Culture and Entrepreneurship: The case of Guatemala

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Draft (September 2016)

Abstract

In this paper we explain some of the main traits associated with becoming an entrepreneur, and examine others that to our knowledge have received little attention. Typical traits are related to: 1) network effects, 2) perceived skills, 3) ability to spot opportunities, and 4) self-confidence (Klyver and Hindle, 2007; Köllinger and Minniti, 2006). We add cultural traits: ethnicity, beliefs about inequality and entrepreneurial status in society, and religion. We conduct our analysis in the context of the Central American country of Guatemala, and use GEM (Global Entrepreneurship Monitor) survey data to verify our claims. We find that among cultural traits, only ethnicity remains significant after using several robustness checks.

Keywords: entrepreneurship in Guatemala; GEM data; beliefs and the economy; culture and economics, economic inequality, entrepreneurial status, religion and entrepreneurship, culture and entrepreneurship, ethnicity and entrepreneurship

JEL Classification: L26

[1] Financial support by Kirzner Entrepreneurship Center at Facultad de Ciencias Económicas, Universidad Francisco Marroquín, is highly appreciated.

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1. Introduction

Usual personal traits linked to entrepreneurship are related to a) network effects, b) perceived skills, c) ability to spot opportunities, and d) self-confidence (Klyver and Hindle, 2007; Köllinger and Minniti, 2006). We argue that although these traits are important we need to add culture, defined as shared mental models (North 1990) to better understand why some people become entrepreneurs and others do not. A more precise definition of culture that fits well our aims in this paper is: "those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation" (Guiso, Sapienza, and Zingales, 2006; see also Greif, 1994). This paper contributes to the literature on culture and entrepreneurship.

Our analysis is focused on the traits that are correlated with being an entrepreneur, not with explaining regional variations in entrepreneurship prevalence. In addition, we are interested in individual traits, not in cross-regional or cross-country variations in culture and their incidence on entrepreneurship – although we partially review the literature. It is also important to note that our interest in ethnicity and believes is related to culture, not with genetics. Culture changes, and it is not static (Penslar, 2016), and as a consequence individuals or groups that hold beliefs that are not conducive to entrepreneurship *are not* doomed to fail.

Culture can have different manifestations. One example is beliefs that come from belonging to an ethnic group or religion. Historical events also shape culture. An example is the differences in trust levels in Africa, which can be traced to transatlantic and Indian Ocean slave trade – "individuals whose ancestors were heavily raided during the slave trade are less trusting today" (Nunn and Wantchekon, 2011; Deconinck and Verpoorten, 2010). We explore in the case of Guatemala, if a history of mercantilism and clientelism (Marroquín and Thomas, 2015), which

started in colonial times, might explain a negative view that people can have of inequality, which could indirectly affect the general perception of entrepreneurs. We will see that in our analysis of Guatemala beliefs about inequality have an effect on the propensity to become entrepreneurs only in one year (2014), and this effect diminishes when we conduct a panel data testing that includes several years (2013, 2014, and 2016).

For our purposes we focus on three manifestations of culture: ethnicity, beliefs about equality and entrepreneurial social status, and religion, which in the case of Guatemala is mainly Protestant or Catholic. We do not consider important cultural factors such as locus of control (Zelekha et al, 2013).

The paper is organized as follows: the rest of this section reviews the usual traits correlated with the propensity of becoming an entrepreneur. Section 2 reviews the cultural traits. For the sake of presentation, section 2 is divided in three subsections, the first one (2.1) focused on ethnicity, the second one (2.2) focused on beliefs, and the third one (2.3) focused on religion. This section applies the cultural traits to the context of Guatemala. Section 4 explores the cultural traits for Guatemala using GEM (Global Entrepreneurship Monitor) survey data to understand established entrepreneurship as a dependent variable. Section 5 presents our findings, and section 6 the final remarks. In what remains of this section we turn to the usual personal traits linked to entrepreneurship.

a) Network effects

There is a fair amount of work that highlights the influence of networks on a person becoming an entrepreneur. Since the mid eighties there has been an increased interest in the entrepreneurial literature on social networks (Klyver and Hindle, 2007). The basic idea is that when a person has

within her personal network, mainly family and friends, individuals who are entrepreneurs, she is more likely to become an entrepreneur as well (see Köllinger and Minniti, 2006). Indeed, the argument is that entrepreneurs influence by example – a role-model effect, which fosters imitation by others. In this regard being an entrepreneur can be contagious, so to speak (see Guiso, Pistaferri, and Schivardi, 2015).

An entrepreneur can be a source of advice, financial capital, social capital, and knowledge about the start-up business process (Klyver and Hindle, 2007; Langowitz and Minniti, 2007; Dodd and Gotsis, 2007), emotional support (Klyver and Hindle, 2007), and other resources that can help other people within the entrepreneur's circle of influence to become entrepreneurs themselves.

The utmost case of having an entrepreneur in one's social network is when a parent is an entrepreneur. In fact Lindquist, Sol, and Van Praag (2015) indicate:

> The single strongest predictor of entrepreneurship is parental entrepreneurship. Having an entrepreneur for a parent increases the probability that a child ends up as an entrepreneur by a factor of 1.3 to 3.0.

They found that "having an entrepreneur for a parent increases the probability that own-birth children become entrepreneurs by 60%." The authors use data of adopted children from Sweden and find that the effect of the adopted entrepreneur parent is almost twice as the effect of having an entrepreneur *biological* parent.

Besides, gender matters. The authors indicate:

> . . . the transmission of entrepreneurship from mothers to daughters is significantly stronger than that from fathers to daughters, and for sons the effect of entrepreneurial fathers is significantly stronger than the effect of entrepreneurial mother.

The authors conclude:

> Our main results, however, shed a different light on the *relative* importance of pre-birth and post-birth factors. We find that the influence of adoptive parents is twice as large as the influence of biological parents.

This conclusion not only favors nurture over nature, but also strongly suggest that there is actually room for entrepreneurship to be taught and learnt (see Guiso, Pistaferri, and Schivardi, 2015).

Guiso, Pistaferri, and Schivardi (2015) study the effect of entrepreneurial density. They study people who grew up in areas with high concentration of entrepreneurship versus people who did not grow up in that environment and find a positive effect on becoming an entrepreneur later in life.

Klyver and Hindle (2007) present a comprehensive review on the early literature on entrepreneurship and social networks. They investigate the effect of networks in Australia, use GEM data, and include as a covariate the network effect captured in the GEM survey question "Do you know someone personally who started a business in the past two years?" Although it has limitations, this is the question that we also use in our study for the same purpose (unfortunately in our database we do not have questions to assess the effect of entrepreneurial parents). They also test the hypothesis that the reliance on social networks varies as business develop. The authors divide the life of a business in three stages: discovery stage (trying to recognize a business opportunity to pursue), start-up stage (actively trying to start a business), and young business stage (this strategy was also followed by Köllinger and Minniti, 2006). Klyver and Hindle argue that with entrepreneurs in her social network a person is significantly more likely to be an entrepreneur herself, and the effect varies at different stages in the life of businesses. In our study we focus in the third stage (young business stage), which we call "established entrepreneurs," and the reason is that established entrepreneurs are already selling

products and paying salaries for a substantial period. In the context of GEM data in a country like Guatemala taking into account the discovery stage and the start-up stage could mean analyzing the informal economy (Acs et al, 2008), or what has been called "entrepreneurs by necessity." And we want to focus on the factors that determine long-term business survival.

b) Skills perception

If a person has the perception that she owns skills to perform an entrepreneurial activity it is more likely that she will become an entrepreneur (Langowitz and Minniti, 2007; Köllinger and Minniti, 2006). Skills are the human capital necessary to set up a business and make it sustainable. Skills include business capabilities as well as knowledge and command of the business activity itself. The perception of the skills a person possesses impacts entrepreneurship positively (Klyver and Hindle, 2007). Studies that employ GEM data use the question: "Do you have the knowledge, skills, and experience needed to start a new business?", which is a question about perception, and can include an element of self-confidence. Several studies report that the perceptions of owning skills to start a new business is the most important variable correlated with being an entrepreneur, and it is argued that its effect is stronger at early stages of the business process (Langowitz and Minniti, 2007). As we will see below in our results this is also the most important explanatory variable for established business in our study. This effect was significant and strong in all our specifications but year 2016.

c) Ability to spot opportunities

If a person is capable of spotting opportunities she is more likely to become an entrepreneur. The sense of alertness is present in people who are entrepreneurs. This possibly requires a trained eye

to see how entrepreneurial action can capitalize on the needs and demands of others. Discovery of new opportunities affects entrepreneurship positively (Kirzner, 1973, 1979, 1997; Klyver and Hindle, 2007; Köllinger and Minniti, 2006; see also a review by Boettke and Coyne, 2003). Kirzner (1997: 72) argues:

> Entrepreneurial alertness refers to an attitude of receptiveness to available (but hitherto overlooked) opportunities . . . Without knowing what to look for, without deploying any deliberate search technique, the entrepreneur is at all times scanning the horizon, as it were, ready to make discoveries.

In the literature the ability to spot opportunities is called a "perceptual variable" and in general it is positively and significantly correlated with entrepreneurship in different stages (Langowitz and Minniti, 2007). The question we use, and that others authors who use GEM data use, is: "In the next 6 months ¿will there be good business opportunities to start a business in the zone where you live?" In consonance with existing studies we find this variable, in several cases, to be positively and significantly correlated with the probability of becoming an established business in Guatemala. However, in our pool-data analysis this variable is not statistically significant at conventional levels.

d) Fear of failure

A person who is more risk tolerant is more likely to become an entrepreneur than a person who is more fearful. Indeed, fear of failure is usually negatively correlated with entrepreneurship (Langowitz and Minniti, 2007; Köllinger and Minniti, 2006). Self-confidence is associated with tolerance to risk and people who take risks (and to be more specific, immeasurable risks) can obtain profits (Knight, 1921), which are key for growth and progress in the long term. Although in our study we do not separate between men and women it should be noted that women are more likely than men to fear failing in business. Langowitz and Minniti (2007) conclude:

> Interestingly, fear of failure is not significant for men, but it is significant for women, perhaps to reflect the fact that men may be more risk tolerant than women with respect to losses. In an evolutionary perspective, women are traditionally caregivers for the family. Thus, putting the family's resources in danger, especially in a situation of necessity, may increase their perception of risk.

To take into account the effect of fear to failure in our study we use GEM question: "In your case, would fear of failure be an obstacle to set up a business?" As we will see below we find this variable to correlate negatively with being an established entrepreneur.

The following section reviews the literature that links cultural traits and entrepreneurship.

2. Culture and entrepreneurship

In this section we discuss the recent literature that links entrepreneurship and culture. For the sake of presentation we divide the section in three subsections, one on ethnicity, another one on beliefs, and another one on religion. This division presents several problems. One is that in reality ethnicity and religion are often merged (Dana, 2009). Certain ethnic groups also share the same religion. In Guatemala however the correlation between ethnicity and religion is limited. Catholic and Protestant churches have members that are both indigenous and nonindigenous.

2.1 Ethnicity and entrepreneurship

The literature on ethnicity and entrepreneurship is vast, to say the least (see for example Dana and Anderson, 2007). In this section we just provide a few examples.

Ethnicity can increase the probability of a person to become an entrepreneur if her ethnicity value business and commerce. There are certain groups that have a reputation of historically being capable traders. Examples are the Chinese diaspora in several countries, the Igbo of Nigeria, or the Kikuyu of Kenya, among many others.

There are certain ethnic groups however that because of shared norms and beliefs it is more difficult for them to succeed as an entrepreneur (Marroquín, 2007, 2008). We should state that ethnic groups are in general heterogeneous, and within an ethnic group there are individuals who are highly entrepreneurial and others who are not (Marroquín, 2008). In certain groups however there is a dominant majority that gives the group a business-oriented reputation.

Lately, economists are more interested in the link between ethnicity and entrepreneurship. For example, Iyer and Schoar (2010) define culture "as a set of shared values, beliefs, and norms of a group or community" (211) and analyze business strategies among three ethnic groups in India, Andhraites, Marwaris, and Tamilians. They developed a field experiment where shoppers from these three different groups were randomly sent to buy a specific product from a number of wholesalers also from the three ethnic groups. They discovered differences in prices depending on the ethnicity of buyers and sellers. More specifically, Marwaris traders close transactions at lower prices. After different treatments the authors conclude: ". . . different ethnic groups seem to have very different bargaining strategies in terms of the final prices they agree upon and prices they offer as the starting point of the negotiation." (225) Furthermore, they find that:

> . . . the final price at which the pens [the standard commodity used in the experiment] are sold is significantly lower when there is a match based on ethnicity between the buyer and the wholesaler. . . This result suggests that buyers receive, on average, a discounted price if they are randomly matched with a wholesaler from their own ethnic group. (229)

The authors add:

> These results show that wholesalers immediately offer buyers from their own ethnic group a better deal up-front. Thus the results on the "match" variable is not primarily driven by a more favorable negotiation process when people of the same ethnic group meet, but it seems that even in the initial reaction a wholesaler is more generous when meeting someone of the same community. (229)

This study suggests that ethnicity can be a positive factor to foster entrepreneurship.

There are certain characteristics of ethnic groups that can have a negative effect on entrepreneurship. In his study of the Wayuu people of northern Colombia Marroquín (2007) found that the traditional legal system of the territory has allowed Wayuu people to solve conflicts for centuries. However, the system has a negative effect on trust and business expansion. The legal system of the Wayuu is based on a mediator, who tries to solve conflicts by arranging compensation from the offending to the offended party. When negotiation fails violent conflict can emerge. During his fieldwork he found that people attempt to demand compensation for minor offenses, and as a consequence they avoid situations such as business interactions. This means low trust and high transaction costs.

These two examples suggest that the relationship between ethnicity and entrepreneurship is not clear. The context is important.

Ethnicity and entrepreneurship in Guatemala

In Guatemala there are 23 different ethnic groups, each has its own language. They are geographically concentrated in western Guatemala, although there are also indigenous peoples living in eastern and northern Guatemala. Around 40 percent of the population is indigenous according to official statistics (INE, 2012). Indigenous economies have been historically based on agriculture, and corn has been the main product (Tax, 1963). As Guatemala develops indigenous economies, as the rest of the country, are diversifying agricultural production and moving towards consumption and services. Relative to nonindigenous, indigenous people remain the poorest in the country, and indigenous women are the most vulnerable group in terms of lack

of employment, education, and overall access to resources. It is not surprising that a large proportion of indigenous enterprises operate in the informal sector, where credit is scarce.

Recent country reports that use GEM data indicate that early stage entrepreneurship rate is high in countries like Guatemala (Facultad de Ciencias Económicas, 2012). Most of these businesses however do not survive in the long term. This is something that affects businesses regardless of ethnicity. And might be due to lack of credit but more importantly to lack of management skills (Wydick, 2002; Guiso, Pistaferri, and Schivardi, 2015).

When we consider the link between ethnicity and entrepreneurship in Guatemala there are reason to think that it is positive – in his seminal study Tax (1963) describes indigenous people in the town of Panajachel as highly entrepreneurial. But also there are ethnic factors that can have a negative effect on entrepreneurship. As explained above, on the one hand, ethnicity can provide community bonds that can make doing business easier, but on the other hand there might be characteristics that reduce trust. To test the relationship between ethnicity and entrepreneurship in Guatemala we use the question: "what is your self-defined ethnicity?" To which respondents could answer indigenous or nonindigenous, among others. It takes the value of 2 if the person defines herself as indigenous and 1 as nonindigenous (*ladino*). One problem with this variable is that indigenous communities are no longer bounded entities, there is a high degree of mobility and as time passes indigenous people engage in a larger national and transnational political and economic system (Meisch, 2006). Still, we want to explore if the self-definition of ethnicity is correlated with established entrepreneurship. Unfortunately GEM does not ask about specific ethnic groups, which could be an important addition for future surveys. As we show below we find this variable to be one of the main explanatory ones, and the one with the highest significant value in different specifications. This means that an indigenous person,

compared with a nonindigenous one, has a higher probability to become an established entrepreneur. This was the main surprising result for us, especially because indigenous people have been historically the poorest in the country as they face many difficulties to move ahead in life. It remains to be seen however if this finding suggests that there is actually an active factor that makes indigenous more entrepreneurial or if they being more entrepreneurial is due to low access to formal labor markets.

2.2 Believes and entrepreneurship

In terms of comparative economic systems economic equality is linked to communism and socialism, while economic inequality is linked to capitalism. In part economic inequality in a capitalist economy is driven by entrepreneurial activity. Indeed, given an apt institutional context, when entrepreneurs succeed their returns on investment makes them richer than others. The more a society values equality the less it will be tolerant of entrepreneurial success, and vice versa.

In our analysis we take into account beliefs about economic equality, and we do not know of other study, using our approach, that includes this effect to explain entrepreneurship. In particular we use the GEM question: “In Guatemala the majority of people prefer that everybody have a similar standard of living?” We expect that if a person believes that the majority of people in the country prefers equality, she is more likely *not to* become an established entrepreneur. The reason is that if a person thinks that the majority prefers equality, and if this person succeeds as an entrepreneur, she can expect certain type of social sanction.

In contrast, a society can tolerate inequality because it sees inequality as the result of legitimate effort by people who get ahead. Other societies might see inequality as illegitimate

because, for example, those who get ahead do it using corrupt means, or are the result of favors and perceived unfair rules of the game. This might be the case of Guatemala where, as mention before, corruption is high, and many businesses have historically benefited from protectionism and government privileges. In fact, we find this variable to have a negative effect on entrepreneurship (a negative sign). Nevertheless, only in one specification (year 2014) it is statistically significant. In general, however it does not have a consistent effect on established entrepreneurship.

We also take into account beliefs about entrepreneurial success. For this we use the GEM question: "In Guatemala do people who start a new business and succeed enjoy a high degree of recognition and respect?" We expect that a person who responds "yes" to this question is more likely to become an established entrepreneur. The reason is that social recognition is a reward that materially and/or psychologically increases the expected returns of becoming an entrepreneur. We find that indeed, a person who answer to the question affirmatively is more likely to become an established entrepreneur (a positive sign of the variable of interest), however the effect is not statistically significant at the conventional levels.

One problem with these questions is that an interviewee might think that the rest of people in the country values equality, and think that they are wrong, and that inequality should be tolerated. Or that an interviewee might think that entrepreneurship is not recognized in the country, but that it *should* be recognized. Our argument is that if a person thinks that inequality is not tolerated or that entrepreneurial success is not valued there are certain costs to be expected, which are, we assumed, taken into account in her decision to be an entrepreneur.

2.3 Religion and entrepreneurship

The literature on religion and entrepreneurship goes back to Adam Smith and Max Weber. Weber ([1905] 2002) argued that Protestantism provided the beliefs system that enhances work ethic, entrepreneurship, savings, and wealth accumulation; that belief system was missing in Catholicism (see Dodd and Gotsi, 2007). Dana (2007: 143; Dana 2009: 90) explains Weber's thesis: "Protestantism stressed the development of economic security, Catholics believed that it was easier for a camel to fit through the eye of a needle than for a wealthy man to go to heaven." Weber's thesis can be seen as a response to Marx, who thought that there was a high influence from the material world to the world of ideas. Weber thought that ideas and believes affect the material world (Beugelsdijk and Maseland, 2014).

Early evidence supported Weber:

> There is a close correlation of countries in terms of how deeply the Calvinist spirit has penetrated their economic and social behavior with real per capita income and level of economic development. Thus, in 1958, all fifteen countries of the world with per capita incomes of over $700 per year were those which had followed the Calvinist ethic extensively; and, with the possible exceptions of France and Belgium, all were quite extensively Protestant in religion. No country where the Calvinist ethic had deeply penetrated was not included in this list of most wealthy countries, while none of the extensively non-Calvinist nations had yet achieved such economic success (Farmer and Richman, 1965: 157 – cited in Dana (2009: 87)).

Contemporary literature on religion and entrepreneurship from the economics standpoint is increasing (Dougherty et al, 2013; Wiseman and Young, 2014; Guiso, Sapienza, and Zingales, 2006). In anthropology and sociology the literature is ample (Dana, 2009; Baldachino and Dana 2006; Stoller, 2002). Shapero (1984, cited in Dala 2009) argue that certain religions, such as the Jain of India, Jews, Mennonites, and Mormons, value entrepreneurships highly. In fact, in Jaism Weber found parallels with Protestantism (Gellner, 2009). Dana (2009) reviews a series of studies from a sociological and anthropological perspective on how different religions affect

entrepreneurship diversely, and he provides several examples to conclude, "religions have built-in mechanisms for the perpetuation of values." (95)

Religion can affect entrepreneurship in several ways: one is the personal motivation in the line of the Weberian approach. Other one is that religion can change the rules that shape incentives that affect the present value of working in this world versus the "eternal hereafter" (Wiseman and Young, 2014: 23). And another one is that different religions can have different financial cost to the believer (Wiseman and Young, 2014; Marroquín and Alfaro, 2012; Marroquín, 2016). Resources that are used for religious purposes cannot be used, generally, in enterprising ventures. Religion can also affect entrepreneurship by providing business opportunities, credit networks, information networks, supply networks, among other benefits, to members of the congregation (Dana, 2009; Gooren 2002). The effect of religion on entrepreneurship can be either positive or negative (Dana 2009). Marroquín (2016) argues that beliefs associated with Vodou in Haiti constrain entrepreneurship in several ways. One example is related to the financial burden that funerals and important life events impose on people. Individuals suffer pressure from the social group to invest funds in these events that otherwise would be been used to capitalize businesses.

Zelekha et al (2013) review the classic and contemporary literature and use a cross-section sample of countries to study with a series of OLS models if religion affects entrepreneurship and the way in which that effect manifest itself. The independent variable is an indicator of entrepreneurial activity by country using the network site LinkedIn. Following Baumol's theory of productive, unproductive, and destructive entrepreneurship (1990) the authors claim: ". . . specific religions' norms might be associated with productive

entrepreneurship rather than unproductive entrepreneurship." (749) They ranked the different religions with regard to their positive impact on entrepreneurship:

> In general, findings collected from the various versions suggest the following ranking of religion's positive effect on entrepreneurship tendency: Judaism, Hinduism, Protestantism, Greek Orthodoxy, Buddhism, Catholicism, Islam and other religions (including mostly paganism and African Christians). (761)

The authors indicate that the prevalent religion in a country affect values, which have an effect on entrepreneurship. This "macro-effect" implies that even a person who does not share the religion of the majority in her country will be affected by it. This findings contrast with results reported by Audretsch *et al.*, (2007), who found that in India Islam and Christianity favor entrepreneurship while Hinduism hinders it.

Wiseman and Young (2014) also follow Baumol's framework and see religion as an informal institution that can be conducive to productive (activities that expand the size of the economy) or unproductive entrepreneurship (activities that reduce the size of the economy). By using US data they find that several measures of religious belief (such as frequency of prayer) and belonging (percentage of the population that report themselves as Christian adherents) are *negatively* correlated with measures of productive entrepreneurship. They also analyze the percentage of population that is Christian and agnostic/atheist, and conclude: ". . . the percent of the population that is atheist/agnostic is positively and significantly related to a state's productive entrepreneurship score." (33) The authors conclude that the negative effect of religiosity on productive entrepreneurship is mediated by the deviation of resources (which can be material and psychological) from productive entrepreneurship into religious activities. Besides, they do not find a significant effect of either the percentage of population that is Catholic or Protestant on productive and unproductive entrepreneurship.

In a US study based on survey administered across the country Dougherty et al (2013) did not find significant correlation between specific type or religions and being an entrepreneur. But they do find differences in other respects: "Entrepreneurs believe in a more personal God and they pray more often. They are no less likely than nonentrepreneurs to believe in God or attend religious services." (405)

The authors also find that "among religiously affiliated American adults, entrepreneurs are more likely to attend congregations in which business and profit making are encouraged." (405) The general conclusion of this study is that American entrepreneurs are not irreligious; a vast majority is affiliated with a religious tradition. (406)

In a cross-country study conducted to test Weber's thesis, Arruñada (2009, 890) concludes:

> Protestantism therefore seems conducive to capitalist economic development, not by the direct psychological route of the Weberian work ethic but rather by promoting an alternative social ethic that facilitates impersonal trade.

In an ethnographic study of Amish communities in Lancaster County, Pennsylvania Dana (2007, 149) indicates:

> . . . for the Amish, each generation transmits cultural values to the next. This includes asceticism, frugality and thrift, virtues which Weber (1904, 1905) linked to entrepreneurial behaviour. Children thus become predisposed towards self-employment, as parents guide them along an almost pre-determined road in life.

Dana explains the way in which Amish values impact entrepreneurship:

> The author noted a very low-failure rate of Amish firms. In addition to their Weberian work ethic and frugality, explanatory variables may include the fact that the Amish are focused and cautious. Reflecting their preference for a family operation, the Amish stay away from mass production. They give much attention to details, resulting in high-product quality. Seldom does an Amish enterprise have more than seven employees. Many artisans have more clients than they can provide for. Yet, none of the small Amish entrepreneurs interviewed by the author expressed interest in expansion. (150-151; see also Dana, 2009).

The link between religion and entrepreneurship can come from trust (Guiso, Sapienza, and Zingales, 2006). There is evidence that "participation to religious services increases trust only among Christians" and that "[W]ithin the Christian family, the effect is stronger for Protestant than for Catholics" (Guiso, Sapienza, and Zingales, 2003: 228). Guiso, Sapienza, and Zingales also argue: "Protestants are more trusting and favor incentives more, Catholics are more thrifty and favor private property and competition more." (228)

A review of the recent literature on Weber's thesis is not conclusive, with studies supporting either side of the debate.

Religion and entrepreneurship in Guatemala

One of the main social transformations in second half of the 20th century Guatemala was the rapid growth of Protestantism, which started somehow gradually in the late 19th and early 20th century (McCleary, 2017). Due to its colonial origins Guatemala was mainly a Catholic country. There are several reasons why this transformation happened. Some are supply side explanations, such as a great effort by different missions to convert new individuals (McCleary, 2017) or lower government regulation that led to more religious pluralism Gill (1999).

These missions competed against each other for adherents (McCleary, 2017). Another was a demand side. During the civil war rural population in the most affected areas did not want to be associated with the Catholic-linked liberation-theology movement, which was connected with left-wing guerrilla groups. Liberation theology was thought to be more interested in political objectives rather than spiritual purposes (Gooren, 2002). Rural people did not want to be related with the Guatemalan army either. Supporting one group meant to be the enemy of the

other. A third and neutral option was joining the emerging Protestant religions (Garrard-Burnett, 1998). Gooren (2002: 31) argues:

> A typically Guatemalan factor was the fact that being a Protestant was simply safer than being a Catholic in areas where the violent conflict between army and guerrillas was concentrated.

Another reason was the financial costs of belonging to Catholicism. In rural areas the *cofradia* - the Catholic fiesta system - was practiced. This meant that during the town festivities families hosting the saint had to incur in substantial costs, which did not exist, or were reduced in Protestant churches (Annis, 1987; Goldín and Metz, 1991). In her study of the late 1970s of two Guatemalan towns, Sexton (1978: 293) quotes a Catholic referring to Protestants:

> . . . they change [religion] because of the ceremonies we do. They say these are not religious, they say the images cannot do anything, that they are lies and that only their money is wanted. They do not like to buy things for celebrations because to make a celebration one has to buy fireworks, alcohol, cigars, and other things. A ceremony costs about $50, and there are three each year [costing] $150 per person.

Besides, Protestantism was seen as a way to enforce certain norms to reduce alcohol consumption and infidelity problems (Gooren, 2002; Marroquín and Alfaro, 2012; Sexton, 1978). And yet another reason for the growth of Protestantism is that it "offers greater personal participation and prestige for women because it allows them to hold higher offices and bestows on them the coveted title of "sister" (Sexton, 1978: 293).

There are several ethnographic studies that evaluate the link between Protestantism and non-Catholic religions and entrepreneurship in Guatemala. In her study of San Antonio Aguas Calientes, a Guatemalan town, Annis (1987) found that Catholic women weavers sold their products to intermediaries, while Protestant weavers had their own shops to sell their products. In their study of vegetable production in Almolonga, Guatemala Marroquín and Alfaro (2012) argue that Protestantism provides the institutional framework for farmers to take advantage of

the productivity of the soil, climate, and other advantages of the location. Protestantism helps inhabitants of Almolonga to become successful entrepreneurs. Sherman (1997) investigate the economic effects of religion transformation in Guatemala, and she argues:

> [...] joining an Evangelical church leads first to behavior modifications, and then, for true converts who adopt a biblical worldview, to attitudinal transformation as well. The adoption of a morally rigorous Protestant ethic (by both Evangelicals and some orthodox Catholics) frees believers from alcohol addiction and encourages careful, disciplined investments in family well-being, [...] The reformed lifestyle common among Evangelicals usually brings modest, not dramatic, socio-economic improvement (p. 163) (Cited in Gooren, 2002: 202).

In his ethnographic work in a neighborhood of Guatemala City Gooren studied two non-Catholic churches, a Neo-Pentecostal and a Mormon church, and he indicates that these churches through their teachings sponsored business ethics to their members. Small entrepreneurs incorporated these teachings in their daily tasks. This was more evident in the case of the Mormon Church. An important conclusion in this study is that the members Gooren studied did not see work as a calling, and saw religion as a way of "betterment". Gooren (2002, 38) indicates:

> Some authors (especially Martin 1990) see the quest for "betterment" among converts as a main drive behind the success of Protestantism in Latin America. These new members are seeking better lives . . . better marriages, better families, better households, better living standards, and, above all, a better future for their children. Generally, however, they do not join social movements or political parties. Their betterment project is limited first of all to their personal lives and second to their own circle of family and household.

Gooren (2002) indicates that even before Protestantism started to increase converters-to-be already had the desire for self-discipline and self-control regarding problems of adultery and alcoholism. Protestantism was seen by them as a way to strengthen self-control and "putting one's life in order" – attitude, strengthening their families, and even setting up a firm. (38) He concludes: "Using the Guatemalan case, I particularly wanted to demonstrate the importance of a religiously-inspired business ethic as part of a more general self-improvement project." (38)

Sexton (1978: 294) noted broader relations between Protestantism and modernity in two Guatemalan towns in the late 1970s: ". . . compared with Catholics, Protestants are more exposed to electronic and printed media and are more literate, in addition to having superior political knowledge."

In Guatemala the large majority of people are religious, and only a tiny fraction are agnostic or atheist. As a consequence in our analysis we do not test the hypothesis of being religious versus nonreligious. Rather we examine if being Protestant versus being Catholic affects the probability of becoming an established entrepreneur.

To explore the relationship between religion and entrepreneurship we use the GEM question: "What is your religious denomination?" And respondents could choose between "Catholic," "Evangelical," "other/specify," "non," or "refuse [to answer]." Due to the small number of members of other religions and even agnostics and atheist in the sample we do not take this observations into account. One weakness of this variable is that it only captures the self-identification of the individual in one of these two major religions. GEM database does not ask questions about frequency of church attendance, frequency of prayer, belief in God, fear of hell, etc., which had been reported in the literature (Wiseman and Young, 2014; Guiso, Sapienza, and Zingales, 2006; Barro and McCleary, 2003). In addition we cannot underestimate the fact that in some regions of the country Christianity was mixed with indigenous believes (Sexton. 1978), and this syncretism prevails to this day to some extent. In spite of that we believe that the self-reported religion still captures the main differences between these two religions. In Guatemala these two concepts refer to very different sets of beliefs and rituals. To our surprise we did not find this variable to have a significant effect on the probability to become an established

entrepreneur, with the exception of our tests for year 2014 where being evangelical has a positive and significant effect – for the rest of the tests however the significance disappears.

4. Methodology

Based on the literature review presented before we analyze the following four hypotheses in the context of Guatemala:

H0: People who know other entrepreneurs (network effects - *Know*), who perceive that they have the skills, knowledge, and experience to start a business (*Skill*), who have recently identified business opportunities (*Opport*), and who do not see fear of failing as an obstacle to start a new business (*Fear*) are more likely to be established entrepreneurs.

H1: Indigenous people are more likely to become established entrepreneurs.

H2: People who believe that society favors inequality are more likely to become established entrepreneurs.

H3: People who believe that society respects and positively acknowledges the work of those who start and succeed in a business are more likely to become established entrepreneurs.

H4: Protestants/evangelicals (compared to Catholics) are more likely to become established entrepreneurs.

One criticism of our hypothesis is that we use cultural variables as independent variables and entrepreneurship as the dependent variable, when it could be the case that culture depends on entrepreneurship. Indeed, this is controversial and at this stage we are only able to established correlation, not causation. Nevertheless, in her recent review of the literature on culture and economics Marini (2016: 3) argues that recent literature is more willing to accept that different cultures may give rise different economic outcomes.

4.1 Data set

GEM data has been amply used to study entrepreneurship within countries and across countries (see Bergmann *et al*, for a systematic review of scientific papers that use GEM data). The Guatemala GEM database for 2014 is used to test the hypotheses. Klyver and Hindle (2007, 9)[2] describe the Global Entrepreneurship Monitor as:

> . . . an international project trying to detect: whether, and to what extent, entrepreneurial activity varies across countries; what makes a country entrepreneurial; and how entrepreneurial activity affects a country's rate of economic growth and prosperity.

For 2014 the number of individuals who respond to the GEM survey was 2,158. This number is similar to surveys administered in other countries (see for example Dougherty et al, 2013 and Carswell and Rolland, 2007). The subsample of interest, which includes established entrepreneurs and nonentrepreneurs has 1,004 observations.

GEM data has been criticized on several fronts. One is that the survey does not distinguish between "necessity" and "opportunity entrepreneurs" (Zelekha *et al.*, 2013). As consequence, like we said before, it is likely that GEM captures the informal economy especially in countries where employment in the formal economy is limited. This explains why the TEA – total early stage entrepreneurial activity – index is higher for relatively poorer countries (Zelekha *et al.*, 2013). Indeed, self-employment is an alternative to unemployment (Rissman, 2003). We believe that even with these weaknesses, GEM data is valuable for our purposes. First, because we focus on established entrepreneurs, which are more likely to be part of the *formal* economy;

[2] The page number is taken from an early draft of the paper that can be find at: http://www.kevinhindle.com/publications/C11.2006%20SER%20Hin-Kly%20Role%20of%20Social%20Network%20Final.pdf (July 9, 2016).

and second because no other database, to our knowledge, conducted in Guatemala asks the type of questions necessary to analyze the link between culture and entrepreneurship.

4.2 Description of variables

***Table 1*: Description of Variables**

No.	**Variable**	**Description**
Dependent	**Est.**: Established entrepreneur (dependent variable)	*Established entrepreneur*: GEM survey separates through a systematic battery of questions among three types of entrepreneurship: nascent, new, and established. We focused in the latter. Established entrepreneurs are defined as: a person who is "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."[3] It takes the value of 1 if the person is an established entrepreneur and 0 if nonentrepreneur.
1	**Status**: Beliefs about status	It takes the value of 1 if the person responded "yes" to the question "In Guatemala do people who start a new business and succeed enjoy a high degree of and recognition and respect?" and 0 if "no."
2	**Equality**: Beliefs about inequality	It that takes the value of 1 if the person responded "yes" to the question "In Guatemala the majority of people prefer that everybody have a similar standard of living?" and 0 if "no."
3	**Age**	It is a continuous variable with the age of the interviewee.
4	**Age^2**	Age of the interviewee squared.
5	**Indigenous**	It is a factor variable. It takes the value of 1 if the person identifies herself as non-indigenous, and 2 if indigenous.
6	**Gender**	It is a factor variable. It takes the value of 1 if the person is male and 2 if female.
7	**Religion**	It is a factor variable. It takes the value of 2 if the person responded "Evangelical/Christian"[4] to the question: "What is your religious denomination?" and 1 if "Catholic."
8	**Married**	It is a factor variable. It takes the value of 0 if

[3] From the do4cument "Entrepreneurial Activity" in the official GEM website: http://www.gemconsortium.org/wiki/1150 (accessed on December 3, 2015).
[4] Christian means *Cristiano* in Guatemala, and in the colloquial language it stands for Evangelical as opposed to Catholic.

		the person is single, 1 if married, and 2 if other.
9	**Skills**	It takes the value of 1 if the person responded "yes" to the question "Do you have the knowledge, skills, and experience needed to start a new business?" and 0 if "no."
10	**Know**	It takes the value of 1 if the person responded "yes" to the question "Do you personally know someone who started a business in the last two years?" and 0 if "no."
11	**Opport.**	It takes the value of 1 if the person responds "yes" to the question "In the next 6 months ¿will there be good business opportunities to start a business in the zone where you live?" and 0 if "no."
12	**Fear**	It is a factor variable. It takes the value of 1 if the person responds "yes" to the question "In your case, would fear of failure be an obstacle to set up a business?" and 2 if "no."

5. Findings

We present our findings as we proceeded chronologically running the different regressions. We first examined year 2014. As robustness checks we examined first year 2013, then 2016, and finally a panel data.

Descriptive statistics

Table 2 presents descriptive statistics for the variables of interest for two groups of individuals, nonentrepreneurs and established entrepreneurs. For example, regarding the variable *Status*, among nonentrepreneurs people who responded "yes" to the question represent 76 percent and those who responded "no" represent 24 percent. The most illustrative cases are the variable *Indigenous* and *Know*. For instance among non-established entrepreneurs indigenous people represent 35 percent, and 48 percent among established entrepreneurs. The division between the percentages is the odds ratio, 1.37. Table 3 presents the correlation matrix of the variables consider in this study.

***Table 2*: Description of Variables and Odds Ratio. Year 2014.**

	Established		
Variable	**0**	**1**	**Odds ratio**
Status (1)	76%	81%	1.07
Status (0)	24%	19%	0.79
Equality (1)	68%	60%	0.88
Equality (0)	32%	40%	1.25
Indigenous (2)	35%	48%	1.37
Indigenous (1)	65%	52%	0.80
Female	56%	39%	0.70
Male	44%	61%	1.39
Evangelical	45%	53%	1.18
Catholic	55%	47%	0.85
Single	35%	18%	0.51
Married	45%	69%	1.53
Marital Status (3)	20%	23%	1.15
Skill (1)	60%	86%	1.43
Skill (0)	40%	14%	0.35
Know (1)	23%	35%	1.52
Know (0)	77%	65%	0.84
Opportunity (1)	42%	51%	1.21
Opportunity (0)	58%	49%	0.84
Fear (1)	43%	38%	0.88
Fear (2)	57%	62%	1.09
n	901	103	
%	90	10	
Age mean	34	42	
n total = 1004			

***Table 3*: Correlation Matrix**

Correlation Matrix. Independent and Dependent Variables. Year 2014

	f(e)	f(s)	f(ind)	f(g)	f(r)	f(ms)	f(skills)	f(know)	f(op)	f(fear)	Age	Age 2	f(est)
f(e)	1												
f(s)	0.19	1											
f(ind)	0.04	0.08	1										
f(g)	0.03	-0.02	-0.06	1									
f(r)	0.01	0.03	0.05	0.02	1								
f(ms)	0.03	0.04	0.01	0.1	-0.03	1							
f(skills)	-0.06	0.01	-0.01	-0.11	0.03	0	1						
f(know)	-0.08	0.01	-0.07	-0.09	-0.06	-0.05	0.19	1					

f(op)	-0.02	0.04	0.07	-0.03	0.05	-0.02	0.22	0.21	1				
f(fear)	-0.11	-0.01	-0.01	-0.09	0.03	0	0.17	0.05	0.03	1			
age	0.06	0.05	-0.08	0.04	-0.08	0.19	0.03	-0.06	-0.03	-0.08	1		
age2	0.06	0.05	-0.1	0.04	-0.09	0.16	0.03	-0.06	-0.03	-0.08	0.99	1	
f(es)	-0.05	0.03	0.08	-0.1	0.05	-0.01	0.17	0.08	0.06	0.03	0.19	0.18	1

n= 1004

Note: f(e): factor equality, f(s): factor status, f(ind): factor indigenous, f(ms): factor marital status, f(op): factor opportunity. f(es): factor established entrepreneur, f(g) factor gender, f(r): factor religion. Shaded values $p < 0.01$

Table 4 shows the relationship between ethnicity, beliefs, and religion controlling for the usual relevant traits. In our results using a logistic regression (Hosmer and Lemeshow, 2000) the strongest predictor of entrepreneurship (as defined in this article) is *Skill*. In model 4, the most complete one, people who perceive that they have the skills, knowledge, and expertise to start a business have 3.66 better odds of being an established entrepreneur compared to people who perceive that they do not have the skills. This is consistent with other studies (Klyver and Hindle 2007; Langowitz and Minniti, 2007). This variable is followed in importance by *Indigenous (2)*, and this means that a person who considers herself as indigenous has 1.96 better odds to become an established entrepreneur than a person who does not. If we consider the marginal effects – last column of table 4, a person who perceives that she has the skills, expertise, and knowledge to start a new business has 0.105 higher probability of becoming an established entrepreneur, compared to a person who does not have that perception. In the same fashion a person who considers herself indigenous has a 0.055 higher probability to become an established entrepreneur compared to a person who considers herself nonindigenous.

We find a significant effect of our religion variable over the probability of becoming an established entrepreneur only for year 2014. This means that the Weberian theory is supported in our analysis, given our sample, the variables we use, the Guatemalan context, and the year (2014). This result is consistent with studies done in the USA (see for example Wiseman and

Young, 2014). Nevertheless, in the robustness tests that we present below this variable does not remain significant.

It is possible that ethnicity is correlated because, beyond the cultural component, there are network effects distinct from the effect captured by the variable *knowing other entrepreneur*. Such effects can be for example buying and selling preferably to people of the same ethnicity, among others. Distinguishing between these two effects is important (Manski, 2000). We do not do that here since the information on these variables in the dataset is limited. It is also possible that the variable ethnicity is highly significant because indigenous people have had limited access to the labor market, historically. As a consequence they have had no choice but to start business and have became good at that.

***Table 4*: Multivariate Results**

Logistic regression. Independent variable: Established Entrepreneur. Year 2014.

Model	1	exp (1)	2	exp (2)	34	exp (3)	4	exp (4)	Marg. Effects 4
Status (1)			0.1				0.167	1.18	0.014
			(0.28)				(0.28)		
Equality (1)					-0.366	0.69	-0.387*	0.68	-0.031
	4				(0.23)		(0.24)		
Age	0.121*	1.13	0.122*	1.13	0.121*	1.13	0.121*	1.13	0.005+
	(0.06)		(0.06)		(0.06)		(0.06)		
Age^2	-0.001	1.00	-0.001	1.00	-0.001	1.00	-0.001	1.00	
	(0.00)		(0.00)		(0.00)		(0.00)		
Indigenous (2)	0.651***	1.92	0.645***	1.91	0.682***	1.98	0.673***	1.96	0.055
	(0.23)		(0.23)		(0.23)		(0.23)		
Female	-0.515**	0.60	-0.512**	0.60	-0.501**	0.61	-0.494**	0.61	-0.040
	(0.23)		(0.23)		(0.23)		(0.23)		
Evangelical	0.387*	1.47	0.383*	1.47	0.3497*	1.49	0.392*	1.48	0.032
	(0.23)		(0.23)		(0.23)		(0.23)		
Married	0.484	1.62	0.488	1.63	0.472	1.60	0.479	1.61	0.039
	(0.30)		(0.30)		(0.30)		(0.30)		
Marital Status (3)	-0.306	0.74	-0.307	0.74	-0.318	0.73	-0.32	0.73	-0.026
	(0.40)		(0.40)		(0.40)		(04.40)		
Skill (1)	1.304***	3.68	1.302***	3.68	1.300***	3.67	1.297***	3.66	0.105

	(0.31)		(0.31)		(0.31)		(0.31)		
Know (1)	0.478*	1.61	0.476*	1.61	0.467*	1.60	0.462*	1.59	0.037
	(0.25)		(0.25)		(0.25)		(0.25)		
Opportunity (1)	0.116	1.12	0.114	1.12	0.108	1.11	0.105	1.11	0.009
	(0.23)		(0.23)		(0.23)		(0.23)		
Fear (2)	0.102	1.11	0.104	1.11	0.061	1.06	0.06	1.06	0.005
	(0.23)		(0.23)		(0.23)		(0.23)		
Constant	-7.068***	0.00	-7.148***	0.00	-6.835***	0.00	-6.948***	0.00	-0.563
	(1.24)		(1.26)		(1.25)		(1.27)		
Observations	1,004		1,004		1,004		1,004		
Log Likelihood	-281.076		-281.011		-279.856		-279.677		
McFadden	0.15		0.15		0.15		0.15		
Akaike Inf. Crit.	586.153		588.022		585.713		587.354		
Note:			*p<0.1;		**p<0.05;		***p<0.01		
+ Marginal effect of Age is at the median, 32 years.									

3.4 Robustness checks.

We perform several robustness checks. We also perform the same logistic regression analysis with 2013/2016 data (table 5 and 6). And finally we performed panel data analysis including three years (2013, 2014, and 2016. Table 7). GEM survey was not conducted in 2015 in Guatemala. The robustness checks presented in the tables below allow us to respond to the hypotheses stated above with higher confidence:

H0 (highly supported): People who know other entrepreneurs (*Know*), who perceive that they have the skills to start a business (*Skill*), and who do no see fear of failing as an obstacle to start a new business (*Fear*) are more likely to be established entrepreneurs.

H1 (supported): Indigenous people are indeed more likely to become established entrepreneurs relative to nonindigenous.

H2 (not supported): People who believe that society favors inequality are *not* more likely to become established entrepreneurs relative to people who do not believe so.

H3 (not supported): People who believe that society respects and positively acknowledges the work of those who start and succeed in a business are *not* more likely to become established entrepreneurs relative to people who do not believe so.

H4 (not supported): Protestants (compared to Catholics) are *not* more likely to become established entrepreneurs.

The panel data analysis presented below is more reliable that the analysis for each of the separate years since clearly it is based on more information. This analysis shows that *Age* is positively correlated with being an established entrepreneur, Age^2 is negatively correlated – this result is consistent with other studies (see for example Guiso, Sapienza, and Zingales, 2006). The marginal effects of this variable, at different moments of its distribution, are shown in figure 1. Its effect reaches the peak at the minimum age, and is negative at the maximum age.

The variable indigenous is positive and highly significant. *Skill*, *Know*, and *Fear*, are positively, positively, and negatively correlated in respective order. This means that the perception of having the skills, knowledge, and expertise to start a business is positively correlated with being an established entrepreneur. The same happens with knowing somebody who started a business in the past two years – which can be interpreted as a network effect. On the other hand perceiving fear as an obstacle to start a business is negatively correlated with being an established entrepreneur.

The panel data analysis also shows that people interviewed in 2013 and 2014 are less likely to be established entrepreneurs than those interviewed in 2016. The effect for 2013 is stronger, which suggest that the results obtained in a yearly bases are somehow contingent on specific circumstances of the specific year.

Table 5: Multivariate Results. Year 2013

Logistic regression. Independent variable: Established Entrepreneur

Coefficients:	Estimate	Std. Error	z value	Pr(>|z|)		Marg. Effects
(Intercept)	-11.773	1.831	-6.431	0.000	***	-0.547
Equality (1)	-0.051	0.309	-0.166	0.868		-0.002
Status (1)	0.179	0.325	0.549	0.583		0.008
Age	0.324	0.089	3.644	0.000	***	0.005+
Age^2	-0.003	0.001	-3.245	0.001	**	
Indigenous (2)	0.948	0.288	3.288	0.001	**	0.044
Female	-0.072	0.286	-0.253	0.800		-0.003
Evangelical	0.231	0.280	0.824	0.410		0.011
Married	0.051	0.363	0.139	0.889		0.002
Marital Status (3)	-0.054	0.441	-0.122	0.903		-0.003
Skill (1)	1.633	0.489	3.339	0.001	***	0.076
Know (1)	0.801	0.286	2.806	0.005		0.037
Opportunity (1)	0.031	0.300	0.103	0.918		0.001
Fear (1)	-0.654	0.327	-2.001	0.045	*	-0.030
Note:		*p<0.1;	**p<0.05;	***p<0.01		
(Dispersion parameter for binomial family taken to be 1)						
Null deviance: 467.94 on 1119 degrees of freedom						
Residual deviance: 392.77 on 1106 degrees of freedom						
AIC: 420.77. McFadden: 0.16						
Number of Fisher Scoring interactions: 7						
+ Marginal effect of Age is at the median, 32 years.						

Table 6: Multivariate Results. Year 2016

Logistic regression. Independent variable: Established Entrepreneur

Coefficients:	Estimate	Std. Error	z value	Pr(>|z|)		Marg. Effects
(Intercept)	-5.714	0.825	-6.926	0.000	***	-0.605
Equality (1)	-0.093	0.166	-0.561	0.575		-0.010
Age	0.151	0.042	3.562	0.000	***	0.007+
Age^2	-0.001	0.001	-2.587	0.010	**	
Status (1)	-0.071	0.183	-0.389	0.697		-0.008
Indigenous (2)	0.417	0.154	2.704	0.007	**	0.044
Female	-0.014	0.154	-0.093	0.926		-0.002
Evangelical	-0.017	0.152	-0.115	0.909		-0.002
Married	0.011	0.186	0.060	0.952		0.001
Marital Status (3)	0.281	0.210	1.336	0.182		0.023
Skill (1)	0.213	0.178	1.196	0.232		0.023
Know (1)	0.367	0.161	2.278	0.023	*	0.039
Opportunity (1)	0.013	0.160	0.082	0.935		0.001
Fear (1)	-0.387	0.167	-2.310	0.021	*	-0.041

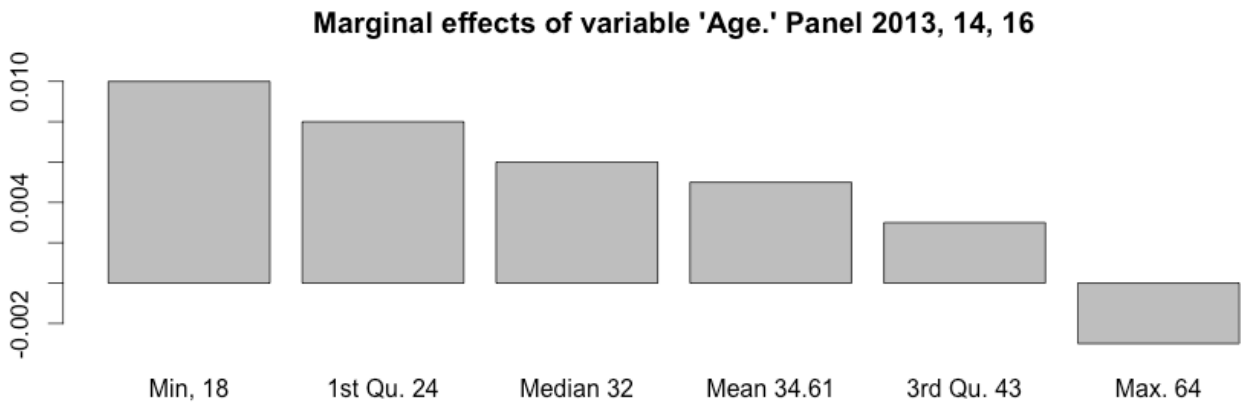
Note:		*p<0.1;	**p<0.05;	***p<0.01		
(Dispersion parameter for binomial family taken to be 1)						
Null deviance: 1296.0 on 1690 degrees of freedom						
Residual deviance: 1208.3 on 1677 degrees of freedom						
AIC: 1236.3. McFadden: 0.068						
Number of Fisher Scoring iterations: 5						
+ Marginal effect of Age is at the median, 32 years.						

***Table 7*: Multivariate Results. Panel: Years 2013, 2014, and 2016**

Logistic regression. Independent variable: Established Entrepreneur

Coefficients	Estimate	Std. Error	z value	Pr(>|z|)		Marg. Effects
(Intercept)	-5.882	0.626	-9.389	< 2e-16	***	-0.489
Equality (2)	0.169	0.122	1.390	0.165		0.014+
Age	0.176	0.032	5.427	0.000	***	0.006++
Age^2	-0.002	0.000	-4.130	0.000	***	
Status (2)	-0.049	0.137	-0.357	0.721		0.004
Indigenous (2)	0.555	0.116	4.806	0.000	***	0.046
Female	-0.166	0.115	-1.438	0.150		-0.014
Evangelical	0.118	0.114	1.037	0.300		0.100
Married	0.140	0.143	0.977	0.328		0.012
Marital Status (3)	0.087	0.170	0.509	0.611		0.007
Skill (2)	-0.675	0.141	-4.786	0.000	***	-0.056
Know (2)	-0.466	0.121	-3.856	0.000	***	0.039
Opportunity (2)	-0.191	0.143	-1.335	0.182		-0.016
Fear (2)	0.326	0.142	2.301	0.021	*	0.027
2013	-1.082	0.162	-6.676	0.000	***	-0.090
2014	-0.266	0.135	-1.974	0.048	*	-0.022
2016 (reference)	NA	NA	NA	NA		
Note:		*p<0.1;	**p<0.05;	***p<0.01		
(Dispersion parameter for binomial family taken to be 1)						
Null deviance: 2473.8 on 3814 degrees of freedom						
Residual deviance: 2212.3 on 3799 degrees of freedom						
AIC: 2244.3. McFadden: 0.11						
Number of Fisher Scoring iterations: 6						
+ Equality (2) responds "no" to the question "In Guatemala the majority of people prefer that everybody have a similar standard of living?"						
++ Marginal effect of Age is at the median, 32 years.						

***Figure 1*: Marginal effects of variable 'Age.' Panel 2013, 14, 16**



6. Final remarks

We find that knowing other entrepreneurs, perceiving oneself as having the skills, knowledge and expertise are positively correlated with being an established entrepreneur. Fear to fail is negatively correlated. In other words, of the four typical traits explained in section one of this paper, only the variable *Opportunity* was not supported by the evidence examined. We also find that the marginal effect of the variable age is decreasing, reaching a peak for young individuals and a negative value of individuals in the maximum age. This might indicate that young people who generally lack experience and education may find in entrepreneurship a career path.

The evidence presented supports only one of our stated "cultural hypotheses:" ethnicity. In general we do not find Protestants, relative to Catholics, to be more likely to become established entrepreneurs in Guatemala, with the exception of year 2014. This suggests that previous findings, mainly by anthropologists, are contextual. The link between Protestantism and entrepreneurship is not universal and as Dana (2009) puts it, context matters. And in the case of Guatemala, history matters as well.

Only ethnicity is statistically significant, and remains significant after several robustness checks. We suggest taking this finding with caution, and leave to further research a deeper examination of our results and the discussion of the corresponding implications.

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