

CULTURA Y EMPRENDIMIENTO: EL CASO DE LATINOAMÉRICA

RESUMEN: El objetivo de este artículo es contribuir a aumentar el conocimiento de los valores culturales y la actividad emprendedora que están presentes en países con diferentes niveles de desarrollo. Dentro del grupo de los países en desarrollo, vamos a centrar nuestro análisis en el caso de América Latina.

Para este estudio se han usado datos provenientes de la Schwartz Value Survey (SVS), para medir los valores culturales, y del Global Entrepreneurship Monitor (GEM) para la información referente a la actividad emprendedora.

Los resultados muestran que las variables culturales, junto con la tasa de actividad emprendedora, distinguen claramente a los países en desarrollo de los desarrollados. Un mayor nivel de emprendimiento se da en los países con menor desarrollo. Mientras, las dimensiones culturales de autonomía e igualitarismo se asocian con países de mayor desarrollo. En el caso específico de América Latina, los resultados revelan la existencia de dos grupos de países. En primer lugar, Bolivia, Perú y Venezuela tienen tasas más altas de iniciativa empresarial y, al mismo tiempo, una mayor prevalencia de algunos valores culturales (en particular, la pertenencia —o conservación—, pero también jerarquía). Por el contrario, otro grupo de países de la región, Argentina, Brasil, Chile, Costa Rica y México, se caracteriza por la mayor presencia de valores culturales opuestos (autonomía e igualitarismo), más similares a los que corresponden a los países desarrollados.

El artículo concluye con una discusión de los resultados, incluyendo algunas implicaciones interesantes, desde las perspectivas académicas y políticas. En el caso de América Latina, una cierta combinación de valores culturales (pertenencia e igualitarismo) puede estar provocando mayor tasa de creación de empresas. Por tanto, la promoción de esos valores podría contribuir al emprendimiento y al desarrollo económico.

PALABRAS CLAVE: emprendimiento, valores culturales, Latinoamérica, desarrollo económico.

CULTURE ET ENTREPRENEURIAT : LE CAS DE L'AMÉRIQUE LATINE

RÉSUMÉ : L'objectif de cet article consiste à améliorer la connaissance des valeurs culturelles et de l'activité entrepreneuriale présentes dans des pays avec des niveaux différents de développement. Dans le groupe des pays en développement nous allons centrer notre analyse sur le cas de l'Amérique latine.

Pour cette étude, nous avons utilisé des données provenant de la Schwartz Value Survey (SVS), pour mesurer les valeurs culturelles, et du Global Entrepreneurship Monitor (GEM) pour l'information relative à l'activité de l'entreprise.

Les résultats montrent que les valeurs culturelles, conjointement au taux d'activité entrepreneuriale, distinguent clairement les pays en développement de ceux qui sont développés. On rencontre un plus grand niveau d'entrepreneuriat dans les pays moins développés alors que les dimensions culturelles d'autonomie et d'égalitarisme se rapprochent de celles des pays plus développés. Dans le cas particulier de l'Amérique latine, les résultats montrent l'existence de deux groupes de pays. Tout d'abord la Bolivie, le Pérou et le Venezuela ont des taux plus élevés d'initiative entrepreneuriale et, en même temps, une plus grande prévalence de certaines valeurs culturelles (en particulier, l'appartenance —ou conservation—, mais aussi la hiérarchie). Par contre, un autre groupe de pays de la région (Argentine, Brésil, Chili, Costa Rica et Mexique) se caractérise par la plus grande/forte présence de valeurs culturelles opposées (autonomie et égalitarisme) qui correspondent davantage aux pays développés.

L'article conclut avec une discussion des résultats, en incluant plusieurs implications intéressantes, avec des perspectives scientifiques et politiques. Dans le cas de l'Amérique latine, une certaine combinaison de valeurs culturelles (appartenance et égalitarisme) peut provoquer un plus grand taux de création d'entreprises. Par conséquent, la promotion de ces valeurs pourrait contribuer à l'entrepreneuriat et au développement économique.

MOTS-CLÉS : Entrepreneuriat, valeurs culturelles, Amérique Latine, développement économique.

CULTURA E INICIATIVA EMPRESARIAL: O CASO DA AMÉRICA LATINA

RESUMO: O objetivo deste artigo é contribuir para aumentar o conhecimento dos valores culturais e a atividade empresarial que estão presentes em países com diferentes níveis de desenvolvimento. Dentro do grupo dos países em desenvolvimento, vamos centrar a nossa análise no caso da América Latina.

Para este estudo foram utilizados dados provenientes da Schwartz Value Survey (SVS), para medir os valores culturais, e do Global Entrepreneurship Monitor (GEM) para a informação referente à atividade empresarial.

Os resultados mostram que as variáveis culturais, junto com a taxa de atividade empresarial, diferenciam claramente os países em desenvolvimento dos desenvolvidos. Um maior nível de empreendedorismo acontece nos países com menor desenvolvimento. Enquanto isso, as dimensões culturais de autonomia e igualitarismo são associadas com países de maior desenvolvimento. No caso específico da América Latina, os resultados revelam a existência de dois grupos de países. Em primeiro lugar, Bolívia, Peru e Venezuela têm taxas mais altas de iniciativa empresarial e, ao mesmo tempo, maior prevalência de alguns valores culturais (principalmente o sentido de pertença - ou conservação -, mas também hierarquia); pelo contrário, outro grupo de países da região (Argentina, Brasil, Chile, Costa Rica e México) se caracteriza pela maior presença de valores culturais opostos (autonomia e igualitarismo), mais parecidos aos que correspondem aos países desenvolvidos.

O artigo conclui com uma discussão sobre os resultados, incluindo algumas implicações interessantes, desde as perspectivas acadêmicas e políticas. No caso da América Latina, uma combinação de valores culturais (sentido de pertença e igualitarismo) pode estar provocando maior taxa de criação de empresas. Portanto, a promoção desses valores poderia contribuir para o empreendimento e para o desenvolvimento econômico.

PALAVRAS-CHAVE: Empreendimento, valores culturais, América Latina, desenvolvimento econômico.

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Culture and Entrepreneurship: The Case of Latin America

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ABSTRACT: The aim of this paper is to contribute to an increased knowledge of the cultural values and the entrepreneurial activity that are present in countries with different levels of development. Within the group of developing countries, we focus our analysis on the case of Latin America.

The study uses data from the Schwartz Value Survey (SVS) to measure cultural values, and Global Entrepreneurship Monitor (GEM) for information regarding entrepreneurship. The results show that cultural variables, together with the rate of entrepreneurial activity, clearly distinguish developing countries from developed ones. Higher entrepreneurial activity is found in countries with lower levels of development; however, the cultural value dimensions of Autonomy and Egalitarianism are associated with higher development levels. In the specific case of Latin America, the results reveal the existence of two groups of countries. Firstly, Bolivia, Peru and Venezuela have higher rates of entrepreneurship and, at the same time, a greater prevalence of some cultural values (notably Embeddedness, but also Hierarchy). In contrast, another group of countries in the region—Argentina, Brazil, Chile, Costa Rica and Mexico—is characterized by the presence of opposing cultural values (Autonomy and Egalitarianism), more in line with those corresponding to developed countries.

The paper concludes with a discussion of the results, including some interesting implications, from both academic and policy perspectives. In the case of Latin America, a certain combination of cultural values (Embeddedness and Egalitarianism) may be leading to higher start-up rates. Thus, promoting these values could contribute to entrepreneurship and economic development.

KEYWORDS: Entrepreneurship, cultural values, Latin America, economic development.

Introduction

As anyone traveling throughout the world knows, there are substantial differences in the cultural practices and traditions of nations. In scientific research, sociologists and social psychologists have studied cultural differences between countries (Hofstede, 2003; Inglehart, 1997; Schwartz, 2004), and this interest in cross-cultural studies has recently been increasing. Additionally, it has been argued that this diversity may help explain a wide range of differences in several domains. The question posed is, then: Does culture explain national levels of economic, social, institutional, or scientific variables?

At the same time, recent research has also shown that there are substantial country differences in entrepreneurial activity (Kelley, Singer & Herrington, 2012). This is relevant since entrepreneurs are considered a driving force for innovation, job creation, and economic growth. Accordingly, these agents have received increasing attention from policy makers and also from the academic community. Different studies have shown that entrepreneurship can

contribute significantly to economic growth, job creation, and innovation (Carree, van Stel, Thurik & Wennekers, 2002; Wennekers, van Stel, Thurik & Reynolds, 2005). There is, therefore, a great interest in understanding which factors determine the entrepreneurship levels of different countries or regions.

In this sense, the attempts to explain the level of entrepreneurial activity have not been completely successful. Previous research in this area has tended to find a U-shaped relationship between the level of economic activity and that of entrepreneurship (Carree, *et al.*, 2002; Sternberg & Wennekers, 2005; Wennekers, *et al.*, 2005). Beyond a certain level of per capita GDP, which has been set around US\$7000 by some authors (Pinillos & Reyes, 2011), increased income leads to higher start-up rates. The reason for this may be that wealthier countries have a more complex economic system and also greater demand for new and differentiated consumer goods, both leading to increased opportunities (Shane, 1993).

However, countries with similar development levels present persistent differences in their degrees of entrepreneurship (Pinillos & Reyes, 2011; van Stel, Carree & Thurik, 2005), and there is evidence that culture may be one very relevant component explaining these differences (Davidsson, 1995; Davidsson & Wiklund, 1997; Hayton, George & Zahra, 2002; Shane, 1993; Wennekers, Thurik, van Stel & Noorderhaven, 2007).

The influence of cultural values on entrepreneurship deserves more attention. Until now, research on culture and entrepreneurship has been limited (Krueger, Liñán & Nabi, 2013) and has mainly focused on the individualism-collectivism continuum as explaining entrepreneurial activity (Morris, Davis & Allen, 1994; Pinillos & Reyes, 2011; Tiessen, 1997). Results from these studies have normally led to the conclusion that individualistic values favor entrepreneurial activity (Liñán, Fernández & Romero, 2013; Thomas & Mueller, 2000). But culture is a multidimensional phenomenon (Hofstede, 2003; Schwartz, 1999) and therefore this value-dimension alone may not reflect the complete influence of culture on entrepreneurship. Other authors have considered alternative cultural variables, such as uncertainty avoidance (Wennekers *et al.*, 2007), but attempts at analyzing several of these dimensions together are still rare (Rauch *et al.*, 2013). One exception is Mueller and Thomas (2001), who jointly analyzed the role of individualism and uncertainty avoidance, or Shane (1993), who analyzed the effect of four cultural variables on innovation.

The vast majority of this research has been based on Hofstede's (2003) classification of cultural values, however,

concerns have been raised regarding its methodological strength (Jabri, 2005; Tang & Koveos, 2008). At the same time, alternative classifications have emerged. In particular, Schwartz (1992) defines the personal value structure as being made up of 10 basic universal values. Shared individual values form the basis of the cultural values of a society (Schwartz, Melech, Lehmann, Burgess & Harris, 2001).

This paper, therefore, aims to address the following research questions: Are cultural values and entrepreneurship determinant in establishing an economy's level of economic development? And to what extent do cultural values interact with entrepreneurial activity? In particular, Latin America is a very relevant area to study, since these countries have a more homogenous history and geographical proximity, and nearly all of them are considered upper-middle-income developing countries by the World Bank. Total Entrepreneurial Activity (TEA) levels differ widely (from 11.3% in Mexico to 34.2% in Bolivia), and the same may be said of GDP per capita (which ranges from US\$3,890 to US\$12,450, in Bolivia and Mexico respectively). At the same time, despite a common language and a shared past, there is notable cultural diversity among them. The interaction between these three groups of variables may be substantial, and is analyzed in the paper.

After this introduction, the next section outlines the relevant theory and the hypotheses derived from it. Section 3 describes the empirical analysis. Results are presented in Section 4 and discussed in Section 5. The paper ends with a brief conclusion.

Theory

Economic Development and Entrepreneurship

Minniti, Bygrave and Autio (2006) and Lee and Peterson (2000) found that income level has an effect on the level of entrepreneurial activity. In particular, the rate of growth in income has been noted to have an influence on start-up rates (Armington & Acs, 2002; Lee, Florida & Acs, 2004). Similarly, when income is measured as per capita GDP, the effect on entrepreneurship is positive as well (Fishman & Sarria-Allende, 2004; Parker & Robson, 2004). The level of economic development induces new firm formation, since the environmental opportunities and the expected rewards of starting a business are higher (Carree, *et al.*, 2002; Reynolds, Storey & Westhead, 1994). Individuals may be drawn toward starting a business based on perceived environmental opportunities. Therefore, per capita GDP is a factor that influences demand in a specific region, as higher levels



of income increase demand and opportunities for their entrepreneurs. Furthermore, there is evidence that the average level of income and wealth determines the variety of consumer demand. A high differentiation in demand favors the suppliers of new and specialized products and diminishes the scale advantages of large incumbent firms (Jovanovic, 1993; Wennekers, Uhlaner & Thurik, 2002).

However, development might be accompanied by raising real wages, increasing the opportunity costs for self-employment. Thus, GDP per capita could reduce entrepreneurial activity (Bjornskov & Foss, 2006; Noorderhaven, Thurik, Wennekers & van Stel, 2004). In this sense, some authors (van Stel, Wennekers, Thurik & Reynolds, 2003; Verheul, Wennekers, Audretsch & Thurik, 2002) have found a significant positive effect of the square of per capita GDP, suggesting a U-shaped impact of this income variable on entrepreneurship. Thus, for higher levels of income, a positive relationship between per capita GDP and entrepreneurship should be expected.

In this particular study, since our focus is on developing countries, we expected to find a negative relationship between

GDP per capita and entrepreneurial activity. That is, we would be moving on the left-hand side of the U-shaped relationship.

Culture and Entrepreneurship

Inglehart (1997) defines culture as the set of basic common values which contributes to shaping people's behavior in a society. Cultural values operate unconsciously, since they are deeply rooted within the political institutions and technical systems. Therefore, these values and beliefs are continuously reinforced (Pinillos & Reyes, 2011). Culture shapes the individual's cognitive schemes, programming behavioral patterns which are consistent with the cultural context (Hofstede, 1991, 2003).

Culture may influence entrepreneurship through two main mechanisms (Davidsson, 1995). First, a supportive culture would lead to social legitimation, making the entrepreneurial career more valued and socially recognized in that culture, thus creating a favorable institutional environment. Therefore, more people would try to start ventures, irrespective of their personal beliefs and attitudes (Etzioni, 1987). Second, a culture sharing more pro-entrepreneurial

values and patterns of thinking would lead to more individuals showing psychological traits and attitudes consistent with entrepreneurship (Fernández, Liñán & Santos, 2009; Krueger, 2000, 2003). Thus, more people would try to become entrepreneurs (Mcgrath, MacMillan, Yang & Tsai, 1992; Mueller & Thomas, 2001). In this sense, it has been suggested that a high perceived valuation of entrepreneurship in a society will lead to more positive attitudes and intentions in individuals (Krueger & Carsrud, 1993; Liñán, Urbano & Guerrero, 2011). Alternatively, it has also been argued that it is “misfit” individuals who attempt to start a venture. That is, irrespective of the specific cultural characteristics of a country, people not sharing dominant cultural values—dissatisfied individuals—will attempt the entrepreneurial path (Hofstede *et al.*, 2004).

The first and most common classification of cultures distinguishes between individualist and collectivistic ones (Hofstede, 1980; Schwartz, 1999; Triandis, 1995). However, alternative characterizations have also been made. Thus, Inglehart (1997) considers modernization—with an emphasis on economic and physical security—and post-modernization—a priority of self-expression and intellectual and aesthetic satisfaction—as two of the essential differentiating elements.

From an empirical point of view, Hofstede’s cultural dimensions of individualism, uncertainty avoidance, power-distance, and masculinity (Hofstede, 1980, 1991, 2003) have been used as a reference in most research about the influence of culture on entrepreneurship (Hayton *et al.*, 2002; Liñán & Chen, 2009; Mcgrath & MacMillan, 1992; Mitchell, Smith, Seawright & Morse, 2000; Mueller & Thomas, 2001; Mueller, Thomas & Jaeger, 2002; Shane, Kolvereid & Westhead, 1991). Results have confirmed their influence on national start-up rates, innovation, or entrepreneurial intentions (Hayton & Cacciotti, 2013). However, Hofstede’s measures have been criticized due to methodological weaknesses (Jabri, 2005; Tang & Kozeos, 2008).

This paper employs Schwartz’s theory, which considers cultural values as averaged individual values (Schwartz, 1994, 1999, 2004). This theory is strongly based on a universal system of values that guide human behavior, with some values prevailing over others due to specific cultural contexts (Schwartz, 2006). This mechanism works through social institutions and their actions (through legislation, government directives, the education system, etc.), selecting and prioritizing some values over the others. In this sense, people tend to behave in accordance with what they believe is socially

appropriate (Bourdieu, 1991; Markus & Kitayama, 1991; Schwartz, 1994).

At the aggregate level, seven types of cultural values may be identified (Schwartz, 1994): Embeddedness, Intellectual Autonomy, Affective Autonomy, Hierarchy, Egalitarianism, Mastery, and Harmony. These may be grouped into three bipolar dimensions.

- *Embeddedness versus Autonomy (Intellectual and Affective)*: This dimension covers the troubled relationship between the individual and the group. At the Embeddedness end of the dimension, the person is seen as an entity that is included in the community (examples of values may be social order, respect for tradition, family security, or wisdom). Meanwhile, at the other end, the person is an autonomous body that finds meaning in his/her own difference (to be curious, open-minded, or creative are values within Intellectual Autonomy; pleasure, varied life, or exciting life are Affective Autonomy values). Of course, the relative strength of Affective and Intellectual Autonomies may make a difference at the cultural level (see Schwartz & Ros, 1995, for a comparison of western European countries). Many theorists associate individualism with the self-interested pursuit of personal goals (Triandis, 1995). However, self-interest is equally present on both sides of the Embeddedness-Autonomy dimension (Schwartz, 2004).
- *Hierarchy versus Egalitarianism*: The second societal problem is to guarantee responsible behavior that preserves the social fabric. People must be induced to consider the welfare of others, to coordinate with them, and thereby manage their unavoidable interdependencies. This addresses the responsible, cooperative behavior that will get societal tasks done, either by differentiating roles or by internalizing commitment and voluntary cooperation (Schwartz, 1994). At the Hierarchy end of this dimension, the unequal distribution of power, roles, and resources is considered legitimate (social values such as power, authority, humility, and wealth). Meanwhile, at the Egalitarianism end, the members of society are considered as equal beings who share a commitment to cooperate with others and pursue the common good (social values such as justice, freedom, responsibility, and honesty).
- *Mastery versus Harmony*: This dimension helps solve the problems of the relations between people and nature. Those cultures which are heavily inclined towards the Mastery pole seek personal gain through the exploitation and domination of nature (ambitious, successful, competitive, and risk-taking). On the

Harmony side, on the other hand, are cultures that seek for individuals to fit in harmoniously with nature (unity with nature, protecting the environment, and so on).

These cultural value orientations also present a framework of cultural compatibility and opposition (Schwartz, 1994, 1999), since some of them share common basic assumptions. For instance, Hierarchy and Embeddedness are positively related, sharing the idea that personal roles and obligations to collectivities are more important than individual ideas and aspirations. The same is true about Egalitarianism and Intellectual Autonomy—they share the idea of social actors who take individual responsibility and make personal decisions based on their understanding of situations. In practice, high Egalitarianism and Intellectual Autonomy are usually found together, as in Western Europe (Schwartz & Ros, 1995).

The shared and opposing assumptions inherent in cultural values yield a coherent circular structure of relations among them (Schwartz, 1999). Thus, the structure reflects the cultural orientations that are compatible (adjacent in the circle) or incompatible (distant around the circle). This conception of cultural dimensions as forming an integrated system, derived from a priori theorizing, distinguishes this approach from others. Hofstede (1980, 2003) conceptualized his dimensions as independent, while Inglehart (1997) derived two broad cultural components empirically.

Even though there is a paucity of research using these three cultural dimensions in the entrepreneurship field, Schwartz (1999) finds individualism to be positively associated with Autonomy and Egalitarianism, while opposed to Embeddedness. This result has been confirmed by Ros (2002). However, the interrelations between culture, economic development, and entrepreneurship are complex. Some authors have found that the effect of individualistic values on entrepreneurship is different, depending on the level of development (Pinillos & Reyes, 2011).

At the same time, there seems to be considerable interdependence between culture and economic development (Fernández-Serrano & Romero, 2014; Ros, 2002). In particular, Autonomy seems to be more strongly associated with economic growth, while Egalitarianism is more strongly linked to social change. With regards to the relationship between Mastery/Harmony and economic development, no strong evidence has been found (Schwartz, 2004; Schwartz & Ros, 1995). Nevertheless, the Harmony concept has been related to Inglehart's (1997) post-materialism, and is found to be higher in most developed countries.

Latin American Context

Latin American countries share some historical experiences, a common language (with the notable exception of Brazil, although Portuguese and Spanish are relatively similar languages) and a common colonial past. These countries may be said to comprise a world region. They have been considered as such in several studies, including some in the field of entrepreneurship, which have analyzed Latin America as a whole (Acs & Amorós, 2008; Kantis, Ishida & Komori, 2002; Pena, 2006).

Nevertheless, there are notable country differences, which are reflected not only in income levels, but also in entrepreneurial activity and cultural variables. The GEM project classifies some of these countries as efficiency-driven, while others are factor-driven economies (Kelley *et al.*, 2012). In cultural terms, some of these countries present a value structure very close to the average for high-income countries (predominance of Autonomy, Egalitarianism, and Harmony dimensions), while the cultural profile of others is typical of low-income developing countries (a greater emphasis on Embeddedness, Hierarchy, and Mastery dimensions). In this context, the present study serves to clarify some of the differences between Latin American countries with regard to culture and entrepreneurship.

Research Hypotheses

Based on the theory reviewed above, we formulated the following hypotheses to test in the empirical analysis:

- H1: Culture and entrepreneurship jointly characterize the level of economic development.
- H2: Within developing countries, the cultural dimensions of Autonomy, Egalitarianism, and Harmony are associated with lower entrepreneurial activity.
- H3: Within developing countries, the cultural dimensions of Embeddedness, Hierarchy, and Mastery are associated with higher entrepreneurial activity.
- H4: Significant differences emerge among Latin American countries with respect to culture and entrepreneurship.

Methodology

The empirical analysis was carried out on a sample of developing and developed countries. In particular, special attention was paid to the case of Latin America. Of the total sample of 56 countries, 27 were developed and the rest (29) developing. Within this latter group, 8 countries were from Latin America: Argentina, Brazil, Bolivia, Chile, Costa Rica, Mexico, Peru, and Venezuela.

The empirical analysis was divided into two phases. Firstly, logistic regression analysis was used to classify countries into two groups (developing vs. developed). The explanatory variables were entrepreneurial activity and cultural variables in order to test whether cultural variables, together with entrepreneurship, can be used to distinguish between developing countries and developed ones (hypothesis H1).

Second, a cluster analysis was performed to group the countries in the sample into similar categories. In this case, culture and entrepreneurship were again used, along with income level, as classifying variables. The analysis of the resulting clusters paid special attention to Latin American countries, considering their differences in terms of income, culture and entrepreneurship.

This empirical analysis was carried out using data from 56 countries relating to cultural, economic, and entrepreneurship variables. Countries were selected based on the data available (countries participating in the GEM project and included in the SVS study were included). The variables in this analysis can be classified into three types with the following sources of data:

- For economic development, we used two indicators:
 - a) Development (DEV). According to the Global Competitiveness Index and GEM's classification, we created a dummy variable with two values: "1" for innovation-driven economies and "0" for the rest¹.
 - b) Gross Domestic Product per capita (GDP per capita). Data were obtained from the World Development Indicators of the World Bank (average for the period 2001-2011).
- For entrepreneurship, we used Global Entrepreneurship Monitor (GEM) statistics². Since 1999, the GEM project has measured and compared the entrepreneurship levels for different time periods and countries. We were interested in the more general Total Entrepreneurial Activity (TEA):
 - c) Total Entrepreneurial Activity (TEA). This is the percentage of the population (aged 18-64) made up of either nascent entrepreneurs (those starting a venture, or who started one no more than 3 months ago), or owner-managers of new businesses (*i.e.*, owning and managing

a running business that has paid salaries or wages, or made any other payments to the owners for more than 3 months, but no more than 42 months). The values are averages of annual data for the period 2001-2011.

- For cultural values, the Schwartz Value Survey (SVS) was used (Hebrew University). The Schwartz Value Survey contains 57 items representing 10 value types on an individual level and 7 value orientations on the cultural level. The data are available for more than 60 countries during the period 1985-2005. The average for each country has been computed for the 57 value-items. These regional-level scores were then averaged into seven cultural values in accordance with Schwartz (2004) and Schwartz and Ros (1995): Embeddedness, Intellectual Autonomy, Affective Autonomy, Hierarchy, Egalitarianism, Mastery, and Harmony. Finally, the seven cultural values were grouped again into three bipolar cultural dimensions by subtracting the score in the second cultural value (Autonomy, Egalitarianism, and Harmony) from the score in the first (Embeddedness, Hierarchy, and Mastery). These three dimensions were the variables for our empirical analysis:
 - d) Embeddedness versus Autonomy³ (Emb-Auto): A positive value represents predominance of the first element: Embeddedness. A negative value reflects the predominance of the second element: Autonomy. Average 1985-2005.
 - e) Hierarchy versus Egalitarianism (Hier-Egal): A positive value represents the predominance of Hierarchy values, whereas a negative value represents the predominance of Egalitarianism. Average 1985-2005.
 - f) Mastery versus Harmony (Mas-Har): A negative value represents the predominance of Harmony values, whereas a positive value reflects the predominance of Mastery. Average 1985-2005.

Table 1 shows the correlations between these variables. As can be seen, the correlation between GDP per capita and the categorical variable DEV is very high (0.909). This is clearly expected, since income is the main criterion used by the GEM project to classify countries. The table also shows that the entrepreneurial activity (TEA) diminishes as income grows (-0.615, $p < 0.01$). With respect to cultural variables, higher development and income is clearly associated with an emphasis on Autonomy and Egalitarianism values (correlation of Emb-Auto and Hier-Egal to GDPpc is

¹ Efficiency-driven and factor-driven economies were grouped together because the number of cases in the latter category was very small (7). Besides, the total sample size was not large enough to perform a multinomial logistic regression.

² Available from the GEM consortium web page: <http://www.gemconsortium.org/key-indicators>.

³ Autonomy being the average of Intellectual and Affective Autonomy.

TABLE 1. Pearson's Correlations

	DEV	GDP pc	TEA	Emb-Auto	Hier-Egal	Mas-Har
DEV	1					
GDP per capita	0.909 ***	1				
TEA	-0.514 ***	-0.615 ***	1			
Emb-Auto	-0.648 ***	-0.716 ***	0.606 ***	1		
Hier-Egal	-0.533 ***	-0.523 ***	0.309 **	0.579 ***	1	
Mas-Har	-0.235 *	-0.246 *	0.257 **	0.310 **	0.682 ***	1

Significance levels: * p < 0.1, ** p < 0.05, *** p < 0.01.

Source: Author's own.

-0.716 and -0.523, respectively, p < 0.01) and, to a lesser extent, also on Harmony (-0.246, p < 0.1).

Table 1 provides some initial support for hypotheses H2 and H3, since the correlation between TEA and cultural dimensions is positive and significant. That is, higher entrepreneurial activity is associated with a more positive value of these dimensions (a predominance of Embeddedness, Hierarchy, and Mastery).

Results

First, the logistic regression was run using the maximum likelihood method for estimations. Table 2 shows the main results of the logistic regression model computed. The omnibus test is significant (p < 0.05), denoting the acceptance of the hypothesis that β coefficients are different from zero. The variance inflation factors (VIF) and the condition indices (CI) indicate that multicollinearity is not a problem in this model. The highest condition index is 13.26 and the highest VIF is 2.66—this being observed for the variable "Hier-Egal". The explanatory capacity of this model is high (Nagelkerke R-squared = 0.651 and percentage correct = 82.1), and only one non-significant variable emerges (Mas-Har). The most significant variables are "TEA" and "Emb-Auto". All signs are as expected.

With respect to the entrepreneurship variable, our results are in line with previous research from an international perspective within the GEM project (Kelley *et al.*, 2012; Reynolds, Bygrave, Autio & Hay, 2002). The TEA variable has a negative and significant coefficient, indicating that countries with a higher level of TEA are more likely to be located in the group of "not innovation-driven economies". This could be explained by the presence of a global negative relationship between the development level and the firm-entry rates when countries of different levels of development are compared.

In terms of the cultural dimensions, two of them have significant coefficients with the signs expected. The variable

Emb-Auto has a negative and significant coefficient, showing that countries in which the Autonomy cultural dimension predominates are more likely to be classified as innovation-driven (or high-income) economies. The same may be said with regard to Egalitarianism—where this dimension predominates (relative to Hierarchy), the probability of it being a high-income economy is higher, as the negative sign of the corresponding β coefficient for Hier-Egal indicates. The coefficient for the third cultural dimension (Mas-Har) is not significant. Nevertheless, it has the sign expected.

Overall, therefore, satisfactory support is found for hypothesis H1, since entrepreneurship and cultural variables together serve to distinguish the level of economic development of the countries.

TABLE 2. Logistic Regression

Dependent variable = DEV (1 for high-income countries; 0 for the rest)					
	B	S.E	Wald	Sig.	Exp(B)
Constant	-2.477	1.255	3.894	***	0.084
ENTREPRENEURSHIP					
TEA	-0.280	0.111	6.361	***	0.756
CULTURAL DIMENSIONS					
Emb-Auto	-2.049	0.942	4.732	***	0.129
Hier-Egal	-0.782	0.460	2.892	**	0.458
Mas-Har	-0.876	0.971	0.813		0.417
Goodness of Fit (1)					
Chi-squared (sig.)	37.518 (***)			Percentage correct (1)	82.1
-2 log-likelihood	40.115			Other	79.3
Nagelkerke R-squared	0.651			High-income	85.2

*, **, *** Differences statistically 0.10, 0.05, 0.01 levels, respectively. S.E = Standard Error.

(1) A cut-off value of 0.518 is used.

Source: Author's own.

For the purpose of the cluster analysis, the three cultural dimensions, GDP per capita, and TEA were used to classify

the countries into homogeneous groups. The two-step cluster procedure was applied, including a K-Means Clustering procedure, which was followed by an ANOVA analysis to confirm the results' robustness. As shown in Table 3, three main groups of countries were identified. The final cluster centers are presented in Table 4.

TABLE 3. Classification of Countries by Cluster

Cluster	Countries
1	Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, South Korea, Netherlands, New Zealand, Norway, Portugal, Singapore, Slovenia, Spain, Sweden, Switzerland, Taiwan, United Kingdom, USA.
2	Argentina, Bosnia Herzegovina, Macedonia, Brazil, Chile, China, Costa Rica, Croatia, Egypt, Hungary, India, Indonesia, Iran, Jordan, Latvia, Malaysia, Mexico, Poland, Romania, Russia.
3	Bolivia, Ghana, Peru, Philippines, Uganda, Venezuela, Yemen.

Source: Author's own.

- Cluster 1 (developed countries) is associated with innovation-driven economies *i.e.*, high development countries. This cluster has a higher GDP per capita and a lower TEA than the other two groups. Countries in this group are characterized by the predominance of Autonomy, Egalitarianism and, to a lesser extent, Harmony.
- Cluster 2 (higher developing countries) has an intermediate level of TEA and GDP per capita when compared with the other two groups. With respect to the cultural dimensions, the most important characteristic is the lower level of Egalitarianism (compared to cluster 1), while there seems to be some equilibrium in the other two dimensions (neither pole predominates).
- Cluster 3 (lower developing countries) has a higher TEA level and lower GDP per capita. Culturally, it is characterized by the predominance of Embeddedness and, to a lesser extent, Mastery. With respect to the Hierarchy-Egalitarianism dimension, its average level is similar to that of cluster 2.

TABLE 4. Final Cluster Centers

	Cluster 1	Cluster 2	Cluster 3
GDP per capita	33.205	9.934	4.101
TEA	6.487	10.327	28.086
Emb-Auto	-0.751	0.028	0.735
Hier-Egal	-2.686	-1.950	-2.032
Mas-Har	-0.138	0.061	0.126

Source: Author's own.

Therefore, these results provide partial support for hypotheses H2 and H3. Clusters 2 and 3 correspond to developing

countries. Within them, higher entrepreneurial activity (cluster 3) is characterized by a relatively stronger predominance of Embeddedness (over Autonomy). The predominance of Mastery (over Harmony) is also higher, although the difference is small. In contrast, the score for the Hier-Egal dimension is more negative (nevertheless, the difference is again small), meaning that countries in cluster 3 are relatively strong on Egalitarianism (over Hierarchy).

Latin American countries are divided between clusters 2 and 3. Table 5 presents the values of the relevant variables for these countries. It is interesting to note that Latin American countries in cluster 2 present consistent differences with the remaining countries in each cluster. Thus, the average income in Latin America is higher (US\$10,820 vs. US\$9,930), the entrepreneurial activity is also higher (13.06% vs. 10.33%), and the cultural dimensions are closer to those of the countries in cluster 1. Therefore, these countries (Argentina, Brazil, Chile, Costa Rica, and Mexico) seem to be somewhere in between cluster 1 and the rest of cluster 2.

The three Latin American countries in cluster 3 are less homogeneous than those in the previous group. The differences between Bolivia, Peru, and Venezuela in some of these variables are substantial. On average, however, they are relatively close to the average of this cluster.

TABLE 5. Latin American Countries by Cluster

	GDP per capita	TEA	Emb-Auto	Hier-Egal	Mas-Har
Cluster 1	33.20	6.49	-0.75	-2.69	-0.14
Cluster 2	9.93	10.33	0.03	-1.95	0.06
Average Latin A.	10.82	13.06	-0.23	-2.54	-0.26
Argentina	11.53	13.60	-0.30	-2.65	-0.09
Brazil	8.92	13.16	-0.16	-2.57	-0.34
Chile	11.75	13.88	0.02	-2.70	-0.61
Costa Rica	9.44	13.40	-0.73	-2.43	0.18
Mexico	12.45	11.27	0.02	-2.38	-0.46
Cluster 3	4.10	28.09	0.74	-2.03	0.13
Average Latin A.	7.03	28.95	.41	-2.09	-0.07
Bolivia	3.89	34.20	.89	-2.14	-0.57
Peru	6.75	30.00	.26	-2.00	0.41
Venezuela	10.46	22.65	.08	-2.12	-0.06

Source: Author's own.

Overall, therefore, the results of the cluster analysis serve to confirm hypothesis H4, since two clearly different groups of Latin American countries emerge. Those in cluster 2 are culturally closer to developed countries, but their level of entrepreneurial activity is higher than could be expected. Meanwhile, Latin American countries in cluster 3 exhibit

the cultural and entrepreneurial characteristics of the other countries in this cluster.

Discussion

The multidimensional concept of culture adopted here makes sense. The differences found between groups of countries with varying levels of development affect more than one dimension. This is a clear indication that culture is a complex phenomenon that cannot be accounted for by the simplistic distinction between individualism and collectivism.

Much is yet to be learned regarding the way in which cultural values influence entrepreneurial activity. According to Schwartz (2006), this influence would take place through social institutions (social legitimation, in the words of Davidsson, 1995). The present study offers relevant indications that the relationship exists, but additional work is needed to better understand the mechanisms through which it takes place.

Overall, satisfactory support is found for the hypotheses proposed. Nevertheless, H2 and H3 received only partial support, indicating that the relationship between culture and entrepreneurship may be more complex than initially thought.

The classification of Latin American countries into efficiency-driven or factor-driven economies (made by GEM) is not completely consistent with our cluster analysis. With the exception of Bolivia, all countries are considered efficiency-driven by the GEM project, whereas our results suggest that Peru and Venezuela are notably similar to Bolivia, and are thus classified in cluster 3. This probably indicates that economic variables alone are not enough to categorize the development level of a country.

On the other hand, Latin American countries in cluster 2 are very close to developed countries in Egalitarianism, and stress Harmony (over Mastery) even more than rich countries do. At the same time, their level of entrepreneurial activity is higher than expected when income is considered. This is a very interesting result that may indicate some form of interaction between the cultural dimensions.

Thus, we have found a general negative relationship between autonomy values and entrepreneurial activity. However, in cluster 2 Latin American countries, the combination of relatively low Autonomy (when compared to developed countries) with relatively high Egalitarianism may explain the higher than expected level of entrepreneurial activity. In this sense, an emphasis on Egalitarianism implies that each individual is expected to take responsibility and cooperate with others in the pursuit of

the common good. At the same time, a relatively higher Embeddedness (lower Autonomy) implies the sense of being part of a community. The combination of these two value priorities may lead more people to try to contribute to society through entrepreneurial activity. Of course, this possible explanation needs to be tested in future research, but it opens up an interesting avenue of investigation about the relative combination of cultural dimensions and their effect on entrepreneurship.

Another relevant result is that, with only two exceptions (Costa Rica and Peru), Latin American countries from both clusters score relatively high in Harmony. It is certainly higher than that of the remaining countries in clusters 2 and 3, and even higher than many developed countries. This implies an understanding that individuals should harmoniously fit in with nature. The overwhelming characteristics of nature in Latin America may help explain this result. The economic and entrepreneurial consequences of this surely deserve attention.

In this sample of countries, the relationship between GDP per capita and TEA is negative. There is no evidence of a U-shaped relationship, or a turning point anywhere around the US\$7000 threshold, as suggested by Pinillos and Reyes (2011). In particular, clusters 2 and 3 (developing nations) include countries with a GDP per capital of up to US\$13000, and the relationship found is still negative. However, no specific test for a U-shaped relationship has been included, since it fell outside the scope of this paper.

Conclusion

This paper has shown evidence of the existence of relevant interactions between economic development, entrepreneurial activity, and cultural values. Particular attention has been paid to Latin America. Some common elements (an emphasis on Harmony values) have emerged, but notable differences have also been found.

In particular, two clearly different groups of countries can be identified in this area, based on their overall economic, cultural, and entrepreneurial variables. In this sense, the group of more advanced economies (Argentina, Brazil, Chile, Costa Rica, and Mexico) is culturally closer to developed countries than expected. At the same time, their level of entrepreneurial activity is also higher than expected.

This study is not without limitations. The sample size is small and this has conditioned the possibilities of the statistical analysis. In the case of Latin America, the information from GEM and SVS was only available for eight countries, so no specific analysis was possible. For these reasons, among others, these results need replication and

confirmation with alternative measures and samples. More thorough studies about the Latin America case are also needed. Despite its tentative character, this study has offered very promising insights about the nature of the relationships between culture and entrepreneurship. The authors call for additional work to advance knowledge in this particular field.

The implications for academics and policy makers may be substantial. If a better understanding of the effect of culture on entrepreneurship is gained, measures and programs to promote the desired cultural values may be devised. In Latin America, a certain combination of cultural values is associated with higher income and higher entrepreneurial activity. Lessons may undoubtedly be learned from this. Thus, at least for Latin America, Autonomy and Egalitarianism could be promoted. Programs, measures, and institutional reforms could be implemented to give value to the individual will of each citizen, together with a sense of responsibility to contribute to a society that functions well. These values probably promote enhanced entrepreneurial activity and, through this, economic development. Within these institutional reforms, the elimination of regulatory barriers to starting up a company is probably one key element. In this sense, Fernández-Serrano and Romero (2014) show that in countries with a culture characterized by Autonomy, Egalitarianism, and Harmony, regulatory barriers may have an especially negative effect on business creation. Therefore, the promotion of these cultural values should be accompanied by regulatory simplification. Finally, since distinct levels of culture operate in societies, these implications should also be valid in the development of the "enterprise culture". That is, managers should promote a culture in which responsibility and autonomy are valued and rewarded. This will have advantages for the firm itself, but also—through this—for an effectively functioning entrepreneurial ecosystem.

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