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Is fatalism a cultural belief? An empirical analysis on the origin of fatalistic tendencies

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Abstract

I maintain that fatalistic tendencies are the output of the interaction between cultural factors (and in particular of religious beliefs) and historical Institutional experience. Using WVS data this idea has been tested against two well known sociological theories on the origin of fatalism: Weberian cosmological fatalism and Durkheim's structural fatalism. The data supports the Durkheimian idea that a more regulated society tends to be also more fatalistic. Also the direct effect of religion on fatalistic beliefs seem to be an important element determining fatalistic tendencies. However 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.

Keywords: Culture, fatalism, institutions, religion

JEL classification: Z12, Z13

1. 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. For fatalism I intend people's propensity to believe that their destinies are ruled by an unseen power, Fate, rather than by their will.

The concept of fatalism is akin to that of locus of control developed in psychology. In particular *locus of control* refers to a person's belief about what causes the good or bad results in his or her life, either in general or in a specific area (Rotter, 1966; 1990). People's locus of control can be either internal or external, depending on whether or not they tend to believe that their actions ultimately determine personal outcomes.

The distinction between psychological traits and culturally based prior beliefs is not neat. Indeed, it is not a scope of this work to deeply discuss the ample literature in psychology and anthropology on the subject: building on latter contributions, my contention is that cultural beliefs pertain to the social sphere, i.e. cultural beliefs are a social construct, whereas psychological traits belong the individual sphere (Church, 2000). The latter are originated from genetic inheritance and individual experiences, and encompass also values that are for a large part shaped by cultural influences. In contrast, culture is restricted to collective, often normative, "mental programs".

It is surprising that a belief so important in characterizing people's expectations concerning the link between actions and results has received so little attention in economic literature. 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. On the same line, Benabou and Tirole (2006) relate fatalism to the psychology literature and the notion of a "belief in a just world" (Lerner 1982) in order to examine the interaction between ideology and redistribution systems. Wu (2005) analyzes the role of *fatalism* in determining household savings behavior, finding that people characterized by fatalistic beliefs are less likely to save. Wu(2005), 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 if 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* can explain the different choices made by different countries.

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

There is strong evidence in the medical literature on the role of *fatalism* in health screening behavior (Straughan and Seow 1998, Nelson et al. 2002, Niederdeppe and Gurmankin Levy 2007).¹

There exist various studies in clinical psychology showing that fatalism significantly impact both the preparedness of individuals to announced natural disasters, i.e., fatalism obstacles the adoption of self-protecting behavior, and the ability to cope with the psychological consequence of natural disaster, i.e., fatalism amplifies the post traumatic stress suffered by the victims of such disasters (Perilla et al.,2002; McClure, Allen and Walkey,1999, 2001; McClure et al., 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.

The aim of this paper is to answer to the following questions: why do some populations are more fatalistic than others ? Where does fatalism come from?

To my knowledge only in Sociology there have been attempts to explain the origin of fatalistic tendencies (Durkheim, 1897; Weber, 1930, Acevedo, 2005) while economists have completely neglected this subject of research.

Following Thomas and Mueller (2000) and D'Orlando, Ferrante and Ruiu (2011) and Acevedo (2005) I maintain that fatalism is at least partly culturally determined and in this paper, I will give some empirical evidence supporting this view. In particular, I show that fatalism is strongly tied with adhering to a religious faith (independently from which faith) .

The paper is divided in four sections . In section 2, I will clarify what is intended for culture. In section 3, I will clarify the notion of fatalism. In the latter section, after a review of the main sociological theories on the origin of fatalism, I will propose a possible answer to the research questions reported above. In section 4, I will show some empirical analysis supporting the view that fatalism depends at least partly on cultural legacy. Section 5 concludes.

2. Definition of culture

The first step for talking about the role played by culture in determining fatalism, is to identify culture in a sufficiently narrow way, so that it become possible to investigate the causal link from culture to fatalistic beliefs. Among others two well known definitions of culture have been proposed by Hofstede (1991) and Guiso et al. (2006). In particular Hofstede defines culture as: "*the collective programming of the mind which distinguishes the members of one group or category of people from another*" (1991,p.5). Guiso et al.'s definition is focused on the transmission of cultural values: "*we define culture as those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation*" (2006, p.23) . Putting together these definitions it is possible to stress the salient characteristics of culture:

- I) culture is a collective not individual attribute;
- II) is not directly visible but manifested through behaviors;
- III) common to some but not to all people;

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.

IV) is slow moving being an inheritance that fathers leave to sons.

According to Hofstede culture is not tangible and largely unobservable as it can only be studied through various verbal and nonverbal manifestations values, heroes, rituals, and symbols which influence behavior.

Values are the core of the definition of culture and represent the most deeply embedded manifestation of culture. According to Hofstede (1980, p.18) a value can be defined as: “*a broad tendency to prefer certain state of affairs over others*”. The values shape the identity of group of individuals or more generally of countries and thus cultures can be compared with each other using values as a standard. Some well known cultural dimensions and some associated values are described in Table 1. The definitions of heroes, rituals, and symbols are given in Table 2.

The above mentioned characteristic I, is fundamental to distinguish culture from personality. There is an ongoing debate among psychologists to what extent culture and personality can be considered independent and distinct variables, and to what extent they are mutually constitutive .

In this work, I will follow Church (2000) maintaining that while personality pertains to the individual sphere, culture pertains to the social sphere, i.e. culturally based beliefs are a social construct, whereas psychological traits belong to the individual ambit . In particular, Church argues that mental programming is partly unique for individuals and partly shared with those who belong to the same culture.²

Verheul et al. (2002) use the above mentioned characteristic II to distinguish culture from institutions, that is, culture is unobservable while institutions are observable.

Even if I agree on the non tangibility of culture, it's my opinion that this distinction represents a smart way to elude the debate on what institutions and culture are and which of these factors influences the other rather than a clear way to distinguish between these two factors.

A well known definition of institutions can be found in North (1994). In particular, according to North, Institutions are:

“[...]the humanly devised constraints that structure human interaction. They are made up of formal constraints (e.g., rules, laws, constitutions), informal constraints (e.g., norms of behavior, conventions, self-imposed codes of conduct), and their enforcement characteristics. Together they define the incentive structure of societies and specifically economies.” (1994,p.360).

Economists often define culture as the social norms and the individual beliefs that sustain Nash equilibria as focal points in repeated social interactions (e.g., Schotter, 1981; Myerson, 1991; Greif, 1994). Hence considering both this interpretation of culture and North's definition of institutions one may conclude that culture is one aspect of broadly defined institutions. However, this interpretation is clearly conflicting with Hofstede who considers values as a manifestation of culture and hence as implication culture as determinant of the institutional settings.³

Hence for Hofstede, culture shapes institutions and the latter reinforce the former being a sort of instrument to promote culture. According to Roland (2004) culture tends to be more slow-moving than political or legal institutions. Therefore, one can argue that culture might have an important effect on the choice of political and legal institutions itself. Among economists Guiso et al. (2003,2006,2009) share this view sustaining that cultural values and beliefs are the outcome of a process of cultural sedimentation taking place over very long time spans.

As such, they are very stable and they may show high resilience in the face of both external, e.g. military invasions, immigration, or internal shocks, e.g. radical political reforms (Schwartz, Bardi,

² The following statement is useful to clarify the different level of analysis between personality and culture:

“*In studying personality, we compare individuals; in studying culture, we compare societies, even if our data have partly been collected from individuals within those societies. Individuals are to societies as trees are to forests; comparing forests is not comparing trees writ large...[C]omparing forests involves quite different elements: not only the configurations of different trees but also the entire biotope*” (Hofstede and McCrae, 2004, p.65).

³ In particular, he sustains that:

“*the stability of cultural patterns can be ascribed to reinforcement by the institutions which themselves are products of the dominant value systems*” (1980, p. 233).

and Bianchi 2000; Inglehart and Baker, 2000). Of course, older cultures (South European, Chinese, Arab), will display more resilience relative to new ones (Australia, USA). This explains why the former cultures appear more conservative, less dynamic and more prone to oppose institutional innovations.

Tabellini (2010) argues that the game theorist's view of culture and that of cultural psychologist are not mutually exclusive but can complement each other. He sustains that culture is an important channel through which historical institutions influence current institutions. In particular he shows that historical institutions are correlated with current cultural values which in turn determine how current institutions work and hence influence current economic development.

»»»» Insert Table 1 here, now at the end ««««

On the same line of research Gorodnichenko and Roland (2010) show that culture continues to play a statistically significant and quantitatively important role in determining long-run growth even after controlling for measures of institutions, implying that culture has an effect on economic development that is independent of institutions. Furthermore, they find that there is a two-way causality between culture and institutions thus suggesting that institutions are in part determined by culture. D'orlando, Ferrante and Ruiu (2011) show that two cultural prior beliefs as trust and fatalism are very persistent through time.

Given the above mentioned evidences, in this work I will adopt the view according to which culture is not a simple coordination device adopted by economic players but a system of value transmitted from one generation to the next and hence able to shape people's attitude and beliefs.

»»»» Insert Table 2 here, now at the end ««««

3. Fate and fatalism: Definition and possible sources

“Desine fata deum flecti sperare precando.” Eneide VI [Virgilio]

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. Hence, fatalism can undermine the confidence in the link between effort and economic success.⁴

The concept of *fatalism* has been central to the development of religious and philosophical thought. Of course, this is not surprising because the question of whether or not our destinies are under our control is at the root of our thoughts and has shaped our cultural evolution.

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 when 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 men 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 also 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 the men 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

⁴ Tabellini (2010) showed that the confidence between actions and output is one of the cultural determinants of economic development.

concept of Divine Providence is the one given above while in the South it is very similar to the Roman concept of Fate, the men cannot do anything to change their conditions, 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 tendencies from the Calvinist worldview. Why don't this process of rationalization 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 of 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) use similar argument in his "clash of civilization" thesis. In particular proponents of Huntington's thesis have held firm in their conviction 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 (2005) analyzed the two principal sources of fatalism that have been pointed out in sociological field: Cosmological and Structural fatalism. The first is the Weberian definition of fatalism, 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 WVS 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 (2005) 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 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.

At the same way, the Chinese empire was characterized by high centralization but it lacked a fixed system of laws. Then in this case, the Chinese empire may have fostered large power distance but medium to weak uncertainty avoidance.

However in Hofstede, it is not clear what are the forces that preserve since today cultural values with such ancient roots. In particular he completely ignores the role that religions can play in this ambit. My view is 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 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 and where even if reform are imposed by some external force the resistance to institutional innovations caused by religious beliefs will imply a very slow internalization of the new institutions.

These complementarities between religions and historical institutions can explain for instance the different fatalistic tendencies between Northern and Southern Italy and the particular high level of fatalism that characterizes Eastern European Countries, Turkey and Japan.

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 regions⁵.

For what regards Eastern European countries, Turkey and Japan, Finer (1997) shows that Russian czars, Ottoman sultans and Tokugawa shogun had complete control over the military, the aristocracy, the religion and the bureaucracy. Their governments were characterized by low protection of property rights, high interventionism and low efficiency and these characteristics were immediate consequences of the intent of the rulers to maintain complete control over their subjects.

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 if 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 I will give some empirical clues on the existence of an interaction effect of religious beliefs and institutional settings in determining fatalistic tendencies.

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

In this paragraph I will show some preliminary empirical evidences on the cultural origin of fatalistic beliefs. 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 has no 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.⁶

In the 2005 wave, it has been introduced an even more direct question: “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.”“.

⁵ For a brief review of the different institutions in force in Northern and Southern Italy see the historical appendix in Tabellini (2010).

⁶ This question was present in all the waves.

In the following analysis I named *destiny* the measure of fatalism obtained from this alternative question. D'Orlando, Ferrante and Ruiu (2011) show that fatalism is a quite persistent belief. In particular, they created an index of fatalism (IF) given by the mean score at the country level to the first question presented above⁷ and they checked the persistence of fatalism through the correlation between IF calculated on the first wave and that calculated on the fourth wave. Their results is replicated in Figure 1. In Figure 2, the mean score at country level for the variable *destiny* (from now, I will call ID this index) is plotted against the IF index (both indicators are calculated for the 2005 wave).⁸

The first indicator seems to be a more appropriated measure of *structural fatalism* (as defined in section 2), while the second indicator seems to be indicative of *cosmological fatalism*. As highlighted in Figure 2, ID and IF are strongly and significantly correlated⁹. In Table 3, I 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 strongly correlated also 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, I feel quite comfortable in using the two questions as alternatives measures of *fatalism*. Moreover these preliminary results allow to highlight that fatalism possess a fundamental prerequisite to be considered a cultural traits, i.e. it is a persistent belief. However, this persistence may be caused by other factors as Institutions. Hence it is useful to investigate it in greater detail what are the determinants of fatalistic tendencies.

»»»» Insert Table 3 and Table 4 here, now at the end ««««

In what follows, I 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 (my vision of fatalism) are still significant determinants of fatalism.

»»»» Insert Figure 1 and Figure 2 here, now at the end ««««

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

$$(1) \text{ fatalistic tendencies} = f(X, Religion, Institutions, Religion * Institutions)$$

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:

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

⁷ They use the first and the four waves and 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].

⁸ See table 4 for some descriptive statistics.

⁹ Mali, Egypt and Morocco seem to be outliers in Figure 2. I repeated the analysis dropping these three countries, however the correlation is still strong and statistically significant.

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

$$destiny = 1 \text{ if } y^* \leq \alpha_1$$

$$destiny = 2 \text{ if } \alpha_1 < y^* \leq \alpha_2$$

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$$destiny = 10 \text{ if } y^* > \alpha_9$$

Given the standard normal assumption on ε , it is it is straightforward to derive the conditional distribution of y given x, R, I and $R * I$:

$$\begin{aligned} P(destiny_i = 1 | x_i, R_i, I_{ij}, R_i * I_{ij}) &= P(y_i^* \leq \alpha_1 | x_i, R_i, I_{ij}, R_i * I_{ij}) = \\ &= P(x_i' \beta_1 + R_i' \beta_2 + I_{ij}' \beta_3 + (R_i * I_{ij})' \beta_4 + \varepsilon \leq \alpha_1) = \Phi\left(\alpha_1 - x_i' \beta_1 - R_i' \beta_2 - I_{ij}' \beta_3 - (R_i * I_{ij})' \beta_4\right) \end{aligned}$$

$$\begin{aligned} P(destiny_i = 2 | x_i, R_i, I_{ij}, R_i * I_{ij}) &= P(\alpha_1 < y_i^* \leq \alpha_2 | x_i, R_i, I_{ij}, R_i * I_{ij}) = \\ &= \Phi\left(\alpha_2 - x_i' \beta_1 - R_i' \beta_2 - I_{ij}' \beta_3 - (R_i * I_{ij})' \beta_4\right) - \Phi\left(\alpha_1 - x_i' \beta_1 - R_i' \beta_2 - I_{ij}' \beta_3 - (R_i * I_{ij})' \beta_4\right) \end{aligned}$$

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$$\begin{aligned} P(destiny_i = 10 | x_i, R_i, I_{ij}, R_i * I_{ij}) &= P(y_i^* > \alpha_9 | x_i, R_i, I_{ij}, R_i * I_{ij}) = \\ &= 1 - \Phi\left(\alpha_9 - x_i' \beta_1 - R_i' \beta_2 - I_{ij}' \beta_3 - (R_i * I_{ij})' \beta_4\right) \end{aligned}$$

Where Φ is the standard normal c.d.f.. When the assumptions of standard normality is made, we are talking of 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) 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 socio-economic 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 (with a particular strong effect for muslims).

They interpret this finding as an evidence of the existence of an ongoing process of cultural transmission of fatalistic tendencies among religious groups.

I will replicate their analysis using the variable *destiny*¹⁰ as dependent variable instead of *fatalism* and adding some institutional and cultural controls. In next paragraph, I will describe in detail, all the elements of equation (1), while in paragraph 4.3 I will report the results of the analysis.

4.2 Main variables

As mentioned above the dependent variable of equation (1) is *destiny*¹¹. I will show in the next paragraph the empirical results for three different specifications of equation (1) while in the current paragraph I will describe the variables used on the right side of equation (1).

To account for the effect of religion on fatalistic tendencies, I 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).¹² 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.*” I split those declaring to not belonging to a religious denomination into two categories: atheist and belonging to a non denominational religion. In particular I define as atheist a person who has declared to being both a convinced atheist and to not belong to a religious denomination, while a person who has declared to being a religious person but to not belong to a religious denomination enters into the category *no denominational religion*. The reference category is atheist. See table 5 for some descriptive statistics.

»»»» Insert Table 5 here, now at the end ««««

The Italian philosopher Benedetto Croce (1942) in one of his famous essay argued that the Christian tradition has affected the Italian culture so much that Italian cannot be considered non-Christian even if they are atheists. Hence, extending this argument to other religions, I am assuming that the process of cultural transmission of fatalistic tendencies is strictly tied to religious beliefs.

To capture the possible relation of fatalism with Hofstede’s cultural dimensions, I included the following variables: *independence*, *longterm*, *masculinity*, *collectivism*, *riskseeker*. The variables *independence* and *longterm* 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, 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, these values reflect a society characterized by a long term orientation.

¹⁰ 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.

¹¹ For a similar analysis conducted on the alternative variable *fatalism*, the reader is referred to D’Orlando, Ferrante, Ruiu (2011).

¹² By the term dominant religions I intend religions with the highest numbers of followers.

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.”

I 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, in my opinion, agreeing on these statement reflects a vision of the world in which exists prescribed gender role.

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 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 ?”.

I created a dummy equal to one if the individual has answered “very much like you” or “like you” to the above question.

I also controlled for the education level of the individual. In particular, I 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 the respondent’s age and for the square of age were included in the analysis (named, *age* and *agesquare*, respectively) . To capture gender effects I 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 behavior. I 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)”. I 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, I created an indicator for each of the following statuses: *single*, *cohabiting*, *married*, *separated*, *divorced*, *widowed*. The reference category is *single*.

Among controls, I included also the perceived social class of the respondents. I 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.”* I created a dummy for each social class. The reference is *lower class*.

I 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 *IncomeDI*,

IncomeD2, IncomeD3, IncomeD4, IncomeD5, IncomeD6, IncomeD7, IncomeD8, IncomeD9, IncomeD10. The reference category is *IncomeD1*.

Finally, to control for institutional settings, I included in addition to country fixed effects also the following variable:

freedom: 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 undue 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 is the *Personal Autonomy and Individual Rights index* furnished by Freedom House (2006).¹³

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

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

4.3 Empirical results

In Table 6, I 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, I will be able to evaluate if the obtained results are robust to alternative specifications of the empirical model. In particular, I will be able to exclude that my results are driven by the normality assumption or by the non-linearity of the link function. The sign assumed by the coefficients are all very 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. I 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%.¹⁴

The inclusion of income in the model, allows me to avoid a possible omitted variable criticism. That is, following Weber, 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)¹⁵, less fatalistic people are likely to be more able to search for

¹³ The values assumed in each country considered is reported in the appendix. Downloadable from: www.freedomhouse.org

¹⁴ The change in probability is calculated using the user written command *mfx2* created by Williams (2007).

¹⁵ See also McGee (2009).

better job opportunities in term of income and hence it is this search ability, influenced by fatalistic beliefs, to generate the negative relation between the latter and income. Anyway, at the contrary 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.

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

I decided to include social class in addition to income, because even if 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*, *intechincal*, *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) argues 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, as observed in D'Orlando et al., 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. 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, I 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 tendencies associated to *vghealth*, *ghealth*, *fhealth* is respectively of -3.8%, -2.8%, -1.7%.¹⁶

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%). As observed by D'Orlando et al., this can be rationalized in various ways mostly reliant on the impact of culture and education. 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 and 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's 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 my regressions are capturing all the possible life-cycle effects influencing fatalistic tendencies.

¹⁶ I'm 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.

Among marital status controls, only widowed are more likely to being 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 of 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.¹⁷ 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 if religions seem to play an important role in determining fatalistic tendencies, according to Weber one may expect very differentiated effect 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 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%, while being Buddhist decrease that probability of 0.16%. This last result however is not surprising since one of dogma of Buddhism, the “*Anicca*”, 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 hypothesized cultural resistance that instead characterize 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) I 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, I expect that people born (and educated) after

¹⁷ 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).

1960 should be less fatalistic than earlier generations. In Table 7 I replicated the analysis reported in Table 4, 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 I test various empirical specifications of the model. In particular, column a, b,c indicate the results of an ordered probit regression, an ordered logit regression and an ols, respectively.

Giving support to my hypothesis, the coefficient relative to *catcouncil* is positive and statistically significant. For what regards other results, all the former findings reported in Table 4 are confirmed.

»»»» Insert Table 6 and Table 7 here, now at the end ««««

5. Conclusions

In this paper, after a clarification of both the concept of culture and 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. This idea has been tested against two well known sociological theories on the origin of fatalism: Weberian cosmological fatalism and Durkheim structural fatalism.

The data supports 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 seem 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. his last finding gives support to Acevedo 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 on 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).

Table 1: Hofstede's Cultural dimensions

<p>Power distance (Hofstede, 1980)</p> <p>Degree of tolerance of less powerful members of a society for hierarchical or unequal relationship.</p>	<p>High: large degree of tolerance for an unequal distribution of power</p> <p>Low: low degree of tolerance for an unequal distribution of power</p> <p>A society's power distance level is bred in its families through the extent to which its children are socialized toward obedience or toward initiative.</p>
<p>Uncertainty (ambiguity) avoidance (Hofstede 1980)</p> <p>A society's tolerance for uncertainty and ambiguity. It indicates to what extent a culture programs its members to feel either uncomfortable or comfortable in unstructured situations.</p>	<p>Strong: little acceptance for ambiguity or risk</p> <p>Weak: generally accepting ambiguity or risk</p> <p>Strong uncertainty avoiding cultures try to minimize the possibility of such situations by strict laws and rules, safety and security measures.</p>
<p>Individualism versus Collectivism (Hofstede, 1980)</p> <p>Degree of emphasis on individual accomplishment</p>	<p>Individualism: large emphasis on individual accomplishment</p> <p>Collectivism: large emphasis on group accomplishment</p> <p>Collectivistic societies are those in which people from birth onwards are integrated into strong, cohesive groups, often extended families (with uncles, aunts and grandparents) which continue to protect them in exchange for unquestioning loyalty.</p>
<p>Masculinity versus femininity (Hofstede, 1980)</p> <p>Refers to the distribution of emotional roles between the sexes.</p>	<p>Masculinity: large degree of stress on achievement and competition.</p> <p>Femininity: large degree of stress on relationship and solidarity.</p> <p>In masculine countries women are somewhat assertive and competitive, but not as much as men, so that these countries show a gap between men's value and women's values.</p>

<p>Long term versus short term orientation (Hofstede,1991)</p> <p>the extent to which a society exhibits a pragmatic, future-oriented perspective rather than a conventional historic or short-term perspective.</p>	<p>Long term orientation: values associated to long term orientation are thrift, perseverance, acceptance of change. This is also called Confucian-ethic.</p> <p>Short term orientation: values associated to short term orientation are respect for tradition, fulfilling social obligations, and protecting one’s reputation.</p>
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Table 2: Other cultural manifestations

<p>Heroes: Hofstede defines heroes as: “persons, alive or dead, real or imaginary, who possess characteristics which are highly prized in a culture, and who thus serve as models for behavior” (1997, p. 8).</p>
<p>Rituals: Rook defines ritual as: “a type of expressive, symbolic activity constructed of multiple behaviors that occur in a fixed, episodic sequence, and that tend to be repeated over time. Ritual behavior is dramatically scripted and acted out and is performed with formality, seriousness, and inner intensity.” (1985, p.252) In addition McCracken argues that ritual is : “a social action devoted to the manipulation of the cultural meaning for purposes of collective and individual communication and categorization. Ritual is an opportunity to affirm, evoke, assign, or revise the conventional symbols and meanings of the cultural order.” (1988,p.84)</p>
<p>Symbols: According to Geertz symbols are: “ a broad category of processes and objects that carry a meaning that is unique to a particular group of people” (1973, p.79)</p>

Table 3: Correlations among fatalism index

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

*Significance levels are on parenthesis

Table 4: Some descriptive statistics

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

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

Table 6: 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)
Profreedom	-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)
Const	.	.	4.426***(0.224)
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

Robust standard errors in parentheses

* p<0.10, ** p<0.05, *** p<0.01

Table 7: 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	-0.01109384	-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; Robust standard errors in parentheses

* p<0.10, ** p<0.05, *** p<0.01

Figure 1: Stability of fatalism

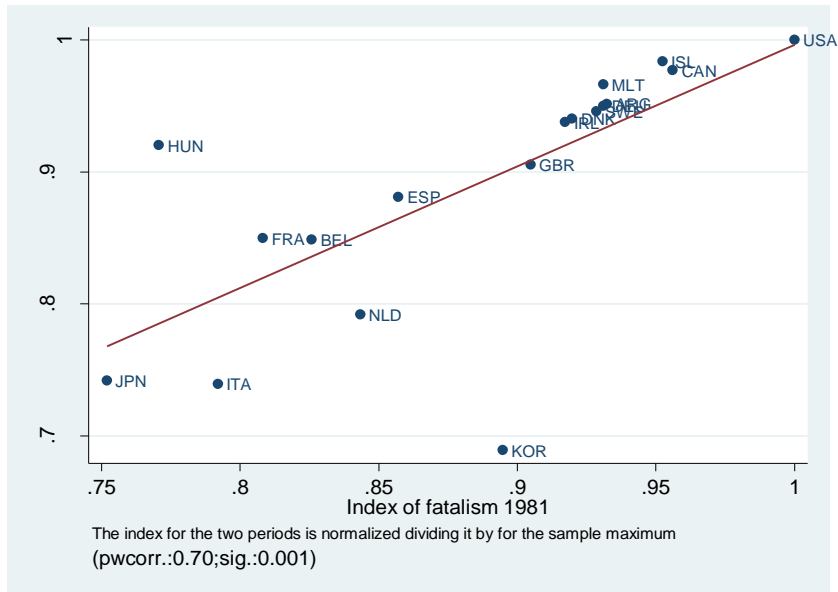
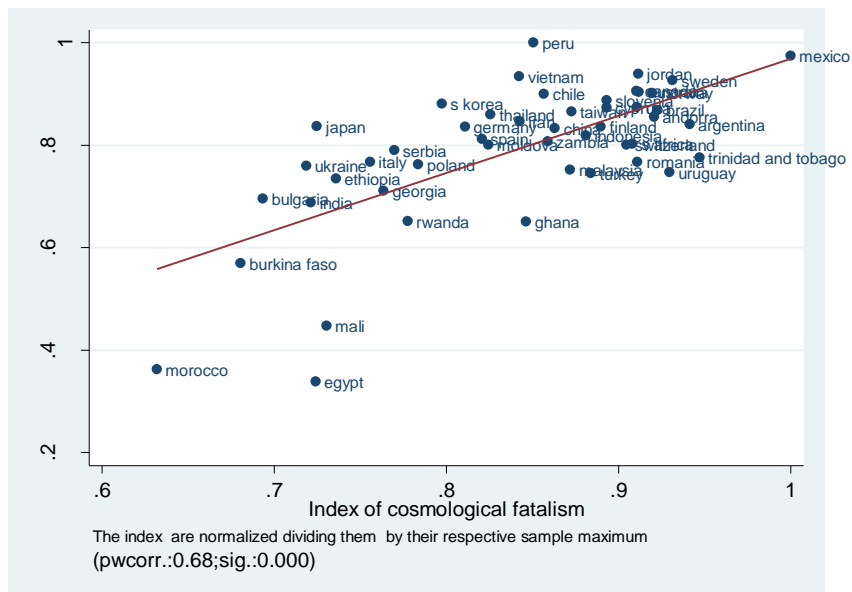


Figure 2: Correlation between cosmological and structural fatalism



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