ENTREPRENEURSHIP AND POSTMATERIALISTIC VALUES. An individual-based analysis

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AN INDIVIDUAL-BASED ANALYSIS

ABSTRACT

Research theme and hypothesis. From Schumpeter right up to today research on entrepreneurship has mainly demonstrated that entrepreneurs constitute a key factor in a country's economic development, in creating employment and in innovation. However, there is still no definitive answer to the question: What makes a person an entrepreneur? The hypothesis of this study is based on the tenet that materialistic people seek material security and that postmaterialistic people seek to satisfy needs such as independence and fulfilling personal objectives in life and that for this reason the latter tend to set up less companies than the materialists. Hypothesis: People who are more postmaterialistic tend to start up less companies than people who are more materialistic.

Data. A model was drawn up to explore the predictive capacity of postmaterialism in entrepreneurship at the individual level. The measure of postmaterialism was taken from Inglehart's 4-item postmaterialism index. The model uses the socio demographic variables of age, gender, education and income level as control variables. Data from about twenty thousand subjects from 25 OECD countries is used in the 1999-2004 database of the World Value Survey to measure all these variables.

Results. Results were obtained using logistic regression. There is significant statistical evidence that postmaterialism decreases a person’s likelihood of becoming an entrepreneur, although its impact varies depending on the country and on the variables incorporated into the models.

Key words: Postmaterialism, Values, Entrepreneurship, World Value Survey
INTRODUCTION

The study of human values — and their change patterns — has been a recurrent subject in the sociological literature of the last fifty years. Values have gained central importance in academic discussions regarding societal behaviour, as they have been considered by theorists as deeply rooted, abstract motivations that guide, justify and explain attitudes, norms, opinions and actions (Rokeach 1973, Feather 1975, Schwartz 1992, Halman and de Moor 1994). A solid understanding of the place values occupy in today's sociological discussions is a necessary condition for any theory dealing with human development in the 21st century.

One of the predominant theories regarding changing trends in values in advanced industrial societies is the theory developed by Ronald Inglehart. The theory is known as postmaterialism or postmaterialistic values theory. Already in 1971, Inglehart suggested that a transformation in the political culture of advanced industrial societies may be taking place, a transformation that “seems to be altering the basic value priorities of given generations as a result of changing conditions influencing their basic socialization” (Inglehart 1971, p. 991). The effects of postmaterialism, as it will be explained later, have been studied in relation with different fields. However its relation to entrepreneurship is not properly known.

Many of the studies on entrepreneurship coincide on a number of points about the state of the art of entrepreneurship research: First of all, there is no agreed definition of entrepreneurship. Wennekers et al. (2005) counted 12 different definitions of entrepreneurship just from the economics literature. This disarray is closely related to the multi-faceted nature of entrepreneurship as a phenomenon. This means that entrepreneurship is a social phenomenon observed at various levels and that it displays different properties in each of these levels. Starting from the individual level, entrepreneurship is observed at the firm, regional, industrial and national level (Davidsson 2004). The second point about entrepreneurship literature in general is the use of various
disciplines in the research. This is a natural corollary of the multi-faceted nature of entrepreneurship. An array of academic disciplines ranging from economics, management science and organization studies, to sociology and social psychology, to name the major ones, have all been employed in entrepreneurship research (Beugelsdijk 2007). The third property of entrepreneurship research is related to this second point. There are a multitude of perspectives on entrepreneurship. Some studies deal with the origins or sources of entrepreneurship whereas others deal with the effects of entrepreneurship on economic development and still others look at the managerial implications of entrepreneurship. After multiplying this number of perspectives with the large number of different disciplines, researchers are led to the conclusion that there is still no well developed theory of entrepreneurship (Ritchie and Brindley 2005). It means that consensus has not been achieved in specifying the entrepreneurship determinants, neither at the individual nor at the socio-cultural level. In this paper we contribute to this debate by analyzing the potential relationship between the entrepreneurial phenomenon and cultural values. Following the still unanswered question: “What makes an entrepreneur?”, the main objective of this paper is to analyze the potential predictive role that postmaterialism has on entrepreneurship.

The paper is structured as follows: First, a review of the literature on entrepreneurship, values and postmaterialism will be presented. Then, the methodology section goes on to outline the data used, the measurements, sample information and the analytical techniques employed in the study. This is followed by a presentation of the main results, which aims to offer its own particular contribution to the relationship between postmaterialism and entrepreneurship. The paper then ends with a discussion of the findings and conclusions.

LITERATURE REVIEW

1. The Relationship between Values and Entrepreneurship
In recent decades entrepreneurship has been increasingly recognized as a crucial factor in processes of economic development in nations. At the moment
there seems to be a broad consensus that entrepreneurs play an important role in the generation of employment and the creation of wealth (Muhanna 2007, Brunet & Alarcón 2004). This has led to a growing interest among researchers on examining the main determinants of nascent entrepreneurship and the entrepreneurial behaviour of individuals, cultures and nations.

It was economic theory that accorded entrepreneurship its deserved importance in the first place. Schumpeter had already described the entrepreneur as an active, dynamic element, capable of breaking the routine in market economies (Schumpeter 1934). Followers of the Schumpeterian approach to growth have suggested the key role entrepreneurial dynamism could have in innovation and growth (Aghion and Hewitt, 1997). Other widely cited authors have agreed on the importance of the entrepreneur as a determining figure in a market economy, be it as an agent for providing inputs to the system (Leibenstein 1968), distinguishing opportunities (Kirzner 1973) or diminishing uncertainty (Knight 1921).

Previous studies mostly concentrated on the enterprise as the unit of analysis, and only a few paid particular attention to the characteristics of entrepreneurs as individuals or to entrepreneurship as a concept. This has changed lately, however: the role of entrepreneurs has today acquired its due importance in academic research, and this has led to the emergence of a whole body of research dealing with “entrepreneurship” as a field of study (Brunet & Alarcón 2004).

1.1 Determinants of entrepreneurship

When looking at the main determinants of entrepreneurship, three distinct perspectives have been emphasized: the role of institutions, the role of social networks and the role of personal characteristics (Muhanna 2007). While all three perspectives seem relevant, there is no clear consensus in social sciences on the determinants of entrepreneurship. Some authors have found particularly strong effects of social networks (Muhanna 2007), some sociologists have long emphasized the role of individual values in promoting or discouraging entrepreneurial activities (Cochran 1971), while others have argued that
differences in value systems and cultural orientations play a key role in entrepreneurship rates (Illeris 1986, Thomas and Mueller 2000), others again have concentrated on the roles of personality, origins, and labour experiences (Carland et. al. 1984), and yet others have emphasized resources such as human, social, financial and organizational capital (Cooper et al. 1994).

A similar strategy which has been widely used to approach the study of the determinants of entrepreneurial activity has been to distinguish between an “individual” dimension (entrepreneur’s actions, psychological traits) and a “structural” dimension (institutionally, socially, culturally, ideologically and politically based factors). Most researchers have focused on the external (or “structural”) conditions of entrepreneurship and their influence on the formation of new enterprises (Keeble & Walker 1994), their survival (Romanelli 1986), the competition strategies they develop (Zahra 1996), or improvements in their functioning (Covin & Slevin 1989), among other topics. But, according to other scholars, these views may offer incomplete pictures for understanding entrepreneurial behaviour. The argument behind this is that both dimensions are necessary for a complete understanding of the determinants behind the entrepreneurial function, and if only one dimension is taken into account, the understanding will be deficient (Brunet & Alarcón 2004, Van de Ven 1993).

Studies have described how rates of entrepreneurship show strong and persistent differences across nations (Van Stel 2005). These cross-national differences in rates of entrepreneurial nascence have been explained by a wide range of economic, technological, demographic, cultural and institutional factors (Verheul et al. 2002, Wennekers, 2006). Some authors have argued that these differences are related to levels of economic development, in addition to demographic, cultural and institutional characteristics (Blanchflower 2000). But the relative stability of differences in entrepreneurial activity across countries and over time suggests that factors other than economic ones are at play (Grilo and Thurik 2005).

The findings in the field are diverse. Some authors have found there is a positive relationship between education and entrepreneurship, that is,
individuals with a higher educational level will show a higher level of entrepreneurial behaviour (Wang and Wong, 2004). There are studies, however, that associate informal entrepreneurship and self-employment with low educational levels (Gong & Soest 2002). For others, entrepreneurship is strongly associated with having a family background of entrepreneurs and being in a social circle with many entrepreneurs, highlighting the importance of the social environment and social effects in the entrepreneurship direction (Muhanna 2007). Entrepreneurial attitudes have also been measured in terms of preferences for self-employment as well as in actual self-employment. In this sense, it has been shown that country-specific (cultural) variables seem to explain the preference for entrepreneurship, but cannot explain actual entrepreneurship (Freytag & Thurik 2007). It has also been argued that individual characteristics play an important role in the choice of whether or not to become an entrepreneur, and that confidence in starting one’s own business is boosted by having entrepreneurs in one’s family and among one’s friends (Muhanna 2007). In many other dimensions entrepreneurs and non-entrepreneurs share similar values, for instance in terms of believing that family, friends, leisure time, religion, service to others, financial security, health and freedom are important (Muhanna 2007). Moreover, no real exogenous differences in trust among entrepreneurs and non-entrepreneurs have been found (Muhanna 2007).

1.2 Values as determinants of entrepreneurship
Extensive research in social sciences has shown links between sets of values, beliefs, attitudes and behaviour. It could be argued, then, that differences in culture, in which individual values and beliefs are embedded, may have an influence in a wide range of behaviours, including the decision to become an entrepreneur (Mueller and Thomas 2001). In this line, several studies have explored the relationship between various aspects of culture and entrepreneurial behaviour across nations and over time (Noorderhaven et al. 2004, Mueller & Thomas 2001, Busenitz et al. 2000, Lee & Peterson 2000, Tiessen 1997, Davidssson 1995, McGrath & MacMillan 1992, Huisman 1985).
Three types of explanations have been used along this line (Wennekers 2006). The first argues the existence of certain values closely related with entrepreneurship, and thus suggests that if the presence of these values is high in a particular society, the probability of higher levels of entrepreneurship will increase (Uhlaner and Thurik 2007). In this line, important contributions have been made by Davidsson (1995) and Davidsson and Wiklund (1997), who have studied the relationship between the individual’s values and beliefs and entrepreneurial behaviour and intention in six structurally different clusters of regions. The second view puts forward the argument that the higher the degree of ‘moral approval’ of entrepreneurship, the more entrepreneurs will exist in a given society (Etzioni 1987). The third explanation argues that in a non-entrepreneurial culture, a clash of values between potential entrepreneurs and the population as a whole may drive the former to higher level of self-employment (Noorderhaven et al. 2004, Baum et al. 1993).

When it comes to the findings, these are again diverse. Some authors have found a positive relationship between certain cultural values, informal social networks and federal aid and entrepreneurship (Valencia de Lara et al 2007). Sudde et al. (2007) developed a composite measure of entrepreneurial culture using McClelland’s (1961) Need for Achievement, Lynn’s (1991) competitiveness index, Granato et al.’s (1996) achievement motivation index, and GLOBE’s performance orientation index ¹ (Javidan 2004). They found their measure to be significantly and positively related to nascent entrepreneurship, when controlling for economic, demographic and institutional factors. Other findings have argued that individualistic values exert a positive and direct influence on entrepreneurial behaviour, while the presence of significant intracultural distances implies the need to assume a multiple cultural perspective when studying differences in entrepreneurial behaviour (Garcia-Cabrera & Garcia Soto 2008).

An interesting alternative slant on the matter has been introduced by means of applying the values model developed by Shalom Schwartz to the study of entrepreneurial conduct. Initially, Schwartz derives from theory ten motivational

¹ See also http://www.thunderbird.edu/wwwfiles/ms/globe/
types of values from three universal requirements: needs of individuals as biological organisms, requisites of coordinated social interaction, and requirements for the smooth functioning and survival of groups. Schwartz claims exhaustiveness of this set of ten basic value types; “It is possible to classify virtually all the items found in lists of specific values from different cultures (...) into one of these ten motivational types of values” (Schwartz 1994, pp. 22-23). These single values can be classified in a circular structure (see Fig. 1), where the closer the values are in either direction around the circle, the more positive the relationship between them, and thus, the more distant they are, the more negative their interrelationship. This circular structure is then situated in a two-dimensional scale (individualism vs. collectivism), where the axes are labelled “Self-enhancement – Self-transcendence” and “Conservation – Openness to Change” (Schwartz, 1994; 2007).

![Figure 1. Schwartz's theoretical model of relations among motivational types of values](image)

Departing from Schwartz’s theoretical framework, Moriano et al. (2001) reflect on the possibilities this standpoint brings to the study of entrepreneurial behaviour. The research is conducted by comparing the differences in means for types of values and the specific values between a group of entrepreneur subjects and another non-entrepreneur group. Their results show that significant differences exist, both in the types of values and in the specific
values of the two groups, suggesting that entrepreneurs are inspired by more individualistic values (Moriano et. al 2001). More specifically, these authors found that their sample’s answers to a “being an entrepreneur” item they introduced into their study, correlated significantly and positively with four of the five individualistic types of values suggested by Schwartz: power, achievement, self-direction and stimulation. This led them to conclude that “being an entrepreneur” would be situated within the individualistic dimension in Schwartz’s scheme. Other findings reinforce that entrepreneurship correlates positively with power and achievement and, in general, with individualistic values (McGrath 1992).

Valencia de Lara et al. (2007) contribute to the perspective with an interesting approach, in which they link Schumpeterian economic theory and Schwartz’s approach to the study of values in their relationship to entrepreneurship. According to these authors, Schumpeter had already stated that the entrepreneurial behaviour of the individual does not lie in hedonism but in a desire for social power, independence, personal achievement, and in an adventurous nature and creativity (Schumpeter 1934); all are factors compatible with Schwartz’s individualistic value categories: power, achievement, stimulation and self-direction.

In their study, Valencia de Lara et al. depart from the idea that individualistic and ‘mixed’ values will have a positive relationship with the rate of entrepreneurial nascence, while collectivistic values will have a negative effect on it. They present the hypothesis that entrepreneurs have a specific set of values that is positively related to the probability of creating an enterprise; this is they show a significant presence of individualistic and ‘mixed’ values rather than collectivistic ones. But what the authors find in their analysis is that individualist values do not show any positive or statistically significant relationship to the probability of creating an enterprise. The ‘mixed’ values, however, do show a positive relationship to entrepreneurship, while collectivist values show a negative relationship, meaning the increase in presence of collectivist values clearly diminishes the probability of entrepreneurial nascence (Valencia de Lara et al. 2007).
Although the literature has investigated various types of factors and their relationship with entrepreneurship, among them personality factors and values, there has been little research into the impact of postmaterialistic values on entrepreneurship. Only one study thus far has looked at the specific relationship between the presence of postmaterialistic values and rates of entrepreneurship. Uhlaner and Thurik (2007) approached the matter by seeking to explain how postmaterialism influences differences in entrepreneurial behaviour across countries. The study uses aggregate data from different sources. For this objective the authors developed a measure of postmaterialism based on Inglehart’s four-item postmaterialism index (Inglehart 1990), and including several controls for economic, social and demographic effects. Their findings across 27 countries confirm the significance of postmaterialism in predicting total entrepreneurial activity and more particularly, new business formation rates.

Uhlaner and Thurik argue that in societies with a strong presence of postmaterialistic values, the rate of total entrepreneurial activity is likely to be lower than in societies where material values have more importance to the individual. To test this hypothesis, they run regressions using Inglehart’s four-item index as a measure for postmaterialism against the dependent variable of total entrepreneurial activity. Their findings lend support to the hypothesis that there exists a negative relationship between postmaterialism and total entrepreneurial activity; that is, countries with a higher presence of postmaterialism tend to have lower total entrepreneurial activity, seen as in the combination of nascent entrepreneurship and new business formation. Furthermore, they find that when introducing controls for education and life satisfaction, there remains an independent negative influence of postmaterialism on the rate of entrepreneurial activity (if the control variables are viewed together in the model), making it possible to refute the possibility of the influence of postmaterialism being spurious. However, the lack of stability of the results when the control variables are introduced independently, and in general, the lack of studies linking postmaterialism and entrepreneurship, call for more thorough research in this line.
Some years earlier, the same authors, Uhlaner and Thurik (2002) tested the same hypothesis with data from 24 OECD countries at the country level. In this case postmaterialism against self-employment rates, controlling for various economic and social factors such life satisfaction, church attendance and extremism. Similar to their previous mentioned research at the macro level, they found a negative relationship between post materialism and self-employment.

Despite the academic interest in the determinants of entrepreneurship, there is a lack of cultural elements in entrepreneurship research. Several authors claim that more studies comparing entrepreneurs across cultures are needed. These studies would enable us to come to a more complete understanding of the national culture’s influence on entrepreneurial characteristics (Hayton, George and Zahra, 2002; Freytag and Thurik, 2007). Moreover, some scholars argued that the studies in the area of entrepreneurship and culture should measure cultural orientations at the individual level instead of culture at the aggregate level (Koenig, Steinmetz, Frese, Rauch and Wang, 2007). Following these lines of reasoning this paper focuses on the individual as a unit of analysis, something that has not been done so far in the research of the relationship of entrepreneurship and postmaterialism.

2. Postmaterialism. An overview

One of the predominant theories regarding values is the Postmaterialistic values one. It has been developed by Ronald Inglehart (University of Michigan, director of the World Values Survey). Inglehart suggested that a transformation in the political culture of advanced industrial societies may be taking place, a transformation that “seems to be altering the basic value priorities of given generations as a result of changing conditions influencing their basic socialization” (Inglehart 1971, p. 991). This idea was to guide his production over the following years and became the theoretical framework of the WVS project, one of the most ambitious — and respected — public opinion research projects that currently exist.²

² The World Values Survey (WVS) is described on its website as a “worldwide network of social scientists studying changing values and their impact on social and political life”. The project has been carrying out representative national surveys in 97 societies containing almost 90 percent of the world’s
Inglehart’s theory on human development began to take shape in the early 1970s, but it was in his 1977 work *The silent revolution: changing values and political styles among Western publics* that he introduced the notion of *postmaterialism* that would be key to his subsequent work. In *The silent revolution* Inglehart described how a major intergenerational shift in the values of the populations of advanced industrial societies was taking place, and proposed two hypotheses that explained these patterns of change. The first he called a “scarcity” hypothesis, which established a distinction between material needs for basic survival (physiological needs, safety), and non-material needs, such as aesthetic satisfaction and self-expression values. Departing from Maslow’s theory of the hierarchy of human needs (Maslow 1943); Inglehart argued that while virtually everyone aspires to freedom and autonomy, human beings place the highest value on their most pressing needs. This is why in socioeconomic environments where material sustenance and physical security are not yet resolved; people will tend to prioritize these “materialistic” goals, while in conditions of prolonged prosperity, “postmaterialistic” values such as autonomy, belonging, esteem, self-expression and intellectual satisfaction will be emphasized (Inglehart 1977, 1990). However, Inglehart warns that the relationship between socioeconomic conditions and priorities in values is not one of immediate adjustment, and this is where he introduces his second hypothesis, that of “socialization”, as a complement to the “scarcity” one. The “socialization” hypothesis starts out from the idea that basic human personality tends to crystallize by the time an individual reaches adulthood, undergoing relatively little change thereafter (Rokeach 1973). This implies that value changes in societies are gradual processes that occur through intergenerational replacement, as they will only happen when younger generations with new values replace older ones in the adult population. Only “after an extended period of rising economic and physical security, one would expect to find substantial differences between the value priorities of older and younger groups, since they would have been shaped by different experiences in their population, through five waves of surveys that date from 1981 through 2007. “The WVS provides an unprecedentedly rich cross-cultural data base exploring orientations toward religion, politics, work, economic growth, family values, sexual norms, and gender roles” (Inglehart and Carballo, 1997). See www.worldvaluessurvey.org
formative years. But a sizeable time-lag would occur between economic changes and their political effects” (Inglehart 2008, p. 132). In short, Inglehart argues that socialization in the absence of scarcity produces individuals with post-materialist values, and that the shift in values taking place in advanced industrial societies is a reflection of these conditions.

In *Culture Shift in Advanced Industrialized Societies* (1990) Inglehart again argues that the “unprecedented levels of economic and physical security that prevailed during the post-war era has led to an intergenerational shift from Materialist to Postmaterialist values” (Inglehart 1990, p. 103). The analysis in this work is expanded to include a large body of time-series survey data (the *Eurobarometers*) from twenty-six nations gathered from 1970 through 1988. Through them he analyzed the cultural changes happening in Europe — which he then described as a shift “from an overwhelming emphasis on material well-being and physical security toward greater emphasis on the quality of life”³ (Inglehart 1990). Inglehart concluded that a large number of basic values and the changes they are undergoing in contemporary societies (both advanced industrial societies and those in process of modernization) can be depicted in two major dimensions of cross-cultural variation: “traditional authority/secular-rational authority” and “survival/self-expression values”⁴. These two dimensions explain more than 70 percent of the cross-national variance in a factor analysis of ten indicators, and each of these dimensions is strongly correlated with scores of other important orientations.⁵ These two axes, and the location of each society on them, lead to the creation of the famous “Inglehart-Welzel Cultural Map of the World”.⁶

His interpretation of these findings crystallized in a revised version of modernization theories, which once again took up the idea that economic development leads to specific, functionally related changes in mass values and belief systems (Inglehart 1997, Inglehart and Carballo 1997). This implied

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³ This notion had already been theoretically shaped in his work on the concept of *postmaterialism* in the 1970s. See *The Silent Revolution* (1977).
⁴ Originally the second dimension oscillated between “survival” and “well-being”, but after the nineties Inglehart replaced the second notion with the more precise label of “self-expression”.
⁶ See Figs. 2 and 3 in Appendix.
readdressing the controversial point that economic development, cultural change, and political change go together in coherent and even, to some extent, predictable patterns; though introducing the notion that once societies have completed their industrialization processes, they initiate a new series of cultural changes that pass from survival to postmaterialist well-being and self-expression values. According to this idea, societies that have achieved a certain level of economical development and prosperity provide the necessary conditions for the emergence of new political issues and foster the appearance of new political movements interested in topics such as environmentalism, quality of life, autonomy, individual self-expression and tolerance, rather than “traditional” modern concerns such as reindustrialization and rearmament. This is in fact what Inglehart calls the “silent revolution” which is brought about through intergenerational value change in industrialized societies: old material values (economic productivity, growth, order, safety) are displaced by new postmaterial ones (self-expression, ecological balance, quality of life, democracy, human rights).

An extensive body of literature shows the profound impact that Inglehart’s ideas on the nature of value change have had in the social sciences. His theoretical assumptions, methodological tools and practical implications have been cited and used widely by social researchers around the world in a variety of fields that include studies regarding value change (Flanagan 1982, Abramson and Inglehart 1987, 1992, 1995, de Graaf et al. 1989, Halman and de Moor 1994, de Graaf and Evans 1996), democracy and electoral studies (Gibson and Duch 1994, Brown and Carmines 1995, Dalton 1996, Fuchs and Rohrschneider 1998), economic and entrepreneurial studies (Granato et. al 1996, de Graaf 1988, Uhlner et al. 2002, Uhlner and Thurik 2007), and a variety of political science studies that deal with participation and citizenship (Anderson 1990, Opp 1990, Layman and Carmines 1997), among other fields. The postmaterialism index has been included (either in its short four-item version, or its longer twelve-item version) in surveys such as the European Community Surveys, the General Social Surveys and National Election Surveys from the US, the

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7 The main conceptual features of Inglehart’s stance on modernization can be found in Modernization and Postmodernization (1997). See Fig. 1 in Appendix for a simplified exposition.
International Social Survey Programme, the World Values Surveys, and many others.

But controversy regarding Inglehart’s ideas and index has also been present in vast amounts. Amongst others, the validity, the stability and the causation of postmaterialism have been called into question. Authors have argued that the classification of human beings into materialist or postmaterialist categories (from which Inglehart develops his ratio of materialist to postmaterialist) is founded on no real evidence, but that people mostly have mixed values, some more materialist, some more post-materialist (Brooks and Manza 1994). Others have noted that the postmaterialist issues Inglehart describes are in fact non-materialist liberal values, and furthermore, that some materialist values can be well described as authoritarian values (Flanagan 1987, de Graaf and Evans 1996). Changes in values have also been explained by rising levels of education (de Graaf and Evans 1996, Davis 1996).

The relationship between postmaterialism and entrepreneurship therefore does not seem clear a priori. On one hand, the value that postmaterialist people attach to autonomy leads one to believe that they might also seek such autonomy in their working life and that setting up one’s own company would be one way of achieving this, but on the other hand, at the same time, the fact that postmaterialist people value money and the search for material security less, may also influence the final decision of creating a company that is economically motivated. This position assumes that wealth creation is the most important objective of entrepreneurial efforts. In this respect, a causal relationship can be envisaged between postmaterialism and entrepreneurship. Following the previous findings in the field at the aggregate level (Uhlaner and Thurik 2004, 2007), this study also assumes that the more postmaterialist a country is, the less entrepreneurship ratios it has. At the individual level, this is the hypothesis that the study is testing.

METHODOLOGY

Model
This study analyses whether postmaterialism has a predictive value on entrepreneurship. A set of economic and demographic variables was chosen to analyse the independent role that postmaterialism plays in predicting entrepreneurial activity. These control variables are: Age, gender and education level. Income level was also used to control for economic effects.

This study’s hypothesis may be summed up by the syllogism that materialistic people seek material security whereas postmaterialistic people seek to satisfy needs such as self-expression, independence and fulfilling personal objectives in life and that for this reason the latter may tend to set up less companies than the materialists.

**Research question and hypothesis**
In a more general framework of the determinants of entrepreneurship, this study’s research question is: Which individual values explain the decision to become entrepreneur? And the study’s hypothesis is: People who are more postmaterialistic tend to start up less companies than people who are more materialistic.

**Data**
Data from 25 OECD countries was taken from the World Value Survey, for the wave 1999-2004. The five OECD countries not included in the study are: Australia, New Zealand, Norway, Switzerland and Great Britain. The first four did not take part in the World Value Survey in the wave that was analysed. In the case of Great Britain, the questions on Postmaterialism were omitted in the 1999-2004 wave. The OECD countries were chosen due to their income level, rates of unemployment and because inequality rates were more similar among them than among other countries included in the World Value Survey.

**Variables**
In order to test the model, seven variables were chosen from the above mentioned data base. Below are the variables that were used together with their values:

Independent variable
- Postmaterialism (index 4) – variable y002 (1=materialist; 2=mixed values; 3=postmaterialist)

Control variables
- Gender – variable x001 (0=male; 1=female)
- Age – variable x0031r1 (six categories from 1=15-24 years old to 6>=65 years old).
- Education level – variable x025r (1=lower; 2=middle; 3=upper)
- Income level – variable x047 recoded (1=low; 2=medium; 3=high)

Dependent variable. Entrepreneurship was measured with the variable self-employment
- Employment Status – variable (alternative 3=Self employment). This variable was recoded. The original value “3” was allocated value “1” and the original variables “employed-part time” and “employed-full time” become value 0. By using this process the variable was transformed into a dichotomic variable.

Sample
The database contains data on 38075 subjects. For the chosen variables, the valid data contains 20112 cases. The unit unit of analysis is the individual.

Analysis
In order to test the hypothesis, logistic regression was used in a series of models carried out to determine the effects of different variables. Analyses were performed for the entire sample of subjects from the 25 countries in addition to country-by-country analyses. Furthermore, 24 dichotomous dummy variables were included in all of the models for the entire sample (one for each country, with the exception of one which was used for the purpose of contrast). This was done by attempting to correct the standard errors, given that contextual factors could cause the individual values of one same country to be correlated.
RESULTS

Table 1 shows the regressions made between postmaterialism and entrepreneurship. Six models are presented, which gradually add variables beginning from postmaterialism alone to postmaterialism together with age, gender, education level and income level. Postmaterialism by itself explains 0.1% of entrepreneurship variance. When controlled separately by using the five different variables, a difference in each case is observed. The five variables together account for 3.0% of entrepreneurship variance. Regarding the influence that independent and control variables have on the probabilities of becoming an entrepreneur, postmaterialism decreases the probability and it is significant in any model except in the last one. The variables, age ($p<0.001$), along with the fact of being a woman ($p<0.001$), increase the likelihood of becoming an entrepreneur. On the other hand income level ($p<0.001$) and educational level ($p<0.001$) decreases the probability to be an entrepreneur.

In summing up, postmaterialism predicts decreasing likelihoods of entrepreneurship in the 25 OECD countries taken as a whole. The effects of the chosen control variables differ and all of them have a statistically significant impact. Following these analyses and because it is clear that postmaterialism has a significant effect on entrepreneurship, a variable was sought in the database of the World Value Survey that would measure attitudes towards capitalism or towards the accumulation of money for the purpose of being used as a new control variable and in order to see its effect on entrepreneurship. Even though the variable exists in the WVS and is termed Wealth Accumulation (variable e041), the question was not formulated for any of the countries in the 1999-2004 wave.
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<td>(0.03)</td>
<td>(0.03)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>1.28***</td>
<td>1.27***</td>
<td>1.263***</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.01)</td>
<td>(0.01)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td>2.12***</td>
<td>2.087***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.05)</td>
<td>(0.05)</td>
<td></td>
</tr>
<tr>
<td>Education level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.85***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.03)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1.163***</td>
<td>1.26***</td>
<td>1.28***</td>
<td>1.28***</td>
<td>1.082***</td>
<td>0.1***</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.74)</td>
<td>(0.93)</td>
<td>(0.11)</td>
<td>(0.11)</td>
<td>(0.12)</td>
</tr>
<tr>
<td>R2 Cox-Snell</td>
<td>0.001</td>
<td>0.003</td>
<td>0.013</td>
<td>0.028</td>
<td>0.030</td>
<td></td>
</tr>
<tr>
<td>R2 Nagelkerke</td>
<td>0.001</td>
<td>0.005</td>
<td>0.024</td>
<td>0.050</td>
<td>0.053</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
Valid N for all the independent variables = 20112
*p<0.05; **p<0.01; ***p<0.001
In order to correct the standard errors, it has been included 24 dichotomy variables (one for each country) in the calculation of all the models.
Table 2. Regressions on entrepreneurship. Country by country.

<table>
<thead>
<tr>
<th>Country</th>
<th>N</th>
<th>EXP(B) (1) Postmaterialism</th>
<th>R2 Cox – Snell (R2 Nagelkerke) (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>776</td>
<td>1.7*</td>
<td>0.038 (.085)</td>
</tr>
<tr>
<td>Belgium</td>
<td>888</td>
<td>.966</td>
<td>0.034 (.079)</td>
</tr>
<tr>
<td>Canada</td>
<td>1077</td>
<td>1.294</td>
<td>0.019 (.043)</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>1027</td>
<td>1.549*</td>
<td>0.014 (.029)</td>
</tr>
<tr>
<td>Denmark</td>
<td>633</td>
<td>.392+</td>
<td>0.041 (.143)</td>
</tr>
<tr>
<td>Finland</td>
<td>521</td>
<td>1.058</td>
<td>0.010 (.019)</td>
</tr>
<tr>
<td>France</td>
<td>794</td>
<td>.398*</td>
<td>0.010 (.052)</td>
</tr>
<tr>
<td>Germany</td>
<td>895</td>
<td>1.557+</td>
<td>0.028 (.071)</td>
</tr>
<tr>
<td>Greece</td>
<td>706</td>
<td>1.281</td>
<td>0.020 (.038)</td>
</tr>
<tr>
<td>Hungary</td>
<td>462</td>
<td>1.463</td>
<td>0.017 (.042)</td>
</tr>
<tr>
<td>Iceland</td>
<td>753</td>
<td>.888</td>
<td>0.060 (.096)</td>
</tr>
<tr>
<td>Ireland</td>
<td>573</td>
<td>1.187</td>
<td>0.150 (.239)</td>
</tr>
<tr>
<td>Italy</td>
<td>1080</td>
<td>1.093</td>
<td>0.017 (.027)</td>
</tr>
<tr>
<td>Japan</td>
<td>825</td>
<td>1.993**</td>
<td>0.105 (.170)</td>
</tr>
<tr>
<td>Korea</td>
<td>726</td>
<td>.876</td>
<td>0.068 (.097)</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>670</td>
<td>.817</td>
<td>0.017 (.055)</td>
</tr>
<tr>
<td>Mexico</td>
<td>874</td>
<td>1.007</td>
<td>0.064 (.097)</td>
</tr>
<tr>
<td>Netherlands</td>
<td>636</td>
<td>1.238</td>
<td>0.048 (.095)</td>
</tr>
<tr>
<td>Poland</td>
<td>522</td>
<td>1.097</td>
<td>0.026 (.048)</td>
</tr>
<tr>
<td>Portugal</td>
<td>454</td>
<td>1.500</td>
<td>0.078 (.137)</td>
</tr>
<tr>
<td>Slovakia</td>
<td>772</td>
<td>1.139</td>
<td>0.025 (.076)</td>
</tr>
<tr>
<td>Spain</td>
<td>1066</td>
<td>.787</td>
<td>0.018 (.034)</td>
</tr>
<tr>
<td>Sweden</td>
<td>661</td>
<td>.954</td>
<td>0.026 (.100)</td>
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<tr>
<td>Turkey</td>
<td>1890</td>
<td>.797**</td>
<td>0.106 (.148)</td>
</tr>
<tr>
<td>USA</td>
<td>831</td>
<td>1.210</td>
<td>0.018 (.045)</td>
</tr>
</tbody>
</table>

Notes:

+ \( p<0.10; \) * \( p<0.05; \) ** \( p<0.01; \) *** \( p<0.001 \)

(1) Presented Exp(B) of postmaterialism, corresponds to the model which includes all the variables: income level, age, gender and education level. The same with the R2 Cox-Snell and R2 Nagelkerke.

Table 2 presents coefficients country by country. It presents the odds ratio of the effect of postmaterialism of the fifth model, in other words of all the control variables. It also shows Cox-Snell’s and Nagelkerke \( R^2 \) values of the model with all of the variables. The country-by-country analysis reveals that the effect of postmaterialism operating together with income level, age, gender and educational level is statistically significant in only five countries: Austria \( (p<0.05) \), the Czech Republic \( (p<0.05) \), France \( (p<0.05) \), Japan \( (p<0.001) \) and Turkey \( (p<0.001) \). Moreover, the highest \( R^2 \) are those of Ireland \( (R^2 = 0.239) \) and Japan \( (R^2 = 0.17) \), both of which are particularly influenced by gender.
DISCUSSION

The results of the study confirm that there is reasonable evidence to support the stated hypothesis, which envisaged a potential negative relationship between postmaterialism and entrepreneurship. In line with the idea that the more a society values money, the less postmaterialistic it is, we can conclude that the rate of entrepreneurial activity is also likely to be lower in postmaterialistic societies.

The syllogism proposed in this paper that materialistic people seek material security and that postmaterialistic people seek to satisfy other needs in life (i.e. autonomy and fulfilling personal objectives) and that for this reason the latter may tend to set up less companies than the materialists, has been confirmed. It is, in fact, materialistic people, concerned with material needs, who tend to create more companies. This suggests that the postmaterialistic values of self-expression, freedom, independence and fulfilment of personal objectives do not necessarily apply to the sphere of work and that people do not associate these values primarily with creating a company of their own. Furthermore, the findings provide support for the hypothesis that an entrepreneur is essentially an economically oriented person regardless of the sort of entrepreneur he/she is, either through necessity or through opportunity.

The different lines of research approached in entrepreneurship have assumed from the outset that the principle for creating a company is to make money. Following to Aldrich (2005), Rindova, Barry and Ketchen (2009) affirm that the four main approaches in entrepreneurship research share this idea. “While these approaches vary in their tenets and nuances, they explicitly or implicitly share an underlying assumption that wealth creation is a (if not the) fundamental goal of entrepreneurial efforts” (Rindova, V., Barry, D. and Ketchen, D., 2009). On the other hand, there are also authors (although fewer) who are of the opinion that the quest for autonomy is one of the main motivators for self-employment (Kolvereid, 1996). The results of this study are clearly in line with the tradition of understanding the entrepreneur first and foremost as a person who basically seeks to make money. Nonetheless, the relationship
between postmaterialistic values and entrepreneurship is still not completely clear, given the lack of stability of the results in the different countries and the scant explained-data in the models put forward.

In the case of the results obtained separately for individuals from the 25 countries, these are only statistically significant in five. In Turkey and France postmaterialism, when operating with the chosen control variables, reduces one's probabilities of becoming an entrepreneur; whereas in Austria, the Czech Republic and Japan, it increases them. These three latter cases are particularly interesting because this study’s hypothesis is not confirmed in them. In these countries postmaterialism increases significantly the likelihood to become entrepreneur, the opposite of what happens in the analyzed 25 OECD countries as a whole. In the case of Austria, Japan and the Czech Republic, the differences are apparently greater than the similarities in the variables analysed in this study. In addition to the fact that all of them belong to the OECD, the most outstanding similarity is they have relatively similar population pyramids with a tendency in Japan to have more people with ages over 65\(^8\) and in Czech Republic to have more people with ages between 26 and 40. On the other hand, apart from the most obvious difference in their political and economic systems and traditions, certain indicators stand out. In spite of the fact that Japanese and Austrian per capita income are higher than the one in the Czech Republic, the relative poverty rates, as well as income inequality coefficients are higher in Japan and Austria than in the Czech Republic (OECD, 2008). Particularly significant are the number of entrepreneurs in the three countries. In 2004 Japan had a TEA\(^9\) of 1,5\% (information for Austria and Czech Republic in 2004 are not available). In 2006 the Czech Republic had a TEA of 7,9\%, Austria of 2,4\% and Japan of 4,3\% (GEM, 2006). The search for explanations for the significant effect that postmaterialism has in the entrepreneurship in Austria, Japan and the Czech Republic, clearly points to the need for further research into the particular features of both countries. Particularly when postmaterialism

\(^8\) The most recent data available to the OECD for this indicator are from 2004. (OECD, 2008)

\(^9\) TEA (Early-stage Entrepreneurial Activity) includes individuals who have taken some actions towards starting a new company and individuals who have been running their own business for less than 42 months). The most recent data for the Czech Republic in this indicator are those from 2006; for Austria 2007 and for Japan from 2008. (GEM Consortium, 2009).
punctuations are similar in both Japan and Czech Republic, but much higher in Austria.

The main result of this research work suggests that for postmaterialistic people the effect of autonomy is compensated or even surpassed by the lesser interest generated by money. Therefore, this finding provides support for policies which incorporate cultural values into entrepreneurship promotion programmes in more postmaterialistic societies, for example, by promoting the value of independence as opposed to economic profits only.

The study has some limitations. All variables reflect a measurement in a specific point in time (1999 - 2004), which was chosen for practical reasons (a more complete sample of countries than in other periods). This could suggest that the relationship between the proposed variables may be different if data were analysed from different periods. At the same time, the definition of an entrepreneur as simply a person who is self-employed, has a series of limitations, two in particular: first of all, this definition does not take into account innovation and employment creation factors, both strongly related to the fact of being an entrepreneur and secondly, it does not distinguish between different types of entrepreneurs.

Other research scenarios taking into consideration these findings, are to analyse the potential mediating effect that postmaterialism has on the relationship between economic variables and entrepreneurial activity; following Inglehart’s suggestion that the economic environment moves social change rather than the other way round. Likewise, this research study proposes questions about the potential interplay between the entrepreneurs’ desire for autonomy and their desire to earn more money. Schumpeter himself, the founder of one of the traditions that regard entrepreneurship to be related to the desire to create new products and markets had stated that entrepreneurial behaviour is more related to independence and personal achievement than to hedonism (Schumpeter, 1934). Finally, further research could also be done with longitudinal data, trying to confirm (or not) the stability of the relationship between entrepreneurship and postmaterialism.
REFERENCES


Graaf, N.D. de, & Evans, G. (1996). Why are the young more postmaterialist?” A cross-national analysis of individual and contextual influences on postmaterial values. *Comparative Political Studies*, 28(4), 608-635.


APPENDIX

Figure 1

Source: R. Inglehart, 1997
Figure 2
Figure 3

[Image of a map showing various regions and countries, with labels such as 'Eastern Europe', 'Confucian', 'Catholic Europe', 'North America', and 'English-speaking'. The map is a visual representation of the relationship between survival and well-being, with countries plotted according to traditional/secular rational authority definitions. The source is cited as R. Inglehart, 1997.]