model. These individuals are included in the sample, because they fit in with the definition of social entrepreneurship proposed earlier. Moreover, there is little reason to expect that these entrepreneurs exhibit characteristics very different from those social entrepreneurs that do not answer positively to the question on involvement in commercial entrepreneurship. Table A2 in the appendix shows that the entrepreneurs that are classified as both social and commercial entrepreneurs, do not unambiguously belong to one of two groups.

Research shows that entrepreneurs have different characteristics than both the general population and social entrepreneurs, where the characteristics of the general population seem closer to those of social entrepreneurs than to the characteristics of commercial entrepreneurs (Hoogendoorn et al., 2011; Parker, 2009). Therefore, commercial entrepreneurs are first excluded from the sample. In these first models, the propensity to engage in social entrepreneurial activities relative to not being an entrepreneur is analyzed. Next, non-entrepreneurs are excluded from the sample as to determine what factors influence the decision to become a social rather than exclusively a commercial entrepreneur.

Independent variables

The main data source for the independent variables on country level is the World Value Survey (WVS) and European Value Survey (EVS). These surveys enable a cross-country comparison of

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values and norms on a wide variety of topics. Respondents are selected randomly and interviewed face-to-face. The 5th wave of the survey (2005-2008) included 54 countries in all six continents. A total of 36 of these are also included in the GEM 2009 (see appendix for list). Culture changes, albeit slowly (Inglehart & Baker, 2000; Schwartz, 2006). Therefore, only the 5th wave of the WVS and EVS is used, as the years in which these are administered are closest to 2009, the time that social entrepreneurship is measured. The answers of individuals are averaged to obtain country level variables.

Multiple item measures are often preferred when considering answers on questionnaires (Churchill Jr, 1979; Peter, 1979). Multiple item measures would have a lower measurement error and can capture more information. The latter is particularly relevant when the concept being measured is complex. However, for concepts that are concrete and "easily and uniformly imagined", single item measures are preferred, as to avoid tapping into other predictive features (Bergkvist & Rossiter, 2007). In this thesis both, single-item and multiple-item measures are used, where the choice for any of the two depends on both the availability of items in the EVS/WVS and the concreteness of the concept.

The concept 'confidence in public institutions' is rather complex and can imply different things to different people, because it concerns many different bodies. Hence, a multiple-item measure is constructed out of the answers to the questions measuring the extent to which individuals have "a great deal" (1) or "quite a lot" (2) of confidence in government, political parties and parliament. This index has been developed exclusively for this thesis. If an individual allocates less than six points in total to these measures, the dummy confidence variable is one; otherwise the dummy is zero. These dummies are averaged for the 36 countries included in the GEM to get a percentage of people that trust the public sector for every country[5]. The importance of family in life is a more concrete concept and hence a single-item measure is preferred. Moreover, there are few questions included in the EVS/WVS that strongly relate to the concept. The variable is measured by the answer to the question: *"How important is family in your life?"*. The variable measures for each country the percentage of people that answer that family is very important. Prominence of religion is quantified using a multiple-item index designed especially for this thesis. The EVS/WVS includes many questions measuring different aspects of religion. A combination of these measurement points may approximate the true prominence best. The answers on questions on church attendance, confidence in church, importance of god and importance of religion are

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[5] See the appendix for an elaborate description of how the confidence in public institutions variable is constructed.

combined[6]. These four items are chosen because of their high correlations with each other and other items that relate to religion and god. Dummies measuring whether an individual is religious are averaged to get the percentage of people for whom religion plays an important role in life. Generalized trust is evaluated by a single-item: "*Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?*" There are no other questions in the EVS/WVS that directly measure generalized trust. Moreover, this variable is widely used in research on generalized trust (Delhey & Newton, 2005; Estrin et al., 2013; Newton, 2001). The trust variable measures the percentage of respondents that believe that most people can be trusted.

The survival vs. self-expression index constructed by Inglehart and Baker (2000) is included to test the fifth hypothesis. This index is constructed out of the answers to five questions in the WVS/EVS surveys (table 2). The index correlates with many other items in the WVS/EVS that relate to survival vs. self-expression values, e.g. '*respondent believes that men make better politicians than woman*', '*respondent has not recycled things for the environment*' and '*respondent rejects foreigners, homosexuals and people with aids as neighbors*'. The variable varies from -1.55 for Romania to 2.17 for Norway. For some countries the index was not available for the 5th wave and therefore data of the 4th wave is used instead for these countries. Because Inglehart and Baker (2000) argue that survival vs. self-expression values are highly correlated with income, the index is corrected for GDP per capita. Following Hoogendoorn and Hartog (2011), an OLS model is estimated with the survival vs. self-expression index as dependent variable and GDP as independent variable: Self-expression (GDP) = $\beta_0 + \beta_1 * GDP + u$. The residuals of this model are the survival vs. self-expression values corrected for GDP per capita.

Table 2: Construction of survival vs. self-expression index. Survival values emphasize the following, self-expression values emphasize the opposite.

Respondent gives priority to economic and physical security over self-expression and quality-of-life
Respondent describes self as not very happy
Respondent has not signed and would not sign a petition.
Homosexuality is never justifiable
You have to be very careful about trusting people.[7]

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[6] See the appendix for an elaborate description of how the prominence of religion variable is constructed.

[7] The trust component of Inglehart and Baker's (2000) self expression index is based on the same question that measures generalized trust. However, the correlation between the self-expression index and the single item generalized trust variable is rather low, justifying the inclusion of both variables.

The degree of cultural fractionalization is measured by the index of ethnic fractionalization (EF), calculated by Fearon (2003). The index measures the probability that two randomly selected individuals do not belong to the same ethnic group, where groups are identified primarily along the lines of language.

$$EF = 1 - \sum_{i=1}^{n} p_i^2$$

$p_1, p_2, p_3, \dots, p_n$ = *the population shares of the ethnic groups in a country*

The EF index is strongly correlated to the ELF index, which is also used to measure ethnic fractionalization, but covers more countries (34 out of the 36 countries in the sample). In addition, Fearon constructed a cultural diversity index measuring the cultural distance between groups based primarily on linguistic similarities[8]. However, this cultural fractionalization index is more subjective than the ethnic fractionalization index. Therefore, this thesis reports the EF values, though results change little when the cultural diversity index is included instead (see appendix, table A5).

The following question on risk-aversion is included in the GEM 2009. *Would fear of failure prevent you from starting a business?* A dummy variable on the individual level is based on this question. If respondents answer positive to this question, the dummy is one. If they answer negative, the dummy is zero. [9]

Control variables

Several factors have already been identified that influence the probability that an individual becomes a social entrepreneur. Therefore, these factors are included in the regression models as control variables. First, age has been found to influence the decision to become a social entrepreneur (Estrin et al., 2013; Hoogendoorn & Hartog, 2011). Research into commercial entrepreneurship indicates the existence of an inverted U-shape relation between age and entrepreneurship (Kelley, Singer, & Herrington, 2012; Parker, 2009). This inverted u-shape relationship has also been found in research into social entrepreneurship (Harding & Cowling, 2006; Levie & Bosma, 2010). However, Hoogendoorn, Van Der Zwan and Thurik (2011),

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[8] The mean of the cultural fractionalization index is lower than that of the EF index and the correlation between the ethnic and cultural fractionalization indices is high (0.74 for the sample).
[9] The mean of the fear of failure variable is not included in the regression. The small number of countries included in the analysis only allows for a limited number of independent variables on the country level. A log likelihood ratio test showed that the model did not improve with the inclusion of a variable measuring the % of people that were risk-averse.

analyzing the Flash Eurobarometer Survey on Entrepreneurship, report a normal u-shape relationship. Secondly, males are more likely to become social entrepreneurs than females, although the gender gap is smaller than when considering commercial entrepreneurship (Bosma & Levie, 2010; Harding, 2006; Hoogendoorn, Van Der Zwan & Thurik, 2010). Thirdly, level of education is likely to have a positive influence on the choice for social entrepreneurship. In the literature on commercial entrepreneurship, there is evidence that education increases entrepreneurial activity (Estrin et al., 2013; Reynolds, Hay, & Camp, 1999), although Van der Sluis, Van Praag and Vijverberg (2004) show in a meta-analysis that the evidence is not conclusive. Several researchers found that secondary or higher education has a positive effect on the probability that an individual engages in social entrepreneurial activity (Bosma & Levie, 2010; Estrin et al., 2013; Harding, 2006). Thus, the control variables on the individual level include age in years, gender (1 if respondent is male, 0 otherwise) and education (1 if respondent followed some kind of upper secondary secondary, 0 otherwise). These variables derive from the GEM 2009 database. [10]

Previous studies show that on the country level government spending is positively related to the supply of social entrepreneurs (Hoogendoorn & Hartog, 2011; Nicholls, 2006; Salamon et al., 2000). In Europe and the U.S., governments often finance or partner with social entrepreneurs, because governments are aware of the inefficiencies that public sector solutions often entail (Hoogendoorn & Hartog, 2011; Nicholls, 2006). Furthermore, there is evidence that GDP is positively related to social entrepreneurship (Hoogendoorn & Hartog, 2011). Data on these two control variables on country level originate from the WorldBank database. The logarithm of GDP per capita is taken to linearize the relationship. In line with previous research, public health expenditures are taken as a proxy for government expenditures. Health expenditures are measured as a percentage of GDP to avoid multicollinearity (Freytag & Thurik, 2010; Hoogendoorn & Hartog, 2011). In table 4 an overview of all variables is depicted. In the appendix (table A2), correlation matrices are provided for the individual level and country level variables, showing that little problems concerning multicollinearity can be expected.

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[10] The mean level of the individual level variables are not included in the model, because only a limited number of country level variables could be included and a likelihood ratio test showed that the model did not improve when the country means were added.

Table 3 Overview of all variables

Dependent Variable (micro level)		
All social entrepreneurship activity (GSEA)	GEM 2009	Dummy, 1 if social entrepreneur, 0 otherwise
Total Early Social Entrepreneurship Activity (TEA)	GEM 2009	Dummy, 1 if social entrepreneur, 0 otherwise
Independent variable (individual level)		
Fear of Failure	GEM 2009	Dummy, 1 if fear of failure would prevent one from setting up an enterprise
Gender	GEM2009	Dummy, 1 if individual is male, 0 otherwise
Age	GEM 2009	Age in years
Educational attainment	GEM 2009	Dummy, 1 if individual enjoyed higher secondary or tertiary education, 0 otherwise
Independent variable (country level)		
Confidence in public sector	EVS/WVS	% that has confidence in government, political parties and parliament
Importance of family	EVS/WVS	% that find family "very important"
Prominence of religion	EVS/WVS	% for whom religion plays an important role in life
Trust	EVS/WVS	% that agree "most people can be trusted"
Survival vs self-expression	EVS/WVS	Inglehart's survival vs. self-expression index (ranging from -2.5 to 2.0)
GDP	WorldBank	GDP per capita in $, log transformed
Health Expenditures	WorldBank	As a % of GDP

Multilevel analysis

In this thesis all but one of the hypotheses concern variables at the country level. However, the dependent variable, that is the decision of an individual to engage in social entrepreneurship, is on the individual level. Moreover, the fear of failure and most control variables are on the individual level. In the past similar research questions have tackled with varying research designs (Snijders & Bosker, 1999). For example, a logit or probit model can be estimated. In such a model the country data are simply added to the individual observations. However, there is one considerable problem with such a research design: errors within each macro level, here countries, are likely correlated, violating the assumption of independent and identically distributed standard errors. In our data, individuals living in the same country are expected to share certain unobserved characteristics and experiences. Hence, it can be expected that they exhibit behavior that is more similar to one another than to citizens of other countries. Accordingly, in such a research design the sample size is exaggerated, because data is treated as if all observations in the dataset are independent, while this is clearly not the case. This leads to a large risk of committing type 1 errors.

Another way of handling hierarchical structured data is to aggregate the data on the individual level to country level, removing the hierarchical structure from the data (Snijders & Bosker, 1999). This method is perfectly sound if analyzing the social entrepreneurship rates across countries. However, that is not the aim of this research. The research question involves the decision of individuals to become social entrepreneurs, which clearly is a variable on the individual level rather than country level. In this case, a shift of meaning would take place when aggregating the data, because we analyze macro data while wanting to conclude outcomes on the individual level. This would easily lead to an error known as the ecological fallacy: making inferences about individuals by looking at data concerning the group of which these individuals are part.

Yet another way is to first perform a logistic regression including only the variables on the individual level and a set of country dummies. Next, one can perform an OLS regression to explain the variance in the coefficient of the country dummies using the variables on the country level. This technique is problematic, because it treats the coefficients as fixed, while actually they lay in a confidence interval and may deviate from the reported coefficient. As a result, such an analysis provides estimates that are too conservative and can lead to type 2 errors.

Finally, data with a hierarchical structure can be modeled with a multilevel model, also called a hierarchical model (Snijders & Bosker, 1999). In these models the total variance is divided into the between-group variance, based on the deviations of group means from the mean of all observations, and the within-group variance, based on the divergence of observations on the individual level from group means. From these two variances, the variance partition coefficient can be calculated, measuring the proportion of variance that is due to between group effects (See figure 5, where σ_u^2= between-group variance and σ_ϵ^2= within-group variance).

$$VPC = \frac{\sigma_u^2}{\sigma_\epsilon^2 + \sigma_u^2}$$

The multilevel model is preferred in this thesis, because it is not associated with the faults mentioned above. The sample size of 36 countries with on average 3538 observations for each country is large enough to apply this method (Maas & Hox, 2004). Moreover, several statistical tests support the use of a multilevel model. The variance partition coefficient for the data is 19.95% and 18,3% for the GSEA and SEA respectively. In other words, 18.3% of the variance in SEA can be attributed to between country differences. Moreover, the between-group variance is highly significant (p=0.000), endorsing the use of a multilevel model. Likewise, a Wald test shows that a multilevel model is preferred to a normal logistic regression.

A random intercept model with two levels is applied in this thesis. In such a model the intercepts are allowed to vary across countries, while the slopes stay equal for each country. The random components U_j and R_{ij} have to follow a normal distribution with normal means. Because the dependent variable is binary, a multilevel logistic model is employed. Similar to in a conventional logistic model, the coefficients need to be interpreted as log odds.

$$Y_{ij} = \beta_0 + \beta_1 x_{ij} + \beta_2 z_j + \beta_3 z_j x_{ij} + x_{ij}U_{1j} + U_j + R_{ij}$$
y_{ij} = log odds that individual is social entrepreneur
x_{ij} = independent variable on the individual level
z_j = independent variable on the country level
β_0 = average intercept
$\beta_{1,2}$ = slope of $x_{ij,}$ z_{ij}
U_j = specific effect of the country
R_{ij} = residual effect for the individual

Results

Table 4 shows the results of four multilevel models, comparing social entrepreneurs with individuals not engaged in entrepreneurship. In the first and second model GSEA is the dependent variable, whereas SEA is the dependent variable in the third and fourth model. In the first and third model the country level control variables are not included, in the second and fourth they are. Although previous studies found a U-shape relationships between GDP and social entrepreneurship (Hoogendoorn & Hartog, 2011), a Fieller interval shows that there is no evidence of such a U-shape relationship in this sample. However, the relationship between age and social entrepreneurship does follow a U-shape. Therefore, a quadratic term for age is included in the models. The correlation table and a VIF analysis showed that there are no problems concerning multicollinearity[11].

The results of model one, two and four support the first hypothesis. Thus, confidence in public institutions is negatively related to the probability that an individual becomes a social entrepreneur. The inclusion of the country control variables here influences the coefficient of confidence in public institutions. As confidence in public institutions is negatively related to health expenditures and GDP and these variables in turn negatively affect SEA, the variable confidence in public institutions includes both the effect of the confidence level and health expenditures. In the end, the two effects cancel each other out, explaining the insignificant result for the confidence variable in the third model.

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[11] When an OLS regression is performed including all variables, the mean VIF is 1.16 and the maximum VIF is 1.41.

Table 4: Results multilevel regressions, decision to engage in (G)SEA or no entrepreneurial activities

Dependent variable	GSEA		SEA	
	(1)	(2)	(3)	(4)
Age	0.067	0.067	0.063	0.063
	(11.88)***	(11.86)***	(9.46)***	(9.44)***
Age Sqr	-0.001	-0.001	-0.001	-0.001
	(13.44)***	(13.41)***	(11.87)***	(11.84)***
Gender	0.473	0.473	0.481	0.481
	(16.68)***	(16.68)***	(14.55)***	(14.55)***
Secondary/higher education	0.741	0.743	0.663	0.666
	(25.16)***	(25.22)***	(19.22)***	(19.30)***
Fear of Failure	-0.055	-0.056	-0.07	-0.071
	(-1.6)	(-1.6)	(1.74)*	(1.75)*
Conf. in public institutions	-1.386	-2.86	-1.164	-2.682
	(1.78)*	(3.90)***	(-1.45)	(3.56)***
EF	-0.017	-0.17	0.199	0.033
	(-0.03)	(-0.35)	(-0.33)	(-0.07)
Importance of family	-1.408	-0.425	-1.342	-0.324
	(2.13)**	(-0.72)	(1.97)**	(-0.54)
Prominence of religion	0.597	-0.066	0.715	0.005
	(-1.08)	(-0.12)	(-1.25)	(-0.01)
Generalized trust	2.458	3.56	2.44	3.597
	(2.56)**	(4.21)***	(2.46)**	(4.13)***
Surv. Vs. Self-expression	0.034	0.463	0.065	0.506
	(-0.28)	(3.24)***	(-0.52)	(3.43)***
GDP		-0.524		-0.555
		(2.76)***		(2.84)***
Health Expenditures		-11.989		-11.929
		(2.81)***		(2.71)***
Cons.	-0.521	-0.738	-0.491	-0.712
	(4.09)***	(5.68)***	(3.82)***	(5.38)***
Var(Cons.)	-0.615	-0.722	-0.559	-0.64
	(4.88)***	(5.72)***	(4.41)***	(5.02)***
N, observations	122,142	122,142	122,142	122,142
N of countries	34	34	34	34

General Social Entrepreneurial Activity (GSEA), measures all entrepreneurial activity, i.e. established business owners, nascent and baby entrepreneurs, while Social Entrepreneurial Activity (SEA) only includes the latter two categories. EF stands for ethnic fractionalization.
t-statistics are reported in brackets under the regression coefficients.
Significance is denoted as: *p*<0.1; ** *p*<0.05; *** *p*<0.01.

The second hypothesis, that is the degree of ethnic fractionalization is positively related to the propensity to engage in social entrepreneurship activity**,** is not supported. None of the EF-coefficients are significant and when GSEA is the dependent variable, the effect is even negative

instead of positive. Thus, there is no evidence that ethnic fractionalization is positively related to social entrepreneurship. Nevertheless, it could be that the effect of cultural fractionalization on social entrepreneurship is moderated by the quality of institutions that are not included in this study.

The effect of the importance of family is negative, but insignificant in the models with country control variables. Hence, there is no evidence of either a positive or negative effect of the importance of family on social entrepreneurship. In the models one, three and four the prominence of religion has a positive, but insignificant, effect on the propensity to become a social entrepreneur. Thus, there is no evidence for hypothesis four and seven. It could be that because family and religion influence social entrepreneurship both from the supply side (positive effect) and the demand side (negative effect), the two effects cancel each other out. Hence, the coefficients are insignificant.

Furthermore, all models show that there is a positive relationship between the prevalence of self-expression values and the propensity to become a social entrepreneur, supporting hypothesis five. The coefficients are insignificant in the models without controls. This could be due to the positive correlation between the survival vs. self-expression index and GDP per capita and health expenditures. Hence, when these two control variables are not included in the model, the coefficient of the index includes both the positive effect of the index itself and the negative effect of GDP and health expenditures. The two effects cancel each other out, leading to an insignificant coefficient. The eighth hypothesis, that is the level of generalized trust is positively related to the propensity to engage in social entrepreneurial activity, is supported in all models. Finally, fear of failure negatively influences the probability that an individual becomes a social entrepreneur, but these results are only significant in the last model at the 10% level. Because this effect is only found in the fourth model and is only marginally significant, the ninth hypothesis is not accepted.

Concerning the control variables, the results show an inverse u-shape relationship between age and both GSEA and SEA. Moreover, being male rather than female and having enjoyed at least secondary education positively affects the probability that someone is a social entrepreneur. In contrast to earlier work (Estrin et al., 2013; Hoogendoorn & Hartog, 2011), GDP per capita negatively affects social entrepreneurship. Finally, social welfare expenditures have a negative effect on the propensity to become a social entrepreneur relative to not being an entrepreneur. This result is contrary to the negative relationship between social entrepreneurship and government expenditures found previously (Hoogendoorn & Hartog, 2011; Salamon et al., 2000). Possibly, some cultural factors that are positively related to social entrepreneurship (e.g. trust), correlate with health expenditures and GDP. Therefore, excluding such factors could have influenced to direction

of the effect in previous studies. The negative effect of GDP and health expenditures on social entrepreneurship, suggests that demand side determinants may have a stronger influence on social entrepreneurship activity than supply side determinants.

The appendix (table A3) shows a table with the results of four logistic models without a hierarchical structure, estimated with the same variables as included in the multilevel models in table 4. It is clear that the results from the logistic model and the multilevel model are rather diverging. The logistic model yields lower standard errors and accordingly results in more significant results. However, it is likely that some of these significant results are due to type 1 errors. The importance of using a multilevel model when analyzing hierarchically structured data is thus underscored by this study.

Commercial entrepreneurs are excluded from the analyses above, because they are quite different from the general population (see data section). The reference group for GSEA and SEA was the non-entrepreneurial population. However, when it is argued that social entrepreneurs belong to a population of entrepreneurs among whom 'social entrepreneurship aspirations' are distributed, it may be more adequate to take commercial entrepreneurs as reference category. In the following analysis the non-entrepreneur population is excluded instead of commercial entrepreneurs, with the aim of researching the determinants influencing entrepreneurs to address social needs and identify themselves as social entrepreneurs. Only baby and nascent entrepreneurs (TEA and SEA) are included. A Fieller interval shows that there is a U-shape relationship between age and SEA, with a minimum between the 20 and 30 years old. Therefore, a quadratic term for age is included. Table 5 reports the result of a multilevel regression, where the dependent variable is the SEA-dummy.

The results of these models analyzing social entrepreneurship relative to commercial entrepreneurship are quite different from the previous results. None of the nine hypotheses formulated in this thesis are supported for the data on social and commercial entrepreneurship excluding the non-entrepreneurship population. Concerning the control variables, the relationship between age and social entrepreneurship has a U-shape, instead of an inverse U-shape. Furthermore, women are more likely to engage in social relative to commercial entrepreneurship than men, c.p.. Similar to the previous model, secondary or higher education increases the probability that an individual engages in social entrepreneurship. In contrast to the previous models, GDP positively affects the probability that an entrepreneur addresses social needs and identifies himself as a social entrepreneur. Apparently, the factors that determine social entrepreneurship

relative to no entrepreneurial activity differ from those that influence the decision to become a social entrepreneur relative to a commercial entrepreneur. Hence, this research supports the separation of the groups for further research purposes. However, the models cannot resolve which model should be preferred (see discussion p. 35, for more details).

Table 5 Results multilevel regressions, decision to engage in SEA or commercial entrepreneurship

Dependent variable	SEA	
	(1)	(2)
Age	-0.05	-0.05
	(5.07)***	(5.08)***
Age Sqr	0.001	0.001
	(7.19)***	(7.20)***
Gender	-0.222	-0.223
	(5.57)***	(5.57)***
Secondary/higher education	0.186	0.185
	(4.44)***	(4.42)***
Fear of Failure	0.003	0.002
	-0.07	-0.04
Conf. in public institutions	-1.226	-1.453
	-1.33	-1.54
EF	0.508	0.804
	-0.71	-1.26
Importance of family	0.686	0.713
	-0.86	-0.93
Prominence of religion	-0.339	0.431
	-0.51	-0.62
Generalized trust	1.475	1.125
	-1.28	-1.03
Surv. Vs. Self-expression	0.148	0.194
	-1.02	-1.04
GDP		0.426
		(1.73)*
Health Expenditures		-14.886
		(2.74)***
Cons.	-0.213	-3.126
	-0.25	-1.34
Var(Cons.)	-0.335	-0.467
	(2.63)***	(3.64)***
N, observations	12,918	12,918
N of countries	34	34

Social Entrepreneurial Activity (SEA) measures nascent and baby entrepreneurs. EF stands for ethnic fractionalization. t-statistics are reported in brackets under the regression coefficients.
Significance is denoted as: $p<0.1$; ** $p<0.05$; *** $p<0.01$.

Conclusion & Discussion

The aim of this research was to provide an explorative account of the cultural factors that influence social entrepreneurship. The contribution of this paper is threefold. First, it is one of the first studies analyzing cross-country variations in social entrepreneurship activity and developing understanding of cultural factors influencing these variations. Second, it presents a foundation for further research into culture on social entrepreneurship. Finally, it supports the application of multilevel models in the field of social entrepreneurship. Nine hypotheses pertaining to cultural factors were explored using data from the GEM 2009. Multilevel methods were estimated as to combine variables on the country and individual level. Evidence was found for three of the nine hypotheses.

The results of the multilevel analyses show that culture affects an individual's decision to engage in social entrepreneurship relative to the non-entrepreneurial population. Table 6, gives an overview of the hypotheses, including whether these hypotheses are supported. This table also shows that estimating hierarchical data with a non-hierarchical model such as a normal logistic regression, may lead to a vast underestimation of standard errors and hence a high risk of type I errors.

Table 6: Support for the tested hypotheses

Nr.	hypothesis	Supported:			
		Relative to non-entrepreneurs		Relative to commercial entrepreneurs	
		MLA	Logit	MLA	Logit
1	Negative effect of confidence in public sector	Yes	Yes	No	Yes
2	Positive effect of ethnic fractionalization	No	Yes	No	Yes
3	Negative effect of importance of family	No	Yes	No	No
4	Negative effect of religion	No	No	No	No
5	Positive effect of self-expression values	Yes	Yes	No	Yes
6	Positive effect of importance of family	No	No	No	Yes
7	Positive effect of religion	No	Yes	No	Yes
8	Positive effect of generalized trust	Yes	Yes	No	Yes
9	Negative effect of risk-aversion	Yes	Yes	No	Yes

This research identified the following cultural determinants influencing the probability that an individual engages in social entrepreneurship relative to no entrepreneurship. First, there is evidence that individuals living in a country in which there is less support for public institutions, are more likely to engage in social entrepreneurship activity than individuals living in a country where confidence in public institutions is high, ceteris paribus. Second, there is evidence that the

propensity to become a social entrepreneur increases when a country's values move from survival to self-expression orientated. Third, a county's level of generalized trust has a positive effect on the probability that a citizen of that country engages in social entrepreneurship activity. Hence, the evidence provides support for both supply and demand side cultural determinants, suggestion that both supply and demand influence social entrepreneurship.

However, when only the group of entrepreneurs (both commercial and social) is considered, it becomes clear that these factors are not significant for the decision to become a social entrepreneur relative to a commercial entrepreneur. Future research should address what the reference category for social entrepreneurship should be. Are social entrepreneurs to be compared with the general population or with commercial entrepreneurs? If individuals that become social entrepreneurs are considered to be part of the non-entrepreneurial population before they engage in social entrepreneurship, the first model is most adequate. However, when individuals first decide to become entrepreneur and subsequently decide to allocate their resources to addressing social needs instead of realizing financial gains, the second model may be more suitable than the first. Estrin at al. (2013) argue that it is more adequate to focus on the non-entrepreneurial population as reference category, because social entrepreneurship attracts people that are not pulled towards commercial entrepreneurship. The results of this study confirm that social entrepreneurs are more often female and higher educated than commercial entrepreneurs. As such, social entrepreneurship can be "an empowering experience building skills and confidence" (Estrin et al., 2013, p. 20). Moreover, it has been shown that social entrepreneurship has a positive effect on commercial entrepreneurship rates (Estrin et al., 2013). Hence, when the number of individuals engaged in social entrepreneurship increases relative to the non-entrepreneurial population, the number of commercial entrepreneurs may also increase. For policy purposes, it may therefore be most fruitful to focus research efforts on how to stimulate individuals that are not yet engaged in entrepreneurship to become social entrepreneurs. In this manner, an increase in the number of social entrepreneurs does not decrease the number of commercial entrepreneurs, but rather increases this figure.

This research suffers from some limitations. First, the GEM measurement of social entrepreneurship is rather broad. It includes both the manager of traditional NGO's and the manager of a traditional business that addresses some social needs. Bacq et al. (2013) suggest that, at least in the Netherlands and Belgium, the question intended to identify social entrepreneurs measures the active involvement in or management of an activity which addresses some social or environmental need, instead of social entrepreneurship. In their study Dutch and Belgium informants indicated that

the part of the GEM referring to 'owning and managing' is associated with the for-profit sector and that therefore social entrepreneurs operating in the non-profit sector would answer negative to the question. On the other hand, the examples that followed in the second part of the question were associated with non-profit organizations. Because social entrepreneurs operating in the for-profit sector may not recognize themselves in the examples, they could answer negative. The design of a questionnaire which avoids these problems regarding ambiguous connotations is essential for the development of social entrepreneurship as a research field. Nevertheless, consensus on the subject itself is needed before such a questionnaire can be designed. It is not yet clear to what extent social enterprises can make profits or should innovate. Only when one knows what should be measured, can one design a method to do so. Thus, further theory-building and academic debate is needed to settle on a demarcation of social entrepreneurship. Yet, because the GEM dataset is the only source of global data on social entrepreneurship available, it provides an interesting starting point for cross-country research into social entrepreneurship. Further research into the cultural determinants of social entrepreneurship could advance the multilevel models proposed in this paper by including interaction effects and random slopes. Because culture and institutions are mutually supporting, models including interactions between institutions and culture may provide new insights in the field.

Second, social entrepreneurial activities are diverse in size, profit-orientation, and innovativeness. It may well be that different types of social entrepreneurial activities are abundant in different countries. For instance, the percentage of social entrepreneurs that answer positive to both the question that identifies social entrepreneurs and the question identifying commercial entrepreneurs, varies greatly per country (see student T-tests, table A1). As this overlap category may have a more business-like approach than other social entrepreneurs, there is an indication that the profit orientation of social entrepreneurs varies per country. In the future, the determinants of a social entrepreneur's profit-orientation or their innovativeness could be researched. However, the 2009 GEM dataset only contains few social entrepreneurs in the different categories. For example, across the 36 countries the sample only contains about 200 social entrepreneurs who can be characterized as innovative. However, with such little observations per classification, reliably analyzing the determinants of different categories of social entrepreneurs across countries may be problematic. Therefore, greater sample sizes are desirable for future data collection.

Third, the cultural variables constructed out of the WVS/EVS and the GEM variables have a subjective nature. As it is not possible to measure culture directly, questionnaires provide a suitable

alternative. Yet, the answers to a questionnaire can be heavily influenced by mood or contextual factors (Bertrand & Mullainathan, 2001). Moreover, particular words may different connotations dependent on the respondent's cultural background (Bacq et al., 2013). Furthermore, some cultures may avoid the extreme answer possibilities to a greater extent than others (Bertrand & Mullainathan, 2001). Finally, respondents often avoid looking bad in front of an interviewer and therefore aim to give an answer that is socially desirable. Unfortunately, these biases are difficult to avoid. Although taking country averages of variables and combining several items on the EVS/WVS to create constructs, as was done in this study, can minimize biases.

Fourth, the cultural variables included in this thesis are all on the country level. However, the hypotheses pertaining to the supply-side theory concern the characteristics of individuals. This may lead to the ecological fallacy. For example, when a culture scores high value on the survival vs. self-expression index, this does not necessarily mean that all individuals included in the GEM 2009 sample shared this high score on the index. It could be that the individuals that eventually become social entrepreneurs score very low on this index. In point of fact, they may start their enterprise as a reaction to the prevalence of self-expression values observed around him. Yet, this is not likely, as self-expression values emphasize participation in civil society, while survival values are not associated with concern for problems outside of oneself. Unfortunately, the ecological fallacy is inevitable in a research combining the culture and social entrepreneurship, because at the moment no global survey that combines both an extensive set of cultural and entrepreneurial indicators exists.

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Appendix

Analysis of the SEA/TEA overlap group

Tabel A1 Student t-test: differences TEA and SEA

Variable	Difference in means SEA and overlap SEA/TEA	significance	Difference in means TEA and overlap SEA/TEA	significance
age	2.894079	.0000	-3.0967	.0000
Gender	.06823	.0017	-.03012	.1451
Higher education	.09028	.0000	-.0549	.0089
Fear of failure	.05348	.0093	.0535	.3631
In Switzerland	.02487	.0028	-.0295	.0000
In Romania	-.0065	.1338	-.0055	.1948
In Italy	-.0141	.0011	-.0149	.0004
In Hungary	-.0476	.0000	.0221	.0000
In Spain	-.0463	.0000	.1028	.2668
In Belgium	-.0032	.6511	-.0042	.0006
In Netherlands	.0091	.0544	.0108	.0753
In Greece	.0185	.0954	.0016	.7282
In South Africa	-.0282	.0000	-.0218	.0018
In Russia	-.0126	.0001	-.0084	.0412
In U.S	.0184	.0557	-.0097	.1823
In U.K.	.1651	.0000	.0103	.4196
In Denmark	.05071	.0000	.0020	.6386
In Norway	.0727	.0000	-.0002	.9659
In Germany	-.0267	.0000	-.01245	.0992
In Peru	-.0776	.0000	-.01947	.0803
In Argentina	.0150	.0600	.0047	.4825
In Brazil	.0034	.1340	.0180	.0004
In Hong Kong	-.0023	.4173	-.0005	.8857
In Jordan	.0026	.4588	.0251	.0001
In Uruguay	-.0043	.4419	.0144	.0561
In Guatamala	-.0027	.3270	.0551	.0000
In Bosnia	.0118	.0096	.0148	.0025
In Slovenia	.0143	.0359	.0061	.2830
In Croatia	.0098	.1600	.0174	.9510
In Serbia	.0129	.0034	.0081	.0182
In Latvia	.0087	.0618	.0257	.0002
In Finland	.0269	.0002	.0067	.1380
In Iceland	.0013	.8708	-.0193	.0010
In Morocco	-.0004	.8630	.0232	.0002
In Iran	-.0195	.0004	.0169	.0588
In China	-.0287	.0004	.0053	.6080
In Korea	-.0012	0.8302	-.0064	.1709
In Colombia	-.0926	.0000	-.0636	.0000

'In country' variables are in % of total number of entrepreneurs that belong to the group that reside in the particular country. If grey, the overlap shows more similarities with TEA category, if blue the overlap category is more similar to SEA. The analysis shows that the respondents in the SEA/TEA overlap category are not systematically more similar to social entrepreneurs or commercial entrepreneurs.

Construction of confidence in public sector & religion variable

Confidence in public sector variable

The confidence in public institutions variable is constructed out of three items of the WVS/EVS.

1. Confidence in government

2. Confidence in political parties

3. Confidence in parliament

These items are chosen because they refer to specific bodies, increasing the likelihood that specific rather than diffuse support are measured. Moreover, they strongly correlate with each other and are available for all countries in the EVS/WVS. The items are 1 if the respondent has a great deal of trust in the body, 2 if the respondent has quite a lot of trust in the body, 3 if the respondent has not very much confidence in the body and 4 if the respondent has no confidence in the body. A dummy indicating whether a respondent has confidence in public institutions is 1 if the total on the scores on the three items is less or equal to 6. The values of these dummies are averaged per country to get the percentage of people that have confidence in public institutions within a country. If the cutoff point for the dummy is set on 5 points, the coefficient of confidence in the public sector increases in magnitude and significance. However, when this point is set to 7 points, the results for the confidence in public sector variable become insignificant. Moreover, when the percentage of people that answered that they have a great deal or quite a lot of confidence in the government is used as variable, i.e. not combined with the other two items, the results remain significant (see table A6).

Religion variable

The prominence of religion variable is constructed out of four EVS/WVS items:

1. Importance religion, item is 1 if respondent thinks that religion is very important.
2. Importance god, item is 1 if respondent thinks that god is very important.
3. Confidence in church, is 1 if respondent has 'quite a lot' or a 'great deal' of confidence in church.
4. Church attendance, is 1 respondent goes to church at least once a month.

These items were chosen because they measure the importance attached by individuals to the church and god, correlate rather strongly with each other and are available for all countries in the EVS/WVS sample. Respondent is classified as a religious person if 3 out of 4 dummies are 1. Subsequently, the percentage of religious people is calculated per country. If respondents are only classified as religious when they meet four out of the 4 criteria, the results hardly change.

Countries included in analysis

Argentina	Latvia
Belgium	Malaysia
Bosnia and	Morocco
Herzegovina	Netherlands
China	Norway
Colombia	Peru
Croatia	Romania
Denmark	Russia
Finland	Serbia
France	Slovenia
Germany	South Africa
Greece	South Korea
Guatemala	Spain
Hong Kong	Switzerland
Hungary	U.S.
Iceland	United Kingdom
Iran	Uruguay
Italy	
Jordan	

Correlation Matrices

Table A2: Correlation matrix: variables on the individual level

	Individual level variable	Mean	S.D.	Min	Max	1	2	3	4
1	age	44.89	15.57	16	99	1			
2	gender	0.45	0.5	0	1	-0.03	1		
3	higher/secondary education	0.36	0.48	0	1	-0.04	0.03	1	
4	fear of failure	0.27	0.44	0	1	-0.08	-0.02	0	1

Table A3 Correlation matrix: variables on the country level

	Country level variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8
1	Confidence in public institutions	0.18	0.12	0.02	0.72	1							
2	Importance of family	0.87	0.12	0	0.98	0.12	1						
3	Prominence of religion	0.22	0.2	0.03	0.95	0.11	0.15	1					
4	EF	0.38	0.2	0	0.88	0.14	-0.04	0.42	1				
5	Survival vs. Self-expression	0.09	0.81	-1.75	1.97	-0.15	-0.14	-0.26	-0.08	1			
6	Generalized trust	0.27	0.12	0.06	0.74	0.16	-0.06	-0.33	-0.53	0.4	1		
7	GDP	9.97	0.88	7.9	11.26	-0.3	0.11	-0.66	-0.39	0.63	0.48	1	
8	Public health expenditures	0.1	0.02	0.04	0.18	-0.34	0.1	-0.11	-0.1	0.66	0.3	0.54	1

Results Logistic regressions

Dependent variable	GSEA		SEA	
	(1)	(2)	(3)	(4)
Age	0.00232	0.00228	0.00154	0.00151
	(9.93)***	(9.78)***	(7.57)***	(7.41)***
Age Sqr	-0.00003	-0.00003	-0.00002	-0.00002
	(11.29)***	(10.75)***	(9.88)***	(9.34)***
Gender	0.01774	0.01756	0.01363	0.0135
	(14.75)***	(14.65)***	(13.22)***	(13.14)***
Secondary/higher education	0.03081	0.03398	0.02025	0.0231
	(22.95)***	(24.45)***	(17.64)***	(19.28)***
Fear of Failure	-0.00681	-0.00637	-0.00587	-0.00541
	(5.10)***	(4.77)***	(5.21)***	(4.78)***
Conf. in public institutions	-0.06682	-0.11052	-0.03707	-0.073
	(11.42)***	(18.00)***	(7.62)***	(14.49)***
Importance of family	-0.05954	-0.01683	-0.04321	-0.00874
	(15.79)***	(3.65)***	(14.08)***	(2.34)**
Prominence of religion	0.05001	0.02027	0.04339	0.01782
	(14.45)***	(4.35)***	(15.24)***	(4.60)***
Generalized trust	0.14919	0.16488	0.10828	0.12286
	(22.68)***	(25.27)***	(19.32)***	(22.06)***
Surv. Vs. Self-expression	-0.00602	0.008	-0.00251	0.00901
	(7.08)***	(6.97)***	(3.40)***	(9.25)***
EF	-0.00558	-0.00601	0.00192	0.00202
	-1.45	-1.57	-0.58	-0.61
Health Expenditures		-0.36856		-0.29641
		(10.03)***		(9.65)***
GDP		-0.01634		-0.01398
		(11.11)***		(11.22)***
N	122,142	122,142	122,142	122,142

General Social Entrepreneurial Activity (GSEA), measures all entrepreneurial activity, i.e. established business owners, nascent and baby entrepreneurs, while Social Entrepreneurial Activity (SEA) only includes the latter two categories.
t-statistics are reported in brackets under the regression coefficients.
Significance is denoted as: $p<0.1$; ** $p<0.05$; *** $p<0.01$.

Tabel A5: Logistic regression social vs. commercial entrepreneurship

Dependent variable	SEA	
	(1)	(2)
Age	-0.01219	-0.01339
	(5.74)***	(6.37)***
Age Sqr	0.00021	0.00022
	(8.36)***	(8.90)***
Gender	-0.03701	-0.04371
	(4.28)***	(5.11)***
Secondary/higher education	0.05031	0.04285
	(5.67)***	(4.84)***
Fear of Failure	-0.01612	-0.01633
	(1.65)*	(1.69)*
Conf. in public institutions	-0.47914	-0.36055
	(14.23)***	(9.19)***
Importance of family	0.20003	0.13038
	(8.52)***	(4.76)***
Prominence of religion	-0.00795	0.26343
	-0.34	(8.44)***
Generalized trust	0.64487	0.50918
	(13.97)***	(10.38)***
Surv. Vs. Self-expression	-0.02085	-0.01047
	(3.40)***	-1.32
EF	0.18533	0.15073
	(6.35)***	(5.22)***
Health Expenditures		-3.37858
		(14.28)***
GDP		0.11474
		(12.04)***
N, individuals	12,918	12,918

Social Entrepreneurial Activity (SEA), measures nascent and baby entrepreneurs.
t-statistics are reported in brackets under the regression coefficients.
Significance is denoted as: $p<0.1$; ** $p<0.05$; *** $p<0.01$.

Results multilevel regressions: robustness check variables

Table A6: results of multilevel regression, robustness check variables

Dependent variable	SEA			
	(1)	(2)	(3)	(4)
Age	0.063	0.063	0.063	0.063
	(9.46)***	(9.44)***	(9.46)***	(9.45)***
Age Sqr	-0.001	-0.001	-0.001	-0.001
	(11.87)***	(11.84)***	(11.86)***	(11.84)***
Gender	0.481	0.481	0.481	0.481
	(14.55)***	(14.54)***	(14.55)***	(14.55)***
Secondary/higher education	0.664	0.667	0.663	0.666
	(19.24)***	(19.32)***	(19.23)***	(19.30)***
Fear of Failure	-0.070	-0.071	-0.070	-0.071
	(1.74)*	(1.74)*	(1.73)*	(1.75)*
Conf. in public institutions			-1.129	-2.700
			(1.42)	(3.50)***
Conf. In government	-0.689	-1.447		
	(1.17)	(2.61)***		
EF	0.156	-0.026	-0.401	0.111
	(0.26)	(0.05)	(0.46)	(0.13)
Cultural Diversity			0.898	-0.109
			(0.95)	(0.11)
Importance of family	-1.403	-0.620	-1.705	-0.274
	(2.05)**	(0.98)	(2.20)**	(0.36)
Prominence of religion	0.845	0.409	0.878	-0.003
	(1.38)	(0.69)	(1.49)	(0.01)
Generalized trust	2.333	3.178	2.394	3.603
	(2.32)**	(3.46)***	(2.44)**	(4.13)***
Surv. Vs. Self-expression	0.095	0.495	0.077	0.508
	(0.77)	(3.12)***	(0.62)	(3.42)***
GDP		-0.457		-0.549
		(2.24)**		(2.72)***
Health Expenditures		-10.101		-12.307
		(2.19)**		(2.20)**
Cons.	-4.254	0.611	-4.082	1.300
	(5.83)***	(0.31)	(5.22)***	(0.67)
Var(Cons.)	-0.481	-0.640	-0.504	-0.713
	(3.74)***	(4.86)***	(3.92)***	(5.38)***
N, observations	122,142	122,142	122,142	122,142
N of countries	34	34	34	34

General Social Entrepreneurial Activity (GSEA), measures all entrepreneurial activity, i.e. established business owners, nascent and baby entrepreneurs, while Social Entrepreneurial Activity (SEA) only includes the latter two categories.
t-statistics are reported in brackets under the regression coefficients.
Significance is denoted as: *p*<0.1; ** *p*<0.05; *** *p*<0.01.