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Gabriele Ruiu
Ph. D. in Economics
Temporary research fellow
Department of Economics and Business
University of Sassari,
Via Muroni, 25, 07100,
Sassari (SS), Italy
E-mail: gruiu@uniss.it

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THE ORIGIN OF FATALISTIC TENDENCIES: AN EMPIRICAL INVESTIGATION

ABSTRACT. We maintain that fatalistic tendencies are the output of the interaction between cultural factors (and in particular of religion) and historical institutional experiences. This idea has been empirically tested using World Value Survey data. We find that a more regulated society tends to be also more fatalistic. At the same time, also religious beliefs and their interactions with the institutional framework seem to be an important element determining fatalistic tendencies. For what regards the direct effect of religious affiliation on fatalism, we find that there are not large differences across the various faiths. In other terms, being religious independently from the religious affiliation implies a more fatalistic view of life.

JEL Classification: Z12, Z13 ***Keywords***: culture, fatalism, institutions, religion, Weber, Durkheim.

Introduction

Fatalism has been shown to play a significant role in determining a vast range of individual behaviors including saving decisions, occupational choices, health screening behaviors, natural disaster preparedness. The aim of this paper is to answer to the following questions: why are some populations more *fatalistic* than others? Where does *fatalism* come from?

To our knowledge only in Sociology there have been attempts to explain the origin of fatalistic tendencies (Durkheim, 1897; Weber, 1930; Acevedo, 2005, 2008) whilst economists have devoted less attention to this subject of research.

Among the few economists who have analyzed the role of *fatalism* in economic decision, Alesina and Angeletos (2005) show how a system with more (less) redistribution can arise when individuals are less (more) likely to believe that effort determines income. In the same vein, Benabou and Tirole (2006) relate *fatalism* to the psychology literature and the notion of a "belief in a just world" in order to examine the interaction between ideology and redistribution systems. Wu (2005) analyzes the role of *fatalism* in determining household saving behaviors, finding that people characterized by *fatalistic beliefs* are less likely to save. Shapiro and Wu (2010) show that *fatalism* decreases savings for moderately risk averse individuals, but actually increases savings for highly risk averse individuals. Furthermore, fatalism decreases the effort in learning about savings and investment options.

D'orlando, Ferrante and Ruiu (2011) argue that the negative psychological impact of unemployment episodes is particularly severe for *fatalistic* people, who think that they cannot do anything to change their situations. Therefore, people characterized by *fatalistic* tendencies, would prefer employment protection legislation which reduces unemployment episodes (even though it increases the duration of unemployment) rather than unemployment benefits which compensate only the monetary but not the psychological costs of unemployment. Thus the varying impacts of these psychological costs on workers characterized by different degrees of *fatalism* may explain the different choices made by different countries.

Ruiu (2012) sustains that *fatalistic* beliefs may represent an important cultural barrier for entrepreneurship.

The role of *fatalism* has been studied also in medical literature, where it is regarded as a serious obstacle to the adoption of health screening behaviors (Straughan and Seow, 1998; Nelson *et al.*, 2002; Niederdeppe and Gurmankin-Levy, 2007)[1].

Finally in clinical psychology, there exist various studies showing that *fatalism* significantly impacts both the preparedness of individuals to deal with announced natural disasters, i.e., *fatalism* obstacles the adoption of self-protecting behaviours, and the ability to cope with the psychological consequence of a natural disaster, i.e., *fatalism* amplifies the post traumatic stress suffered by the victims of such disasters (Perilla *et al.*, 2002; McClure *et al.*, 1999, 2001, 2007).

All these evidences indicate that a better understanding of the causes of *fatalistic* beliefs formation may be of crucial importance for a policy maker.

First of all, it is necessary to clarify what is meant by *fatalism* in this work. Although the precise meaning of the word *fatalism* changes across cultures and religions, it can be linked with people's propensity to believe that their destinies are ruled by an unseen power – Fate – rather than by their will.

Fatalism can be expected to be culturally transmitted from one generation to the next. But there are differences regarding how *fatalism* is conceived within different cultures and religions that should be taken into account investigating the role of *fatalism* in different societies.

For the old Romans (who had inherited their concept of Fate from the Hellenistic culture) the destiny of humans was assigned by 3 female Gods, Nona, Decima and Morta (the so called Parcae). Even the other Gods cannot rebel against the Parcae's decision, moreover every God was subject to a mysterious willingness called Fatum (Fate). Christianity substituted this concept of Fate with the concept of Divine Providence, but with some difference across faiths and across regions. For a roman catholic, the individual is free to determine his destiny and the Divine Providence is the benevolent willingness of God to help humans to correct the consequences and to improve the awareness of their errors. However, also in the catholic world there are huge differences in the view of the Divine Providence. For instance, Guiso, Sapienza, Zingales (2006) pointed out that the vision of the Divine Providence is very different between North and South Italy, where in the North the concept of Divine Providence is the one given above, whilst in the South it is very similar to the Roman concept of Fate and humans cannot do anything to change their conditions but only pray to God.

Another interesting case is Calvinism. Calvinists believe in predetermination, however, as argued by Weber, Calvinism takes a rationalistic and empiricist turn away from *fatalism* and looks to worldly manifestations for verification of God's omnipotence. It is the Calvinist belief that it requires "evidence" of salvation leading to a remove of the *fatalistic*

[1] In particular, Nelson *et al.* (2002) showed that *fatalism*, viewed as a cultural belief closely bound up with ethnical origin, is associated with delays in seeking health care.

tendencies from the Calvinist worldview. Why does this process of rationalization not happen in all faiths/countries?

According to Landes (1998) starting from the 15th century the reaction of the Catholic Church to the Protestant Reform restricting the inflows of new ideas has promoted the diffusion of cultures of intolerance, xenophobia and close mindedness in Southern Europe and Latin America. This intolerance was responsible for the decline of Spain, Italy and Portugal and for poverty of Latin America. Similarly, the decline of Muslim countries after the 13th is also explained by the newly found but long-lasting intolerance as a mean of political and religious control.

Huntington (1993, 1996) uses a similar argument in his "clash of civilization" thesis. In particular proponents of Huntington's thesis argue that the tenets of Islam and other traditional, non-Western belief systems (in particular they refer to the importance of the ethic of individual self-empowerment of western countries) implying a *fatalistic* view of life, negatively impact the collective ability of national publics to successfully engage the project of modernization and development.

Intervening into the "clash of civilization" debate Acevedo (2008) analyzed the two principal sources of fatalism that have been pointed out in sociological field: Cosmological and Structural *fatalism*. The first definition of fatalism is from Weber (1930), for which *fatalism* may result from distinct belief systems (laws of karma, diabolical spirits, divine predestination, stellar constellations, cycles of rebirth and so forth) that socialize adherents to accept specific *fatalistic* worldviews. The second is the definition of *fatalism* proposed by Durkheim (1897) for which *fatalism* may stem from structural conditions such as inequality or extreme over regulation. Using data from the World Value Survey and 2002 Gallup poll of Islamic countries Acevedo finds that Turkey (the country with the longest and most sustained Western influence) shows the highest levels of *fatalism* among Islamic countries and this is in evident contrast with the clash of civilization thesis. Furthermore he shows that in countries where Christians are a discriminated minority, they are characterized by higher *fatalistic* tendencies than Muslim inhabitants.

Acevedo (2008) argues that a fuller understanding of *fatalism* does not come from abandoning Weber for Durkheim or vice versa, but rather from appropriating both formulations in the development of a multidimensional model of *fatalism*, where *fatalism* stems from historical, cultural, economic and sociopolitical processes and not as a direct outcome of religious denomination alone.

The importance of the historical influence on culture is recognized also by Hofstede (1994). In particular he traced the origin of high power distance and the high uncertainty avoidance[2] that characterize Latin countries to their belonging to the Roman empire. The Roman empire was characterized by the existence of a central authority in Rome, and a system of laws applicable to citizens anywhere. Therefore it is reasonable that centralization fostered large power distance and the roman stress on laws fostered strong uncertainty avoidance.

However in Hofstede, it is not clear what are the forces that preserve cultural values with such ancient roots. In particular, he completely ignores the role that religions can play in this ambit. Our view is that *fatalism* is not a multidimensional concept as sustained by Acevedo but that some aspects of religions may interact with the institutional setting determining a persistent *"hierarchization"* of the society which is the source of fatalism.

This idea reflects the Eisenstadt's theory (1968) of *transformative potential* of religions. The *transformative potential* refers to the capacity to legitimize, in religious or

[2] Power distance and uncertainty are two cultural dimensions proposed by Hofstede (1980). The first refers to the degree of tolerance of less powerful members of a society for hierarchical or unequal relationships. The latter refers to the society's tolerance for uncertainty and ambiguity.

ideological terms, the development of new motivations, activities, and institutions which were not encompassed by their original impulses and views. Hence if the presence of a religion with a low transformative potential is combined with the existence of bad institutions which in turn generate *fatalistic* beliefs, for example the existence of a rigid feudal system where the top class can systematically expropriate the fruits of the work of the bottom class, this will result in a society where it is very difficult to endogenously implement reforms because religion may prevent (and even repress) new ideas.

These complementarities between religions and historical institutions may explain for instance the different *fatalistic* tendencies between Northern and Southern Italy.

The Italian case is particularly interesting indeed although the religion and institutions are the same since 150 years and furthermore both northern and southern Italy have the same Latin origin, Southern Italy had been ruled for almost 4 centuries by a catholic monarchy with strong ties between "Crown and Altar" which imposed a heavy taxation (from which the nobility and clergy were exempt) and a rigid feudal system characterized by a marked concentration of lands and of the powers in the hands of local nobles and of the church while northern Italian regions have experienced in general less lasting oppressive institutions than southern regions[3].

Although these historical arguments seem to be reasonable, the scant attention devoted by economic theory to *fatalism* impedes to return a verdict on the origin of *fatalistic* tendencies. In particular even though there is a vast literature analyzing the effect of *fatalistic* tendencies (mostly in disciplines outside of economics), the debate on its origin has been opened only in sociology.

In the following, using World Value Survey data we will give some empirical clues on the existence of an interaction effect of religious beliefs and institutional settings in determining *fatalistic* tendencies. In particular, we find that, controlling for a vast range of individual covariates measuring socio-economic and demographic characteristics, religious persons independently from which faith they adhere tend to share a more *fatalistic* view of life than atheist. At the same time, more oppressive (in Durkheim's sense) institutions lead to the higher level of *fatalism*. Finally, we find some support to the idea that religion and institution may interact in determining *fatalistic* tendencies for *Muslims, Hindu, Orthodox and Buddhist* while for *Catholics* and *Protestants* the interaction effect seems to be insignificant.

The paper is divided into five sections. In second and third section, we will present our data and the empirical strategy. In the fourth section, we will show some empirical analysis supporting the view that fatalism depends at least partly on cultural legacy. Fifth section 4 concludes.

Some empirical evidence on the cultural origin of fatalism: the stability of fatalism

In this section, some empirical evidences on the cultural origin of *fatalistic* beliefs are shown. The analysis is conducted on World Values Survey (WVS) data. The WVS is a worldwide investigation about basic values and beliefs of individuals in a large cross-section of countries (more than 80) conducted by the World Value Survey Association in five waves (1980, 1990, 1995, 2000, 2005). The survey contains information about demographics (sex, age, education, etc.), self-reported economic conditions, political preferences, values and attitudes, religion.

Two possible measures are obtainable from WVS questions. The first is that used in the empirical analysis carried out by D'Orlando *et al.* (2011): "*Some people feel they have completely free choice and control over their lives, while other people feel that what they do*

[3] For a brief review of the different institutions in force in Northern and Southern Italy see the historical appendix in Tabellini (2010).

has not real effect on what happens to them. Please use this scale (1 means "none at all" and 10 means "a great deal") to indicate how much freedom of choice and control you feel you have over the way your life turns out". Therefore, higher values of the response correspond to lower *fatalistic* tendencies[4].

In the 2005 wave, an even more direct question has been introduced: "*Some people believe that individuals can decide their own destiny, while others think that it is impossible to escape a predetermined fate. Please tell me which comes closest to your view on this scale on which 1 means "everything in life is determined by fate" and 10 means that "people shape their fate themselves*".

In the following analysis we named *destiny* the measure of fatalism obtained from this alternative question. We created an index of *fatalism* (IF) given by the mean score at the country level to the first question presented above[5] and an index called ID obtained by the mean score at country level for the variable *destiny.* In *Figure 1*, the IF index is plotted against the ID index (both indicators are calculated for the 2005 wave). See *Table 4* in the appendix for some descriptive statistics.

The first indicator seems to be a more appropriated measure of *structural fatalism* (as defined above), whilst the second indicator seems to be indicative of *cosmological fatalism*. As highlighted in *Figure 1*, ID and IF are strongly and significantly correlated[6]. In *Table 1*, we report the correlations among the IF index calculated on 2005 wave, the ID index calculated in 2005, and the IF index calculated on 1990 wave. Note that the ID index is also strongly correlated with the historical IF calculated in 1990. However, in this last case due to data availability the number of observations is limited to 21. Given these results, we feel quite comfortable in using the two questions as alternative measures of *fatalism.* Moreover these preliminary results allow to highlight that *fatalism* possess a fundamental prerequisite to be considered a cultural trait, i.e. it is a persistent belief (Guiso el., 2006; Roland, 2004). At this point, it is useful to deeply investigate what the determinants of *fatalistic* tendencies are and in particular if it is related to religious beliefs.

Table 1. Correlations among *fatalism* index

	IF05	ID05	IF90
IF05	1		
ID05	0.6796	1	
	(0.0001)		
IF90	0.6789	0.5949	1
	(0.0003)	(0.0057)	

Note: Significance levels are in parenthesis.

[4] This question was present in all the waves.

[5] They use the first and the fourTH waves to consider the widest time interval available, they limited their analysis to only eighteen countries (Argentina, Belgium, Canada, Denmark, France, Germany, Hungary, Iceland, Ireland, Italy, Japan, South Korea, Malta, Netherlands, Spain, Sweden, Great Britain, USA), which had been surveyed on both the first and the fourth wave. They normalized the index to be included in the interval [0,1].

[6] Mali, Egypt and Morocco seem to be outliers in *Figure 1*. We repeated the analysis dropping these three countries, however the correlation is still strong and statistically significant.

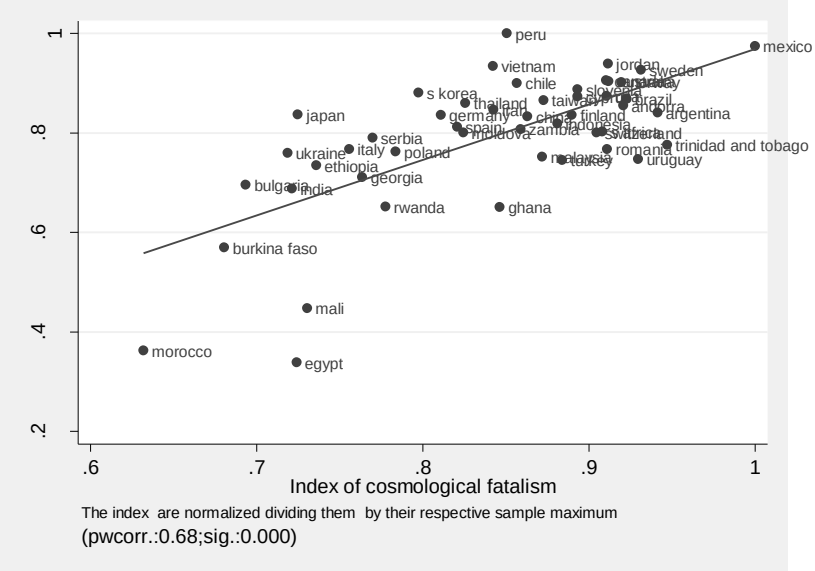

Figure 1. Correlation between cosmological and structural *fatalism*

In what follows, we will present some empirical findings about the socio-economic and cultural determinants of *fatalistic* tendencies. In particular, the aim of the analysis is to test if once controlled for individual characteristics that may influence *fatalistic* tendencies (age, gender, education, health status, etc.), the income inequality and the strictness of the regulation (the Durkheimian vision of *fatalism*), cultural factors as religion (the Weberian vision of *fatalism*) and the interaction between these two factors are still significant determinants of *fatalism*.

In addition, we will test also if some of the values characterizing the Hofstede's cultural dimensions influence fatalism. In particular the general model that we will estimate is:

$$(1) \quad \textit{fatalistic tendencies} = f\left(X, \textit{Religion}, \textit{Institutions}, \textit{Religion} * \textit{Institutions}\right)$$

Where x is a vector of individual controls.

Let y_i^* represents the latent individual *fatalistic* tendencies and assume that y_i^* is determined by:

$$y_i^* = x_i'\beta_1 + R_i'\beta_2 + I_{ij}'\beta_3 + \left(R_i * I_{ij}\right)'\beta_4 + \varepsilon$$

Where R_i denotes the religious beliefs of the i-th individual, I_{ij} represents the institutional settings of the j-th country where the i-th individual lives, and $R_i * I_{ij}$ is the interaction between institutions and religious beliefs, ε is a random error, in particular assume that $\varepsilon \sim N(0,1)$.

However, it is impossible to observe directly y_i^*, what it possible to observe is the variable *destiny* taking on the values {1, 2, 3, ..., 10}. Let $\alpha_1 < \alpha_2 < \ldots < \alpha_9$ a be unknown threshold values and define:

destiny = 1 if $y^* \leq \alpha_1$
destiny = 2 if $\alpha_1 < y^* \leq \alpha_2$
.
.
.
destiny = 10 if $y^* > \alpha_9$

Given the standard normal assumption on ε, it is it is straightforward to derive the conditional distribution of y*:

$$P\left(destiny_i = 1 \mid x_i, R_i, I_{ij}, R_i * I_{ij}\right) = P\left(y_i^* \le \alpha_1 \mid x_i, R_i, I_{ij}, R_i * I_{ij}\right) =$$

$$= P\left(x_i'\beta_1 + R_i'\beta_2 + I_{ij}'\beta_3 + \left(R_i * I_{ij}\right)' \beta_4 + \varepsilon \le \alpha_1 \right) = \Phi\left(\alpha_1 - x_i'\beta_1 - R_i'\beta_2 - I_{ij}'\beta_3 - \left(R_i * I_{ij}\right)' \beta_4 \right)$$

$$P\left(destiny_i = 2 \mid x_i, R_i, I_{ij}, R_i * I_{ij}\right) = P\left(\alpha 1 < y_i^* \le \alpha_2 \mid x_i, R_i, I_{ij}, R_i * I_{ij}\right) =$$

$$= \Phi\left(\alpha_2 - x_i'\beta_1 - R_i'\beta_2 - I_{ij}'\beta_3 - \left(R_i * I_{ij}\right)' \beta_4 \right) - \Phi\left(\alpha_1 - x_i'\beta_1 - R_i'\beta_2 - I_{ij}'\beta_3 - \left(R_i * I_{ij}\right)' \beta_4 \right)$$

$$\vdots$$

$$P\left(destiny_i = 10 \mid x_i, R_i, I_{ij}, R_i * I_{ij}\right) = P\left(y_i^* > \alpha_9 \mid x_i, R_i, I_{ij}, R_i * I_{ij}\right) =$$

$$= 1 - \Phi\left(\alpha_9 - x_i'\beta_1 - R_i'\beta_2 - I_{ij}'\beta_3 - \left(R_i * I_{ij}\right)' \beta_4 \right)$$

Where Φ is the standard normal c.d.f. When the assumption of standard normality is made, we are talking about ordered probit. However, other distributions may be assumed, in particular replacing a logistic function, Λ instead of Φ, gives the ordered logit.

D'Orlando *et al.* (2011) usig WVS data estimated the above model using the variable *fatalism* as dependent variable. They find that once controlled for institutional settings (captured by country fixed effects), demographic and a large set of socioeconomic variables, *fatalism* is still strongly correlated with religious beliefs. In particular, being a religious person increases the probability of having a *fatalistic* view of life. They interpret this finding as an evidence of the existence of an ongoing process of cultural transmission of *fatalistic* tendencies among religious groups.

We will replicate their analysis using the variable *destiny*[7] as dependent variable instead of *fatalism* and adding some institutional and cultural controls. This will allow to test if structural and cosmological *fatalism* depend in the same ways to the same variables, giving further evidences on the idea that *fatalism* is not a multidimensional construct but rather the result of the joint influence of religious and socio-economic factor. In next section, we will describe in detail all the variables included to estimate equation (1).

Description of the main variables

As mentioned above the dependent variable of equation (1) is *destiny*[8]. We will show in the next section the empirical results for three different specifications of equation (1) whilst in the current section we will describe the variables used on the right side of equation (1).

[7] Obviously, the analysis is focused on the fifth wave, and the included countries are: Andorra, Argentina, Australia, Burkina Faso, Bulgaria, Brazil, Canada, Chile, China, Cyprus, Germany, Egypt, Ethiopia, Finland, Georgia, Ghana, Indonesia, India, Iran, Italy, Japan, Jordan , Korea (republic of) , Morocco, Moldova, Mexico, Mali, Malaysia, Norway, Peru, Poland, Romania, Rwanda, Serbia, Slovenia, South Africa, Spain, Sweden, Switzerland, Thailand, Trinidad & Tobago, Turkey, Taiwan, Ukraine, Uruguay, USA, Vietnam, Zambia.

[8] For a similar analysis conducted on the alternative variable *fatalism*, the reader is referred to D'Orlando, Ferrante, Ruiu (2011).

To account for the effect of religion on *fatalistic* tendencies, we created a dummy variable termed *atheist* if an individual did not belong to a religious denomination and a dummy for each of the following "dominant religions": Roman Catholic, Orthodox, Protestant, Muslim, Buddhist, Hindu, Evangelical, no denominational religion (if individual declares to being a religious person but to belong to a religion with no denomination), and other religion (which includes all religions differing from those listed)[9]. The relative questions in WVS are the following: "*a*) *Do you belong to a religious denomination? In case you do, answer which one*; *b*) *Independently of whether you attend religious services or not, would you say you are (read out and code one answer): (1) A religious person (2) Not a religious person (3) A convinced atheist*".

We split those declaring not to belong to a religious denomination into two categories: atheist and belonging to a non denominational religion. In particular we define as atheist a person who has declared of being both a convinced atheist and not to belong to a religious denomination, whereas a person who has declared to being a religious person but not to belong to a religious denomination enters into the category *no denominational religion.* The reference category is *atheist.* See *Table 5* in the appendix for some descriptive statistics.

To capture the possible relation of *fatalism* with Hofstede's cultural dimensions, we included the following variables*: independence, long term, masculinity, collectivism, riskseeker.* The variables *independence* and *long term* are obtained from the following questions: "*Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important? Please choose up to five. Independence; Hard work; Feeling of responsibility; Imagination; Tolerance and respect for other people; Thrift saving money and other thing; Determination, perseverance; Religious faith; Unselfishness; Obedience*".

The variable *independence* is a dummy equal to one if an individual has mentioned *independence* and at the same time not mentioned *obedience* as important qualities for his/her children. Following Hofstede (1980), the emphasis on the value of independence as opposed to that of obedience is typical of society with low power distance.

The variable *longterm* is a dummy equal to one if an individual has answered that both perseverance and thriftiness are important child qualities. According to Hofstede (1991), these values reflect a society characterized by a long term orientation.

Masculinity and *collectivism* are obtained from the following question*:* "*For each of the following statements I read out, can you tell me how much you agree with each. Do you agree strongly, agree, disagree, or disagree strongly?*
On the whole, men make better political leaders than women do.
On the whole, men make better business executives than women do.
One of my main goals in life has been to make my parents proud.
I make a lot of effort to live up to what my friends expect. "

We created a dummy variable equal to one if the individual has answered "*strongly agree*" or "*agree*" to both the first and the second statement. Indeed, it is reasonable to assume that agreeing on these statements reflects a vision of the world in which prescribed gender role exists.

The variable *collectivism* is a dummy that assumes value one, when the individual answered "*strongly agree*" or "*agree*" to both the third and the fourth statement. In my interpretation, this variable may capture values that are typical of *collectivistic* (in the sense of Hofstede) society.

The variable *riskseeker* is derived from the following question: "*Now I will briefly describe some people: Adventure and taking risks are important to this person; to have an*

[9] By the term dominant religions we intend religions with the highest numbers of followers.

exciting life. Would you please indicate whether that person is very much like you, like you, somewhat like you, not like you, or not at all like you?"

We created a dummy equal to one if the individual has answered "*very much like you"* or "*like you*" to the above question.

We also controlled for the education level of the individual. In particular, we created dummy variables for each of the possible levels reported on the following WVS question: "*What is the highest educational level that you have attained? [NOTE: if respondent indicates to be a student, code highest level s/he expects to complete]: (1) No formal education. (2) Incomplete primary school, (3) Complete primary school, (4) Incomplete secondary school: technical/vocational type, (5) Complete secondary school: technical/vocational type, (6) Incomplete secondary: university-preparatory type, (7) Complete secondary: university-preparatory type, (8) Some university-level education, without degree, (9) University-level education*". The reference category is *no formal education.* The associated dummy variables are named respectively: *noeduc*, *incprimary*, *primary*, *inctechnical*, *technical incsecondary, secondary*, *someuniv*, *university.* The reference category is *noeduc.*

A control for a respondent's age and for the square of age were included in the analysis (named, age and agesquare, respectively). To capture gender effects we included a dummy variable (termed *female*) equal to one if the respondent's sex was female. It is also like that the perceived state of health influences *fatalistic* behaviour. We consequently included this control as well, considering the question: "*All in all, how would you describe your state of health these days? (1=very poor; 2 = poor; 3 = fair; 4= good; 5 = very good)".* We created an indicator equal to one if individual declares of being in a very poor or poor status of health and a dummy for each of the remaining state of health. These variables were respectively named *vphealth*, *fhealth*, *ghealth*, *vghealth*. The reference category is vphealth.

A control for the marital status and for the number of children (numchild) of the respondents were included. In particular, for what regards the marital status, we created an indicator for each of the following statuses: *single, cohabiting, married, separated, divorced, widowed.* The reference category is single.

Among controls, we included also the perceived social class of the respondents. We considered the following question: "*People sometimes describe themselves as belonging to the lower class, the working class, the lower-middle class, the upper-middle class, or the upper class. Would you describe yourself*". We created a dummy for each social class. The reference is lower class.

We built ten indicators of income level on the basis of the answers to the following question: "*Here is a scale of incomes. We would like to know in what group your household is, counting all wages, salaries, pensions, and other income that comes in. Just give the letter of the group your household falls into, before taxes and other deductions*" (income categories are coded by decile for each society, 1=lowest decile, 10=highest decile). These indicators are named respectively *IncomeD1, IncomeD2, IncomeD3, IncomeD4, IncomeD5, IncomeD6, IncomeD7, IncomeD8, IncomeD9, IncomeD10.* The reference category is IncomeD1.

Finally, to control for institutional settings, we included in addition to country fixed effects also the a variable named *freedom* which is a country level indicator that evaluates the extent of state control over travel, choice of residence, employment or institution of higher education; the right of citizens to own property and establish private businesses; the private business' freedom from unduly influence by government officials, security forces, political parties or organized crime; gender equality, freedom of choice of marriage partners and size of family; equality of opportunity and absence of economic exploitation. Countries are graded

between 0 (worst) and 16 (best). The source of this indicator is the *Personal Autonomy and Individual Rights index* furnished by Freedom House (2006)[10].

Following Durkheim we expect a negative relation between individual autonomy and *fatalistic* tendencies.

To capture the joint effect of culture and Institutions, we interacted each religion dummy with the variable *freedom*. The interaction effects are indicated as follows: *catfreedom, protfreedom, orthfreedom, evanfreedom, musfreedom, budfreedom, hinfreedom, otherfreedom, nodenfreedom.*

Empirical results

In *Table 2*, we have reported the results of the regression of the variable *destiny* on the above mentioned explanatory variables. In particular, column (a) reports the results of an ordered probit regression; column (b) shows the result of an ordered logit regression; column (c) reports the results of an OLS regression. In doing this, we will be able to evaluate if the results are robust to alternative specifications of the empirical model. In particular, we will be able to exclude that our results are driven by the normality assumption or by the non-linearity of the link function. The sign assumed by the coefficients are reasonable and in general robust to different model specifications.

Income and perceived social status exhibits a negative relationship with *destiny*, i.e. an increase in the income level/perceived social class is accompanied by a decrease in *fatalistic* tendencies and this result is statistically strong (at least for those with an income equal or above the median and considering themselves as belonging to the upper-middle class) in all the three specifications.

We recall that *destiny* is ordered in a such way that a positive sign has to be interpreted as a decrease in *fatalistic* tendencies, obviously the opposite holds for negative signs. Considering model (a), the marginal effects on the probability of outcome 1 (i.e. the probability that an individual is extremely *fatalistic*) associated to IncomeD2, IncomeD3, IncomeD4, IncomeD5, IncomeD6, IncomeD7, incomeD8, IncomeD9, IncomeD10 calculated taking all the regressors at their mean are respectively of: -0.8%, -0.9%, - 1%,-1.4%, -1.9%, -2.5%,- 2.4%, -2.6%,-4% [11].

The inclusion of income in the model, allows to avoid a possible omitted variable criticism. That is, following Weber (1930), it is possible that some religious beliefs may encourage/disregard wealth accumulation (unfortunately WVS contains data only on income and not on wealth), and hence if income was excluded from the analysis, one may argue that the relation between religious beliefs and the level of *fatalism* is significant only for its mediating effect on income. However, one needs caution in interpreting the relation between income (or social class) and *fatalistic* tendencies as causal. In particular, these results are likely to be affected by a reverse causality problem. Indeed, as shown by Caliendo *et al.* (2010)[12], less *fatalistic* people are likely to be more able to search for better job opportunities in terms of income and hence it is this search ability, influenced by *fatalistic* beliefs, to generate the negative relation between the latter and income.

By contrast it is also possible that people who have been particularly unsuccessful/successful in terms of income may attribute their output to an averse fate/their actions.

[10] The values assumed in each country considered is reported in the appendix. Downloadable from: www.freedomhouse.org

[11] The change in probability is calculated using the user written command *mfx2* created by Williams (2007).

[12] See also McGee (2009).

With the available data, we are not able to establish the direction of the causality, hence we will limit to observe that there are evidences of a strong negative correlation between *fatalistic* tendencies and income levels.

Table 2. The determinants of fatalistic tendencies

	[a]	[b]	[c]
Age	-0.0014(0.0024)	-0.0036(0.0041)	-0.0021(0.0063)
Agesquare	0.0000(0.0000)	0.0000(0.0000)	0.0000(0.0001)
Female	-0.0819***(0.0147)	-0.143***(0.0242)	-0.208***(0.0372)
Fhealth	0.109***(0.0220)	0.205***(0.0367)	0.305***(0.0535)
Ghealth	0.177***(0.0244)	0.325***(0.0430)	0.493***(0.0568)
Vghealth	0.261***(0.0340)	0.473***(0.0582)	0.674***(0.0782)
Upperclass	0.126*(0.0740)	0.263**(0.134)	0.273(0.175)
Upmidclass	0.0864***(0.0276)	0.160***(0.0482)	0.206***(0.0709)
Lowmidclass	0.0138(0.0243)	0.0315(0.0451)	0.0391(0.0631)
Workingclass	0.0413**(0.0194)	0.0899***(0.0344)	0.0971*(0.0500)
IncomeD2	0.0501*(0.0284)	0.102*(0.0577)	0.186**(0.0720)
IncomeD3	0.0539(0.0363)	0.107(0.0661)	0.197**(0.0875)
IncomeD4	0.0633*(0.0331)	0.118*(0.0641)	0.241***(0.0801)
IncomeD5	0.0873***(0.0328)	0.150**(0.0636)	0.292***(0.0833)
IncomeD6	0.128***(0.0353)	0.231***(0.0660)	0.417***(0.0908)
IncomeD7	0.168***(0.0421)	0.300***(0.0777)	0.521***(0.102)
IncomeD8	0.161***(0.0426)	0.288***(0.0794)	0.475***(0.107)
IncomeD9	0.178***(0.0501)	0.319***(0.0901)	0.540***(0.125)
IncomeD10	0.304***(0.0681)	0.518***(0.118)	0.762***(0.144)
Nodenomrel	-0.138**(0.0560)	-0.245**(0.0961)	-0.355**(0.133)
Catholic	-0.169***(0.0537)	-0.281***(0.0907)	-0.384***(0.129)
Muslim	-0.191**(0.0764)	-0.299**(0.130)	-0.440**(0.182)
Protestant	-0.168***(0.0606)	-0.272***(0.103)	-0.402***(0.145)
Orthodox	-0.170**(0.0702)	-0.274**(0.119)	-0.394**(0.176)
Buddhist	-0.191**(0.0746)	-0.311**(0.125)	-0.459**(0.183)
Hindu	-0.130(0.0892)	-0.184(0.177)	-0.358*(0.210)
Evangelical	-0.210***(0.0446)	-0.332***(0.0745)	-0.494***(0.109)
Otherrel	-0.108***(0.0412)	-0.175***(0.0678)	-0.250**(0.0954)
Married	0.0278*(0.0163)	0.0520*(0.0300)	0.0553(0.0406)
Cohabite	0.0120(0.0240)	0.0203(0.0414)	0.0122(0.0621)
Divorced	0.0257(0.0328)	0.0471(0.0567)	0.0299(0.0816)
Separated	0.0090(0.0434)	0.0145(0.0712)	-0.0102(0.108)
Widowed	-0.0834**(0.0357)	-0.151**(0.0614)	-0.232**(0.0910)
Numchild	-0.00716(0.00472)	-0.0129(0.00834)	-0.0170(0.0116)
Incprimary	0.0922***(0.0342)	0.160**(0.0636)	0.187*(0.0944)
Primary	0.158***(0.0331)	0.282***(0.0602)	0.345***(0.0851)
Inctechnical	0.215***(0.0355)	0.378***(0.0641)	0.497***(0.0908)
Tecnical	0.270***(0.0317)	0.456***(0.0575)	0.636***(0.0859)
Incsecondary	0.241***(0.0391)	0.415***(0.0732)	0.566***(0.0956)
Secondary	0.284***(0.0322)	0.489***(0.0575)	0.678***(0.0858)
Someuniv	0.381***(0.0392)	0.638***(0.0715)	0.967***(0.104)
University	0.357***(0.0337)	0.594***(0.0609)	0.911***(0.0814)
Independence	0.0551***(0.0179)	0.0857***(0.0306)	0.146***(0.0465)
Longterm	0.0280(0.0191)	0.0399(0.0337)	0.0657(0.0471)
Collectivism	0.0069(0.0484)	0.00337(0.0901)	-0.0205(0.112)

Masculinity	-0.0455(0.0290)	-0.0905*(0.0533)	-0.128(0.0787)
Riskseeker	0.0886***(0.0310)	0.164***(0.0509)	0.189**(0.0796)
Freedom	0.0253***(0.00276)	0.0444***(0.00506)	0.0878***(0.0065)
Catfreedom	-0.00183(0.00187)	-0.00112(0.00346)	-0.0090*(0.0046)
Protfreedom	-0.0037(0.0034)	-0.00503(0.00612)	-0.0103(0.0088)
Evanfreedom	-0.0054(0.0069)	-0.00976(0.0113)	-0.0209(0.0186)
Musfreedom	-0.0248***(0.0052)	-0.0457***(0.00938)	-0.0717***(0.0123)
Hinfreedom	-0.0071*(0.0037)	-0.0160**(0.0081)	-0.0166*(0.0088)
Budfreedom	0.0097***(0.00195)	0.0193***(0.0036)	0.0225***(0.0051)
Otherfreedom	-0.0069***(0.0025)	-0.0095**(0.0043)	-0.0208***(0.0070)
Nodenfreedom	-0.0065(0.0046)	-0.00902(0.00757)	-0.0149(0.0106)
Orthfreedom	-0.0088**(0.0036)	-0.0151**(0.0066)	-0.0263**(0.0099)
AND	-0.0219(0.0244)	-0.0184(0.0419)	-0.185***(0.0600)
AUS	0.0896***(0.0249)	0.140***(0.0383)	0.231***(0.0538)
BFA	-0.241***(0.0246)	-0.470***(0.0443)	-0.720***(0.0591)
BGR	-0.261***(0.0353)	-0.489***(0.0648)	-0.822***(0.0927)
BRA	0.357***(0.0182)	0.690***(0.0358)	0.782***(0.0412)
CAN	0.0885***(0.0270)	0.144***(0.0427)	0.226***(0.0582)
CHE	-0.234***(0.0261)	-0.395***(0.0457)	-0.689***(0.0594)
CHL	0.393***(0.0216)	0.645***(0.0380)	0.822***(0.0453)
CHN	0.307***(0.0275)	0.574***(0.0502)	0.763***(0.0645)
CYP	0.169***(0.0420)	0.295***(0.0759)	0.292**(0.109)
DEU	-0.0267*(0.0145)	-0.0566**(0.0254)	-0.120***(0.0359)
EGY	-1.029***(0.0449)	-1.731***(0.0862)	-2.429***(0.111)
ESP	-0.0107(0.0244)	-0.0202(0.0447)	-0.113*(0.0590)
ETH	0.0389(0.0322)	0.0468(0.0566)	0.187** (0.0848)
GEO	-0.0416(0.0386)	-0.145**(0.0717)	-0.256**(0.106)
GHA	-0.175***(0.0285)	-0.412***(0.0535)	-0.637***(0.0653)
IDN	0.299***(0.0424)	0.506***(0.0760)	0.801***(0.106)
IND	-0.132**(0.0624)	-0.386***(0.130)	-0.577***(0.152)
ITA	-0.173***(0.0245)	-0.294***(0.0415)	-0.514***(0.0577)
JPN	-0.0452(0.0289)	-0.0713(0.0465)	-0.0865(0.0694)
KOR	0.167***(0.0250)	0.281***(0.0421)	0.462***(0.0584)
MAR	-0.945***(0.0458)	-1.557***(0.0861)	-2.320***(0.104)
MDA	0.124***(0.0478)	0.234***(0.0842)	0.284**(0.125)
MEX	0.788***(0.0363)	1.596***(0.0833)	1.510***(0.0596)
MLI	-0.576***(0.0488)	-1.080***(0.0893)	-1.534***(0.121)
MYS	-0.0385(0.0384)	-0.0710(0.0694)	-0.0501(0.0969)
NOR	0.0394(0.0312)	0.0797(0.0492)	0.0860(0.0706)
PER	0.948***(0.0301)	1.724***(0.0711)	2.081***(0.0427)
POL	-0.0892***(0.0260)	-0.165***(0.0469)	-0.266***(0.0621)
ROM	0.0447(0.0379)	0.0832(0.0688)	0.0433(0.102)
SRB	-0.0263(0.0384)	-0.0339(0.0671)	-0.118(0.103)
SVN	0.254***(0.0222)	0.454***(0.0372)	0.562***(0.0477)
SWE	0.0723**(0.0317)	0.124**(0.0530)	0.111(0.0672)
THA	0.160***(0.0487)	0.276***(0.0837)	0.522***(0.126)
TTO	0.0478(0.0320)	0.126**(0.0587)	-0.0743(0.0762)
TUR	0.206***(0.0432)	0.347***(0.0770)	0.475***(0.107)
TWN	0.0700***(0.0257)	0.130***(0.0440)	0.156**(0.0625)
UKR	-0.0579*(0.0310)	-0.0792(0.0523)	-0.246***(0.0805)
URY	-0.159***(0.0218)	-0.318***(0.0413)	-0.625***(0.0476)
VNM	0.540***(0.0296)	0.957***(0.0587)	1.318***(0.0633)
ZAF	0.0811***(0.0241)	0.136***(0.0425)	0.126**(0.0527)

IRN	0.334***(0.0333)	0.604***(0.0607)	0.905***(0.0806)
ZMB	0.167***(0.0172)	0.294***(0.0284)	0.463***(0.0389)
N	59047	59047	59047
R2			0.209
PseudoR2	0.050	0.052	
Sample weights suggested by the survey's authors have been used to ensure national representativeness			
Heteroskedastic robust standard errors in parentheses			
* p<0.10, ** p<0.05, *** p<0.01			

We decided to include social class in addition to income, because even though these two variables may capture similar concepts and the first may be determined by the latter, the perceived social class may capture a *cultural influenced evaluation* of the individual position in the society. Furthermore, if social class was entirely determined by income considerations, the associated coefficients would be insignificant. However it seems to be not the case, here. In particular belonging to the upper class, to the upper-middle or to the working class implies a decrease in the probability of being *fatalistic* with respect to people belonging to the lower class, respectively of -1.9%, -1.3%, -0.7%.

As regards education levels, the associated dummy coefficients take a positive sign and are highly significant in all the specifications. Therefore when education increases, the probability of being a person with extreme *fatalistic* tendencies decreases. The decrease in the probability of being a very fatalistic person associated to *incprimary, primary, intechnical, technical, incsecondary, secondary, someuniv, university* with respect *noeduc* is respectively of: -1.4%, -2.4%, -3.1%, -3.9%, -3.4%, -4%, -4.9%, -4.86%.

D'Orlando *et al.* (2011) argue that education can weaken the link between transmitted culture and beliefs and make individuals more inclined to believe that they have greater control over life-events. They empirically find a similar relation between education and *fatalism*, however the current findings are obtained both with a more appropriated measure of *fatalistic* tendencies and with a more accurate measure of education (they use the age at which one has completed his education as a proxy for the education level). Unfortunately, it is difficult to establish a causal link from education to *fatalism* because a higher level of education may reflect a higher level of unobserved ability possessed by an individual, so that the decrease in *fatalism* may be caused by the individual's higher skills (D'Orlando *et al.*, 2011). Perhaps education plays a role in this case, too, given that the technology of skill formation is characterized by strong complementarities between cognitive skills and non-cognitive traits (Cuhna and Heckman, 2007) such as *fatalism*. Education improves people's skills, and it may make individuals more aware of their abilities and therefore less *fatalistic*. To be on the safe side, we merely state that there is strong evidence for a negative relation between *fatalism* and education.

Also the relation between health and *fatalism* takes the expected sign: a betterment in the perceived state of health is accompanied by a decrease in fatalistic tendencies. In particular the decrease in the probability of being a person with a high fatalistic tendency associated to *vghealth, ghealth, that* is respectively of -3.8%, -2.8%, -1.7%[13].

Also gender plays a role in *fatalistic* attitudes, with women being more likely to believe that life-events are driven by the fate (the associated increase in probability of outcome 1 is about 1.3%). This can be rationalized in various ways mostly reliant on the

[13] We are aware that also in this case a reverse causality argument may apply. That is, there is strong evidence in medical literature that fatalistic beliefs negatively influence health screening behavior. Hence if fatalistic persons are particularly careless for what regards their health these may cause the observed relation between fatalism and health status.

impact of culture and education (D'Orlando *et al.*, 2011). Unfortunately, still today women in many countries are far from being emancipated, and values transferred through culture and education tend to strengthen an antiquated vision of the female's role (see also Guiso and Rustichini, 2011; Thèbaud, 2010). Hence, it is possible that this attitude towards women has generated a feeling of "resignation". The sign of masculinity seems to give some support to this idea, however it is not statistically significant (maybe the effect of a gender role effect is captured entirely by the gender's dummy).

Age and its square are not statistically significant. This finding suggests that the controls inserted in our regressions are capturing all the possible life-cycle effects influencing *fatalistic* tendencies.

Among marital status controls, only widowed are more likely to be very *fatalistic* with respect to single people. In particular the increase in the probability associated to widowed is about 1.4%. This result suggests that very dramatic event in life as the death of a spouse, may increase individual *fatalistic* beliefs as a sort of psychological defensive mechanism.

As far as religions are concerned, people declaring that they belong to a religion (independently from their religious affiliation) show a higher probability of being fatalistic. In particular, being *"Orthodox", "Muslim", "Evangelical", "Buddhist", "Protestant", "Catholic", "adhering to a non denominational religion"* or to a religion different from the formers, corresponds to an increase in the probability of being a person with extreme *fatalistic* tendency respectively by 3%, 3.3%, 3.9%, 3.5%, 3%, 2.9%, 2.4%, 1.8%. Only the dummy "*Hindu*" is not statistically significant. However, it is likely that the effect of Hindu affiliation is captured by the dummy relative to India[14]. It is worthwhile to note that the effect religious beliefs on *fatalistic* beliefs are very close across the various faiths in terms of magnitude. This can be interpreted as an evidence against the "clash of civilization" thesis according to which Islamic tenets are at the basis of fatalistic tendencies. At the same time, this finding represents an evidence partly contrasting Weber's thesis. In fact, even though religions seem to play an important role in determining fatalistic tendencies, according to Weber one may expect very differentiated effects across faiths.

For what regards the controls associated to Hofstede's cultural dimensions, only power distance and risk avoidance are significantly correlated with *fatalism* in all the specifications. In particular, low power distance and being a risk seeker are associated with a decrease in the probability of being an extremely *fatalistic* person respectively of 1.15% and 1.29%.

Finally for what regards Institutions, the country fixed effects are almost all strongly statistical significant. Also the variable *freedom* is statistically significant in all the three specifications. In particular, an increase of one point in the indicator individual autonomy is associated to a decrease of 0.4% in the probability of being an extremely fatalistic person.

Interestingly, confirming the idea that religious beliefs and Institutions play a joint role in determining fatalistic beliefs, the interactions between freedom and religious affiliation are significant for *Muslim, Hinduism, Orthodox, Otherrel and Buddhist*. However, in the first four cases the sign of the coefficients are negative, implying that given the level of individual autonomy characterizing the country in which the individual lives, being an adherent to one of the mentioned religion increases the probability of being an extremely fatalistic person respectively of 0.4%, 0.1%, 0.15%, 0.11%, whilst being Buddhist decreases that probability of 0.16%. This last result however is not surprising since one of dogma of Buddhism, the "*Annica*": it is the acceptance of the present situation and at the same time the recognition that the world is always changing. Therefore this system of beliefs may not imply the

[14] According to 2001 census, Hinduism was followed by around 80% of population in India (http://www.censusindia.gov.in). Confirming this idea, in my sample the Hindu affiliation is almost perfectly correlated with India (0.76).

hypothesized *cultural resistance* that instead characterizes other religions.

Another interesting result is that inherent the interaction between *"Orthodox"* and "*freedom"*. Given the fact that the Orthodox faith is predominant in Eastern Europe Countries, the negative sign of the interaction between *freedom* and *orthodox* (the only Christian faith for which the interaction is significant) may indicate the presence of a process of *cultural resistance* to the institutional innovations that are going on in those countries.

To further test the idea that the "*transformative potential*" of a religion is particularly important in the process of formation of fatalistic tendencies, following Guiso *et al.* (2006) we look at a historical episode of discontinuous change in religious doctrine to study its impact on people's beliefs.

This change was brought about by the Second Vatican Council, which in 1962 substantially modified Catholic doctrine and teaching. In particular, the council has determined an opening up of dialogue with the other religious denominations and hence an increase in the Eisenstadt's transformative potential of the Catholic faith. As a result, Catholics after 1960 received a very different education from Catholics of earlier generations. Therefore, we expect that people born (and educated) after 1960 should be less *fatalistic* than earlier generations.

In *Table 3*, we replicated the analysis reported in *Table 2*, but adding to the explanatory variables a dummy equal to one (named *catcouncil*) when a member of the Catholic faith is born after 1960. Also in this case we test various empirical specifications of the model. In particular, columns a, b, c indicate the results of an ordered probit regression, an ordered logit regression and an OLS, respectively.

Giving support to our hypothesis, the coefficient relative to *catcouncil* is positive and statistically significant. For what regards other results, all the former findings reported in *Table 2* are confirmed.

Table 3. The effect of the Second Vatican Council

	(a)	(b)	(c)
Age	-0.0017 (0.0018)	-0.0040 (0.0030)	-0.0022 (0.0045)
Agesquare	0.0000 (0.0000)	0.0001* (0.0000)	0.0000 (0.0000)
Female	-0.0780*** (0.0093)	-0.1362*** (0.0157)	-0.1966*** (0.0234)
Fhealth	0.1107*** (0.0202)	0.2076*** (0.0353)	0.3090*** (0.0516)
Ghealth	0.1801*** (0.0200)	0.3294*** (0.0349)	0.4980*** (0.0509)
Vghealth	0.2643*** (0.0218)	0.4789*** (0.0380)	0.6801*** (0.0551)
Upperclass	0.1298*** (0.0475)	0.2734*** (0.0842)	0.2774** (0.1144)
Upmidclass	0.0927*** (0.0191)	0.1709*** (0.0327)	0.2211*** (0.0481)
Lowmidclass	0.0169 (0.0160)	0.0370 (0.0275)	0.0462 (0.0404)
Workingclass	0.0437*** (0.0162)	0.0939*** (0.0279)	0.1023** (0.0410)
IncomeD2	0.0493** (0.0231)	0.1006** (0.0415)	0.1836*** (0.0571)
IncomeD3	0.0578** (0.0224)	0.1136*** (0.0403)	0.2065*** (0.0553)
IncomeD4	0.0599*** (0.0227)	0.1117*** (0.0408)	0.2321*** (0.0561)
IncomeD5	0.0874*** (0.0224)	0.1510*** (0.0403)	0.2921*** (0.0549)
IncomeD6	0.1239*** (0.0235)	0.2238*** (0.0420)	0.4056*** (0.0580)
IncomeD7	0.1712*** (0.0248)	0.3060*** (0.0439)	0.5282*** (0.0607)
IncomeD8	0.1618*** (0.0277)	0.2908*** (0.0482)	0.4771*** (0.0686)
IncomeD9	0.1845*** (0.0335)	0.3308*** (0.0574)	0.5502*** (0.0823)
IncomeD10	0.3033*** (0.0379)	0.5208*** (0.0641)	0.7573*** (0.0888)

Nodenomrel	-0.1476*** (0.0347)	-0.2609*** (0.0582)	-0.3783*** (0.0848)
Catholic	-0.2031*** (0.0304)	-0.3275*** (0.0506)	-0.4778*** (0.0752)
Muslim	-0.1763*** (0.0396)	-0.2744*** (0.0671)	-0.4071*** (0.0995)
Protestant	-0.1628*** (0.0310)	-0.2622*** (0.0516)	-0.3868*** (0.0775)
Orthodox	-0.1639*** (0.0366)	-0.2618*** (0.0617)	-0.3796*** (0.0931)
Buddhist	-0.1877*** (0.0379)	-0.3066*** (0.0633)	-0.4518*** (0.0954)
Hindu	-0.011 (0.09384)	-0.2051 (0.1596)	-0.3711** (0.1881)
Evangelical	-0.2054*** (0.0477)	-0.3238*** (0.0760)	-0.4819*** (0.1241)
Otherrel	-0.1058*** (0.0253)	-0.1712*** (0.0421)	-0.2427*** (0.0612)
Married	0.0258 (0.0179)	0.0476 (0.0301)	0.0625 (0.0451)
Cohabite	0.0115 (0.0222)	0.0191 (0.0373)	0.0192 (0.0555)
Divorced	0.0392 (0.0289)	0.0689 (0.0485)	0.0732 (0.0732)
Separated	-0.0026 (0.0381)	-0.0062 (0.0654)	-0.0303 (0.0952)
Widowed	-0.0865*** (0.0273)	-0.1549*** (0.0464)	-0.2266*** (0.0694)
Nochild	0.0214 (0.0165)	0.0375 (0.0278)	0.0652 (0.0416)
Incprimary	0.0969*** (0.0258)	0.1676*** (0.0453)	0.1993*** (0.0631)
Primary	0.1678*** (0.0230)	0.3011*** (0.0405)	0.3689*** (0.0566)
Inctechnical	0.2175*** (0.0265)	0.3855*** (0.0460)	0.5001*** (0.0657)
Technical	0.2773*** (0.0235)	0.4718*** (0.0412)	0.6517*** (0.0574)
Incsecondary	0.2587*** (0.0286)	0.4481*** (0.0500)	0.6053*** (0.0709)
Secondary	0.2962*** (0.0237)	0.5128*** (0.0415)	0.7062*** (0.0574)
Someuniv	0.3912*** (0.0273)	0.6590*** (0.0471)	0.9882*** (0.0662)
University	0.3662*** (0.0245)	0.6125*** (0.0426)	0.9299*** (0.0594)
Longterm	0.0332** (0.0133)	0.0487** (0.0224)	0.0785** (0.0334)
Collectivism	0.0106 (0.0172)	0.0116 (0.0303)	-0.0125 (0.0409)
Independence	0.0710*** (0.0100)	0.1092*** (0.0169)	0.1718*** (0.0250)
Masculinity	-0.0432** (0.0197)	-0.0867** (0.0354)	-0.1224*** (0.0472)
Riskseeker	0.0817*** (0.0121)	0.1530*** (0.0208)	0.1735*** (0.0299)
Freedom	0.0244*** (0.0046)	0.0430*** (0.0077)	0.0855*** (0.0125)
Catcouncil	0.0541** (0.0227)	0.0762** (0.0379)	0.1477** (0.0576)
Catfreedom	-0.0015 (0.0018)	-0.0007 (0.0029)	-0.0000369
Protfreedom	-0.0038 (0.0025)	-0.0050 (0.0042)	-0.00007085
Evanfreedom	-0.0059 (0.0043)	-0.0108 (0.0071)	-0.0222** (0.0113)
Musfreedom	-0.0260*** (0.0032)	-0.0479*** (0.0056)	-0.0741*** (0.0083)
Hinfreedom	-0.0073 (0.0076)	-0.0162 (0.0156)	-0.0171 (0.0175)
Budfreedom	0.0099*** (0.0034)	0.0196*** (0.0055)	0.0227** (0.0089)
Otherfreedom	-0.0075*** (0.0027)	-0.0107** (0.0046)	-0.0227*** (0.0069)
Nondenfreedom	-0.0020 (0.0048)	-0.0014 (0.0082)	-0.0053 (0.0118)
Orthfreedom	-0.0088*** (0.0025)	-0.0150*** (0.0044)	-0.0260*** (0.0065)
N	60662	60662	60662
R-sq	.	.	0.21
pseudo Rsq	0.05	0.05	.
Sample weights suggested by the survey's authors have been used to ensure national representativeness			
Country fixed effects included in all columns; Heteroskedatic robust standard errors in parentheses			
* p<0.10, ** p<0.05, *** p<0.01			

Conclusions

In this paper, after a clarification of the concept of *fatalism*, it has been argued that *fatalistic* tendencies are the output of the interaction between cultural factors (and in particular of religion) and historical Institutional experience.

The data support the Durkeimian idea that a more regulated society tends to be also more *fatalistic*.

However note that the direction of the causality is not so straightforward. As sustained by D'Orlando *et al.*, it may be that higher *fatalistic* tendencies determine higher demand of protection and hence higher level of regulation or at the contrary it may be that it is regulation to generate fatalistic tendencies. Anyway, if Institutions are the expression of the preferences of the members of a society (at least in democratic societies), the first explanation seems to be more plausible. In this paper, it has been argued that the origins of *fatalistic* beliefs have to be traced in historical experiences and that religious beliefs may have furnished a mechanism of persistence of fatalistic tendencies. This idea seems to be supported by the sign of the interaction effect between religion and the indicator of individual autonomy. Indeed, given the level assumed by the indicator of individual autonomy, belonging to a religious denomination imply an increase in *fatalistic* tendencies (at least for four religious faiths). The fact that among Christian faiths only the interaction between being *orthodox* and *freedom* is significant represents a further proof of this idea. In fact, Orthodox faith is predominant in Eastern Europe countries, which are countries that have experienced a dramatic deregulation in recent years. The negative sign of the interaction between "*freedom"* and "*orthodox"* therefore suggests that a sort of *cultural resistance* to institutional innovations is going on in those countries.

Also the direct effect of religion on *fatalistic* beliefs seems to be an important element determining *fatalistic* tendencies. However, contrasting with Weber's theory, there are not large differences across the various faiths. In other terms, being religious independently from the religious affiliation implies a more *fatalistic* view of life. This last finding gives support to Acevedo's criticism on the "*clash of civilization*" theory.

For what regards other cultural controls, some values reflecting Hofstede's power distance and risk avoidance seem to be related to *fatalistic* tendencies.

Among other controls, income, perceived social status and education are strongly related to *fatalistic* tendencies. In particular people with low income and considering themselves at the bottom of the social class tend to be more fatalistic, suggesting that at this point Durkheim thesis may be right. For what regards education, an increase in its level lower fatalistic tendencies. Furthermore education has in terms of magnitude the largest impact on *fatalism* among all the controls considered. This clearly suggests a possible instrument to fight *fatalistic* tendencies. However, the direction of the causality remains an open issue (as for income and social status).

References

Acevedo, G., A. (2005), Turning Anomie on Its Head: Fatalism as Durkheim's Concealed and Multidimensional Alienation Theory, *Sociological Theory*, 23, pp. 75-85.

Acevedo, G., A. (2008), Islamic Fatalism and the Clash of Civilizations: An Appraisal of a Contentious and Dubious Theory, *Social Forces*, 86(4), pp. 1711-1752.

Alesina, A., Angeletos, G., M. (2005), Fairness and Redistribution, *American Economic Review*, 95(3), pp. 960-980.

Benabou, R., Tirole, J. (2006), Belief in a Just World and Redistributive Politics, *Quarterly Journal of Economics*, 121(2), pp. 699-746.

Caliendo, M., Cobb-Clark, D. & Uhlendorff, A. (2010), Locus of Control and Job Search Strategies, *IZA Discussion Paper*, No 4750, Institute for the Study of Labor (IZA).

Church, A., T. (2000), Culture and Personality: Toward an Integrated Cultural Trait Psychology, *Journal of Personality*, 68(4), pp. 651-703.

Cunha, F., and Heckman J. (2007), The Technology of Skill Formation, *American Economic Review*, 97(2), pp. 31-47.

D'Orlando, F., Ferrante, F. & Ruiu, G. (2011), Culturally based beliefs and labor market institutions, *The Journal of Socio-Economics*, 40, pp. 150-162.

Durkheim, E. (1951), Suicide, translated by John A. Spaulding and George Simpson, Glencoe, Ill.: republished by Free Press, 1951.

Eisenstadt, S., N. (1968), *The Protestant Ethic and Modernization: A Comparative View*, New York, Basic Books.

Guiso, L., Rustichini, A. (2011), What Drives Women Out of Entrepreneurship? The Joint Role of Testosterone and Culture, *CEPR Discussion Paper*, No. DP8204.

Guiso, L., Sapienza, P. & Zingales, L. (2009), Cultural Biases in Economic Exchange, *Quarterly Journal of Economics*, 124(3), pp. 1095-1131.

Guiso, L., Sapienza, P. & Zingales, L. (2003), People's Opium? Religion and Economic Attitudes, *Journal of Monetary Economics*, 50, pp. 225-282.

Guiso, L., Sapienza, P. & Zingales, L. (2006), Does Culture affect Economic Outcome? *Journal of Economic Perspectives*, 20(2), pp. 23-48.

Hofstede, G. (1980), *Culture's consequences: International differences in work-related values*, Beverly Hills, CA: Sage.

Hofstede, G. (1991), *Cultures and organizations: Software of the mind*, London, McGraw-Hill.

Hofstede, G. (1994), The Business of International Business is Culture, *International Business Review*, Vol. 3 (1), pp. 1-14.

Hofstede, G. (1997), *Cultures and Organizations: Software of the Mind*, McGraw-Hill, New York, NY.

Hofstede, G., McCrae, R.R. (2004), Personality and Culture Revisited: Linking Traits and Dimensions of Culture, *Cross-Cultural Research*, 38(1), pp. 52-88.

Huntington, S. P. (1993), The Clash of Civilizations, *Foreign Affairs*, 72, pp. 22-50.

Huntington, S. P. (1996), *The Clash of Civilizations and the Remaking of World Order*, New York: Touchstone.

Landes, D. (1998), *The Wealth and Poverty of Nations*, London: Little, Brown, and Company.

Lerner, M. J. (1982), *The Belief in a Just World: A Fundamental Delusion*, New York, NY: Plenum Press.

McClure, J., L., Walkey, F., H., & Allen, M. (1999), When earthquake damage is seen as preventable: Attributions, locus of control, and attitudes to risk, *Applied Psychology: an International Review*, 48, pp. 239-256.

McClure, J., Allen, M., W. & Walkey, F. (2001), Countering Fatalism: Causal Information in News Reports, *Basic and Applied Social Psychology*, 23(2), pp. 109-121.

McClure, J., Sutton, R., M., & Sibley, C. (2007), Listening to reporters or engineers: How different messages about building design affect earthquake fatalism, *Journal of Applied Social Psychology*, 37, pp. 1956-1973.

Nelson, K., Geiger, A., M., Mangione, C., M. (2002), Effect of Health Beliefs on Delays in Care for Abnormal Cervical Cytology in a Multiethnic Population, *Journal of General Internal Medicine*, 17(9), pp. 709-716.

Niederpeppe, J., Gurmankin Levy, A. (2007), Fatalistic Beliefs about Cancer Prevention and Three Prevention Behaviors, *Cancer Epidemiology, Biomarkers & Prevention*, 16(5), pp. 998-1003.

Perilla, J., L., Norris, F., H & Lavizzo, E., A. (2002), Ethnicity, Culture, and Disaster Response: identifying and explaining ethnic differences in PTSD six months after hurricane, *Journal of Social and Clinical Psychology*, Vol. 21, No. 1, 2002, pp. 20-45.

Roland, G. (2004), Understanding Institutional Change: Fast-moving and Slow-moving Institutions, *Studies in Comparative International Development*, 38, pp. 109-131.

Ruiu (2012), *The role of culture and institutions in entrepreneurial selection*, Ph. D. dissertation, University of Cassino and Lazio Meridionale, Mimeo.

Shapiro, J., Wu, S. (2010), Fatalism and Savings, *MPRA Paper*, No 24852, University Library of Munich, Germany.

Straughan, P., T., Seow, A. (1998), Fatalism Reconceptualized: A Concept to Predict Health Screening Behavior, *Journal of Gender, Culture, and Health*, 3(2), pp. 85-100.

Tabellini, G. (2010), Culture and Institutions: Economic Development in the Regions of Europe, *Journal of the European Economic Association*, 8(4), pp. 677-716.

Thébaud, S. (2010), Gender and Entrepreneurship as a Career Choice: Do Self-assessments of Ability Matter?, *Social Psychology Quarterly*, 73(3), pp. 288–304.

Weber, M. (1930), *The Protestant Ethic and the spirit of capitalism*, London: Georg Allen &Unwin.

World values survey 2005 official data file v.20090901 (2009), World Values Survey Association (www.worldvaluessurvey.org). Aggregate File Producer: ASEP/JDS, Madrid.

Weber, M. (1930), *The Protestant Ethic and the spirit of capitalism*, London: Georg Allen &Unwin.

Wu, S. (2005), Fatalistic Tendencies: An Explanation of Why People Don't Save, *Contributions to Economic Analysis & Policy*, http://www.bepress.com/bejeap/contributions/vol4/iss1/art1

APPENDIX

Table 4. Some descriptive statistics (1)

cty		Destiny	fatalism	freedom	cty		destiny	fatalism	freedom
AND	mean	6.873	7.725	15.000	JPN	mean	6.706	6.076	13.000
	sd	2.529	1.785			sd	2.161	1.889	
ARG	mean	6.856	7.857	13.000	KOR	mean	7.068	6.798	11.000
	sd	3.135	2.074			sd	2.132	1.984	
AUS	mean	7.264	7.688	15.000	MAR	mean	2.906	5.297	8.000
	sd	2.029	1.886			sd	2.269	2.400	
BFA	mean	4.567	5.704	8.000	MDA	mean	6.413	6.910	9.000
	sd	3.197	2.657			sd	2.856	2.203	
BGR	mean	5.585	5.802	13.000	MEX	mean	7.806	8.383	12.000
	sd	2.624	2.288			sd	3.137	2.083	
BRA	mean	6.915	7.728	12.000	MLI	mean	3.582	6.123	9.000
	sd	2.989	2.199			sd	3.033	2.716	
CAN	mean	7.175	7.628	16.000	MYS	mean	6.022	7.310	9.000
	sd	2.125	1.838			sd	2.348	1.710	
CHE	mean	6.463	7.523	16.000	NLD	mean	.	6.625	16.000
	sd	2.328	1.765			sd	.	1.784	
CHL	mean	7.323	7.304	14.000	NOR	mean	7.225	7.710	16.000
	sd	2.489	2.185			sd	2.139	1.565	
CHN	mean	6.674	7.235	7.000	NZL	mean	.	7.911	15.000
	sd	2.929	2.341			sd	.	1.832	
COL	mean	.	8.044	10.000	PER	mean	7.987	7.132	9.000
	sd	.	2.197			sd	2.644	2.213	
CYP	mean	6.805	7.444	15.000	POL	mean	6.144	6.563	13.000
	sd	2.754	2.216			sd	2.540	2.288	
DEU	mean	6.607	6.728	15.000	ROM	mean	6.144	7.637	11.000
	sd	2.314	2.144			sd	2.833	2.223	
EGY	mean	2.691	5.969	7.000	RUS	mean	.	7.101	6.000
	sd	2.324	2.588			sd	.	2.546	
ESP	mean	6.507	6.879	15.000	RWA	mean	5.223	6.518	5.000
	sd	2.340	1.729			sd	2.637	2.010	
ETH	mean	5.882	6.169	6.000	SRB	mean	6.332	6.453	13.000
	sd	2.464	2.078			sd	2.449	2.059	
FIN	mean	6.672	7.450	16.000	SVN	mean	7.109	7.488	12.000
	sd	2.158	1.733			sd	2.584	2.174	
FRA	mean	.	6.666	15.000	SWE	mean	7.439	7.833	16.000
	sd	.	2.054			sd	2.163	1.628	
GBR	mean	.	7.254	15.000	THA	mean	6.888	6.922	11.000
	sd	.	1.942			sd	2.166	1.923	
GEO	mean	5.695	6.401	10.000	TTO	mean	6.260	7.883	11.000
	sd	2.941	2.479			sd	3.396	2.225	
GHA	mean	5.210	7.095	10.000	TUR	mean	5.963	7.404	10.000
	sd	3.304	2.462			sd	3.079	2.368	
GTM	mean	.	7.480	8.000	TWN	mean	6.943	7.397	13.000
	sd	.	2.117			sd	2.376	2.175	
HON	mean	.	6.318	9.000	UKR	mean	6.156	6.085	11.000
	sd	.	2.006			sd	2.769	2.298	
IDN	mean	6.557	7.386	9.000	URY	mean	5.982	7.794	15.000

	sd	2.624	2.269			sd	2.901	2.010	
IND	mean	5.514	6.047	10.000	USA	mean	7.087	7.691	15.000
	sd	3.796	2.824			sd	2.048	1.743	
IRN	mean	6.779	7.064	4.000	VNM	mean	7.485	7.062	8.000
	sd	2.824	2.116			sd	2.524	2.086	
IRQ	mean	.	5.412	6.000	ZAF	mean	6.478	7.807	12.000
	sd	.	2.726			sd	2.800	2.133	
ITA	mean	6.147	6.336	15.000	ZMB	mean	6.467	7.200	.
	sd	2.351	2.062			sd	2.774	2.409	.
JOR	mean	7.576	7.688	7.000	Total	mean	6.243	7.021	10.765
	sd	2.613	2.528			sd	2.929	2.320	3.452

sd=standard deviation

Table 5. Some descriptive statistics (2)

cty	catholic	muslim	buddhist	hindu	orthodox	evangelical	protestant	otherrel	nodenomrel	atheist
AND	0.543	0.012	0.000	0.009	0.003	0.000	0.010	0.230	0.059	0.134
ARG	0.741	0.000	0.064	0.003	0.000	0.000	0.005	0.119	0.046	0.023
AUS	0.232	0.002	0.010	0.006	0.020	0.000	0.287	0.264	0.082	0.096
BFA	0.308	0.533	0.000	0.001	0.002	0.000	0.078	0.069	0.007	0.002
BGR	0.001	0.098	0.002	0.000	0.735	0.000	0.003	0.110	0.018	0.033
BRA	0.603	0.000	0.002	0.000	0.003	0.207	0.019	0.086	0.075	0.005
CAN	0.405	0.011	0.006	0.001	0.008	0.000	0.157	0.268	0.104	0.041
CHE	0.410	0.016	0.000	0.000	0.000	0.000	0.328	0.142	0.045	0.059
CHL	0.603	0.000	0.000	0.000	0.001	0.000	0.168	0.135	0.060	0.033
CHN	0.000	0.024	0.035	0.000	0.000	0.000	0.043	0.610	0.113	0.174
COL	0.741	0.000	0.000	0.000	0.000	0.075	0.028	0.086	0.065	0.004
CYP	0.003	0.451	0.000	0.000	0.494	0.000	0.001	0.011	0.010	0.029
DEU	0.208	0.008	0.001	0.000	0.005	0.331	0.000	0.247	0.033	0.166
EGY	0.000	0.936	0.000	0.000	0.000	0.000	0.000	0.064	0.000	0.000
ESP	0.797	0.001	0.003	0.000	0.000	0.000	0.003	0.124	0.009	0.063
ETH	0.015	0.105	0.001	0.000	0.647	0.000	0.194	0.037	0.000	0.001
FIN	0.002	0.001	0.000	0.000	0.011	0.808	0.000	0.104	0.060	0.015
FRA	0.411	0.049	0.005	0.000	0.002	0.002	0.018	0.264	0.087	0.163
GBR	0.102	0.038	0.005	0.008	0.004	0.000	0.256	0.388	0.112	0.087
GEO	0.003	0.033	0.001	0.001	0.935	0.000	0.000	0.019	0.007	0.002
GHA	0.208	0.149	0.001	0.000	0.037	0.000	0.553	0.044	0.008	0.001
GTM	0.560	0.002	0.001	0.000	0.000	0.293	0.015	0.103	0.021	0.005
HON	0.029	0.001	0.128	0.002	0.000	0.000	0.081	0.704	0.002	0.054
IDN	0.000	0.921	0.000	0.000	0.000	0.000	0.067	0.008	0.003	0.000
IND	0.000	0.081	0.018	0.756	0.000	0.000	0.000	0.111	0.031	0.002
IRN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.996	0.003	0.000
IRQ	0.001	0.618	0.000	0.000	0.001	0.000	0.000	0.379	0.001	0.000
ITA	0.875	0.000	0.002	0.001	0.000	0.000	0.000	0.054	0.048	0.020
JOR	0.010	0.983	0.000	0.000	0.005	0.000	0.003	0.000	0.000	0.000
JPN	0.007	0.000	0.311	0.000	0.000	0.000	0.008	0.494	0.070	0.109
KOR	0.213	0.001	0.250	0.002	0.001	0.000	0.228	0.088	0.003	0.214
MAR	0.000	0.993	0.000	0.002	0.001	0.000	0.000	0.004	0.000	0.000
MDA	0.010	0.001	0.000	0.000	0.923	0.000	0.033	0.025	0.000	0.009
MEX	0.722	0.001	0.000	0.000	0.000	0.056	0.010	0.112	0.083	0.015
MLI	0.018	0.930	0.001	0.005	0.001	0.000	0.005	0.026	0.014	0.001
MYS	0.070	0.574	0.201	0.078	0.000	0.000	0.046	0.018	0.008	0.005
NLD	0.249	0.013	0.002	0.001	0.054	0.004	0.109	0.383	0.129	0.057
NOR	0.013	0.010	0.005	0.000	0.002	0.000	0.626	0.244	0.053	0.048
NZL	0.137	0.002	0.003	0.008	0.000	0.000	0.000	0.749	0.045	0.055
PER	0.711	0.000	0.000	0.003	0.000	0.000	0.124	0.103	0.049	0.010
POL	0.944	0.000	0.001	0.000	0.010	0.000	0.008	0.023	0.002	0.012
ROM	0.075	0.002	0.000	0.000	0.865	0.000	0.050	0.006	0.000	0.002
RUS	0.004	0.040	0.008	0.000	0.552	0.000	0.006	0.256	0.093	0.039
RWA	0.523	0.150	0.003	0.000	0.003	0.000	0.299	0.020	0.002	0.001
SRB	0.039	0.027	0.000	0.000	0.871	0.000	0.007	0.030	0.007	0.018
SVN	0.651	0.013	0.002	0.000	0.021	0.000	0.017	0.142	0.071	0.083
SWE	0.016	0.004	0.000	0.000	0.000	0.000	0.003	0.843	0.045	0.089
THA	0.000	0.025	0.968	0.000	0.000	0.000	0.001	0.004	0.001	0.000
TTO	0.205	0.049	0.004	0.231	0.004	0.000	0.440	0.030	0.034	0.004
TUR	0.000	0.989	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.004

TWN	0.008	0.001	0.185	0.000	0.000	0.000	0.041	0.600	0.063	0.103
UKR	0.068	0.004	0.001	0.000	0.603	0.000	0.004	0.182	0.115	0.023
URY	0.338	0.000	0.002	0.001	0.000	0.053	0.016	0.321	0.193	0.076
USA	0.205	0.002	0.002	0.001	0.003	0.000	0.321	0.314	0.130	0.022
VNM	0.062	0.001	0.154	0.001	0.000	0.000	0.013	0.671	0.035	0.064
ZAF	0.122	0.018	0.003	0.018	0.004	0.095	0.336	0.342	0.055	0.007
ZMB	0.342	0.013	0.001	0.003	0.001	0.000	0.463	0.162	0.012	0.003

*Percentage of individuals adhering to the corresponding faith