Money’s importance from the religious perspective

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Abstract
Operational research and finance have natural connections. However, operational research represents a device to be used for catching financial phenomena, and such a device is usually mediated by social norms and corresponding relevant parameters. This paper contributes to this debate by focusing on a particular social norm—namely, religiosity—and its importance to the role of money. Such relationship is here treated under a quantitative perspective. In particular, we provide an econometric-statistic comparison between religion and money importance. The methodological toolkit is tested on high quality empirical data coming from a recent survey of Romanian population involving 842 persons, from the many faiths in the considered country. Specifically, statistical techniques include best fit curves analysis and data cross tabulations are checked using Chi squared test. The distinctions between different religious people beliefs relating to money are discussed. Insights regarding perceptions of different religious denominations are provided. Subsequent effects on entrepreneurship behavior are tested using Logit regression models. Results state that each religion-based segment of population has its own way to understand the importance of money, to promote and to evaluate the power of money, and finally to manage important inter-connections around the money.

Keywords Quantitative and statistical methods · Regression analysis · Money perception · Money valorization · Religion · Beliefs

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1 Introduction

Social science offers nowadays several aspects which can be treated under a quantitative perspective. The basis of such applied methodological studies is grounded on the need of understanding the inner relationships among different contexts and their consequences.

We here face the theme of religion and finance under a purely quantitative perspective. Specifically, we are interested in grasping the relevance of money in the context of religion, as measured through the choices of people expressed in a recent survey of a highly heterogeneous population, in Romania.

At this aim, we apply a best fit curves analysis on the basis of a high quality of empirical data. Specifically, the entrepreneurship propensity has been considered as dependent variable within a Logit regression model while nine items regarding money roles and perceptions were potential factors. A couple of additional dichotomic control variables were taken into consideration.

The exploration is carried out also through a wide set of statistical devices like Chi squared and its counterpart cross-tabulations components. Some visual insights are provided too.

For this purpose, we construct and use some indicators within or derived from the questionnaire used to collect survey information.

We are in line with other papers dealing with religion and finance under a quantitative point of view. In this respect, we mention Ausloos (2012). The quoted paper states that between 1960 and 1962 there were a number of 103 nations worldwide and 2 billion of people (almost a third of the present world population) adherents for 150 religions. The author concluded that “religious communities are markedly influenced by external considerations (« external fields »), besides their intrinsic « religious » goals”. The money, as an external argument, has drawn our attention and also the desire to investigate how either a lack of money of the adepts, or, in contrast, “too much” wealth could be possible explanations for success, for failure or for different social positions.

Moreover, the religiosity could be captured using various attitudinal and behavioral measures (Diop et al. 2018). We, humans, have our own perspective over the society and we act in a proper (or not) manner to successfully reach our objectives. One differentiation among us is the human behavior and human beliefs/faith.1 In associating these two concepts, Iannaccone (1998) stated that religious behavior can be interpreted from an economic viewpoint. People, no matter what religion they believe in, think that their actions, their manifestations must be grounded on deterministic behavior. The money perspective, as a central point of our research, could be perceived as a feature of behavior. Based on their attitude, humans could bring the money very close to their actions. Humans could benefit from the money importance and could realize their social role. Operational research may lead to some clarification of human behavior within this social framework. Moreover, it is of interest to observe whether to belong to a religious denomination, or to convert even

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1 We should acknowledge that such concepts along other human characteristics (e.g. opinions, sentiments) are very difficult to be measured (Yuan et al. 2018; Rad et al. 2017).
maybe, might identify decision opportunities about wealth and/or money. In order to do so, thinking about decision situations should begin with values (Keeney 1996).

Relating the aspects of the relation between religiosity and human behavior, (e.g. Brown and Ferris 2007; Lyons and Nivison-Smith 2006; Lee and Farrell 2003; Agorastos et al. 2014; Shaheen Al Ahwal et al. 2016; Hubbard et al. 2016; Steiner et al. 2017), religion supposes charity, in religious context and towards religious organizations. Idea of having money represents different beliefs and objectives for both of altruistic and selfish behavior types. The altruistic behavior, grounded on religion beliefs, becomes emphatic and careful to the problems of the others (Tang et al. 2008). For the selfish one, the feeling of generosity, the idea to be helpful to others is missing (Wierzbicki and Zawadzka 2016). In this context, generosity is associated many times with the religious context (Eckel and Grossman 2004).

Another delicate problem around the money is represented by the ethical perspective (Vitell et al. 2006, 2007; Lu et al. 2014). Choosing between altruistic or selfish behavior, one person must realize that in society there are ethical principles. Much more, each of us is a small part of a community and each community is characterized by its own rules and principles. Also, we believe that religious communities have their own principles, norms and rules. Central idea in every religious community is the members’ beliefs in a supernatural being. Around this ideal, they share a common set of moral values and principles, propose and promote their own ethic system. So, in our study, we want to draw attention on the rational religious perspective, which seems to be responsible for social and economic benefits of others in need. Granger et al. (2014) developed a conceptual model which promotes religiosity as being responsible for donation of time and money. In this way, the perspective of different human determinants is responsible for human acts. We will show that age, gender, education and household’s income, as human determinants, are important for the religiosity and money aspects in the society.

Religion has been considered as a potential factor of “why some societies get richer and some do not (and some even get poorer)” (Boulding 1984) or proved to be one of the classical factors which affect people happiness (Cordero et al. 2017). Cao et al. (2010) mention that married couples tend to belong to the same religion. When religious communities are acting together, there could be a power to enforce some behavioral restriction (e.g. “kosher keeping and Sabbath observance”) (Giat 2018). Power (2017) by considering that “each mode of religious practice is found to be informative of a distinct set of reputational qualities” has investigated “whether signal receivers actually perceive religious signalers (of costly or dramatic religious acts) as such”. Tang (2010) aimed to answer different intersections between money and religion: “money and spirituality”; “money as a tool and as a drug”, “love of money scale” etc. Yaffe et al. (2018) studied—among the ultra-Orthodox Jewish community in Israel—the tendency of men to value money (wealth) more than in case of women. On the contrary, the same study proves the women preferences for mates with “strong religious devotion”. Dengah (2017) in the same line of thought examined how prosperity theology rituals influence behaviors, i.e. how monetary offerings is exchanged for later blessings of financial prosperity, like in the middle ages, in western cases (Berman 1985).

Hess (2012) designed a model about the impact of religiosity on personal financial decisions but perceptions and faith involved on the matter are less understood. Thus, a link

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2 In the same context could be mentioned the existence of Institute for the Bio-Cultural Study of Religion (https://www.ibcsr.org/) and its concordant mission.
between God, action, and money is proven to be clearly made. To put it differently, the relation between money and religious experience can and must be analysed. The people wish to have success in family, in professional life, in social life and elsewhere. A constant variable, during doing all these activities, is represented by their own way to manage the most important resource, the money. Money represents the main vehicle to promote the social position, it brings in attention the level of the richness and it is the mean of buying almost everything.

In the social literature domain there are a lot of compositions which characterized and focused on the religion as an important factor of progress. Because religion consists of beliefs, values and behavior, we see religion as one of the most important constituents of culture (Baxamusa and Jalal 2014).

This is why we consider that it is necessary to discuss money and religiosity in line with other previous studies focused on religion and economics (Lamb 1992; Iannaccone 1998; Bornstein 2004; Guiso et al. 2006; Hart 2010; Herteliu 2010; Ausloos 2012, 2014; Clippe and Ausloos 2012; Hess 2012; Hoffmann 2013; Ausloos and Cerqueti 2016; Wu et al. 2016; Benjamin et al. 2016; Keister 2011; Tu et al. 2011; Tung et al. 2014; Merchant et al. 2017; Vinte et al. 2017; Dragota et al. 2018).

Our study focuses on how a declared religious commitment acts upon the valorisation (or not) of money. In addition, the current study focuses also on individual perceptions and examines the influence of religion on personal decisions. This setting gives us the opportunity to offer important information about a neglected area of “nonmarket” behavior (Ionescu et al. 2009).

The empirical evidence from a diversity of religions—which is here shown through specific data on the Romanian population—contributes to the debate on the characteristics of rationality around money administration. Results state that each segment of population has its own way to understand the importance of money, to promote and to evaluate the power of money, and finally to manage important interconnections around the money.

The rest of the paper is organized as follows. Section 2 contains the description of the dataset and the employed methodologies. Section 3 collects the results of the quantitative analysis. Section 4 provides a discussion of then obtained findings and carry out also some conclusive remarks.

2 Data and methodology

2.1 Dataset

This study is focused on the East-European area: Romania. The Romanian population structure gives the trust that this research is a good attempt to promote worldwide the cooperation between different religions, to highlight that the religious aspects differentiate but, in the same time, bring together different people and give the confidence that everyone is important. According to the latest census available (Herteliu et al. 2015; Rotundo et al. 2015) from the self-declared religion affiliation the Romanian population structure is dominated by Eastern Orthodox Church (86.8%) followed by other Christian denominations: Roman-Catholic (4.7%); Reformed (3.2%); Pentecostal (1.5%); Greek-Catholic (0.9%); Baptist (0.6%); Seventh Day Adventist (0.4%); Unitarian (0.3%); Lutheran (0.3%); Evangelical (0.2%) and Old rite Christians (0.2%). There are small
parts of non-Christian population: Muslim (0.3%) or Jew (0.02%). Other categories like atheists or no religion segments have very small size.

As the PNCDI2-2008-Ideas-1809 project sub-objective is to study the interconnections between religion and various socio-economic various factors, a field research was designed. A 15 pages questionnaire was filled by a direct interview of 842 randomly selected persons from Romania. The main focus of the questionnaire was larger: to test interconnections of the religion within socio-economic domains. There were five sections: I. Leisure time; II. Religion and religious various items (the most important section); III. Economics and finance; IV. Politics; and V. Socio-Demographics. Moreover, for eight small religions we selected additional interviewees, this being 30 for each (6 groups of) Greek Catholic, Baptist, Seventh-Day-Adventist, Unitarian, Muslim, Jew; 20 for Reformed and 10 for Pentecostal, via a “snowball sampling method”. Therefore, the final database contains 1052 cases. The sample selection and field research was subcontracted to Romanian National Institute of Statistics. The questions and answers discussed in the present text, are translations of original questions and answers from Romanian. To the best of our knowledge this is the first attempt on this matter; it seems that there are no other data sets available.

2.2 Methods

An important goal of our paper is to test if these perceptions, regarding money and religiosity roles, could affect entrepreneurship behavior. The entrepreneurship propensity is measured by answers (Yes or No) to the following question: “Have you tried to start out your own business?” This variable has been considered as the dependent one within a non-linear (Logit regression) model (Marinescu and Ijacu 2014; Huang et al. 2017). The nine above mentioned items regarding money roles and perceptions were potential factors. Two additional dichotomic control variables were took in consideration for the regression model based on answers to the following questions: “Have you, or someone in your household been abroad for work?” and “If you won an amount, say 100,000 euros, how would you spend it?”

A quarter of a page from the above mentioned large questionnaire (an interview is conducted in ca. 40 min) was dedicated to nine items regarding money roles and perceptions. A 4 points Likert scale has been used (Completely disagree; Partially disagree; Partially agree; and Completely agree). In further steps, sometimes, a recodification (see Table 1) has been performed: (i) disagree (for Completely disagree and Partially disagree) and (ii) agree (for Partially agree and Completely agree).

In order to have a more nuanced perspective we operated (no matter which religious affiliation) with a dichotomic approach, for an answer to the following question: “Do you consider that you practice religion (going to church, living according to the principles of your church, donating money to the church etc.)?” having two possible options: “Yes” and “No”. Those who choose “no” are referred to as being nominal believers (Piepgras 1968). The following control factors were also taken into account: Age, Gender, Education and Monthly household’s income. Table 2 provides descriptive statistics for all analyzed variables. A brief description of the variables is presented within Table 1. Using the variables’ notation from Table 1, the first phase Logit regression model (M1) which relies only on nine items (factors) is:
| Type       | Symbol | Question                                                                 | Initial answers                                      | Recoded | Scale               |
|------------|--------|---------------------------------------------------------------------------|------------------------------------------------------|---------|---------------------|
| Dependent  | ENTREP | “Have you tried to start out your own business?”                         | Yes = 1                                              | No      | Nominal (dichotomic) |
| Factors    | HAPPINESS | “Money brings happiness”                                                   | Completely disagree = 1                              | No      | Ordinal (Likert)    |
|            | TIME   | “Time is money”                                                           | Partially disagree = 2                               |         |                     |
|            | EVERYTHING | “Money is everything”                                                    | Partially agree = 3                                  |         |                     |
|            | WORRIES | “Money only brings worries”                                                | Completely agree = 4                                 |         |                     |
|            | DEVIL  | “Money is the eye of the devil”                                           |                                                     |         |                     |
|            | REWARD | “Money is a reward for work”                                               |                                                     |         |                     |
|            | CIRCULATION | “Money is an asset that must circulate”                                   |                                                     |         |                     |
|            | MOVE   | “Money moves things”                                                       |                                                     |         |                     |
|            | LEND   | “It is fair to lend money with interest”                                   |                                                     |         |                     |
| Controls   | AGE    | This was computed based on a question regarding “Year of birth”           | Starting from the self-declared year in four digits  | No      | Ratio               |
|            | AGE_GROUPS | Age grouped within intervals based on raw AGE data.                    | (lowest thru 44 = 1) (45 thru 64 = 2) (65 thru highest = 3) | Yes     | Ordinal             |
|            | BEHAVIOR | “Do you consider you practice religion (going to church, living according to the principles of your church, donating money to the church etc.)?” | Yes = 1 (active believer)                             | No      | Nominal (dichotomic) |
|            | GENDER | Gender                                                                    | Male = 1                                             | No      | Nominal (dichotomic) |
| Type | Symbol | Question | Initial answers | Recoded | Scale |
|------|--------|----------|-----------------|---------|-------|
| EDU  |        | “What did you last graduate from?” | No graduated school = 1  
Primary school = 2  
Gymnasium school = 3  
School of arts and trades (SAT) (professional school) = 4  
High-school = 5  
Post high-school or foremen school = 6  
University of short length (colleges) = 7  
University of long length = 8  
Master (thorough studies) = 9  
Doctorate = 10 | No | Ordinal |
| INCOME |        | “What is the approximate level of your household monthly net income?” | Nothing = 0  
1–500 lei = 1  
500–1000 lei = 2  
1001–1500 lei = 3  
1501–2000 lei = 4  
2001–2500 lei = 5  
2501–3500 lei = 6  
3501–5000 lei = 7  
5001–7,000 lei = 8  
7001–10,000 lei = 9  
Over 10,000 lei = 10 | No | Ordinal |
| EMIGRATION |        | “Have you, or someone in your household been abroad for work?” | Yes = 1  
No = 0 | No | Nominal (dichotomic) |
| 100 k |        | “If you won an amount, say 100,000 euros, how would you spend it? I would start (extend) a business” | Yes = 1  
No = 2  
I don’t know = 9 | 1 = 1 (Yes)  
2 or 9 = 0 (No) | Nominal (dichotomic) |
| Type     | Symbol | Question                                                                 | Initial answers                                                                 | Recoded         | Scale                      |
|----------|--------|--------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------|----------------------------|
| ORTHODOX |        | “What is your religion of your extended family members (fill in all necessary cells)? You” | Orthodox = 1<br>Roman-Catholic = 2<br>Reformed = 3<br>Pentecostal = 4<br>Greek Catholic = 5<br>Baptist = 6<br>Seventh Day Adventist = 7<br>Muslim = 8<br>Unitarian = 9<br>Christian according to the Gospel = 10<br>Christian of old ritual = 11<br>Evangelical Lutheran synodic –Presbyterian = 12<br>Evangelical = 13<br>Evangelical of Augustan confession = 14<br>Mosaic = 15<br>Other religion = 16<br>Without religion = 17<br>Atheists = 18 | 1 = 1 (Yes) Else = 0 (No) | Nominal (dichotomic) |

*a 'lei' is the name of Romanian currency. For equivalences, on the time of field research the average exchange rate for 1 Euro was 4.2099 lei*
| Symbol | Question                                                                 | Codification | Descriptive statistics | n (valid answers) |
|--------|--------------------------------------------------------------------------|---------------|------------------------|-------------------|
| ENTREP | “Have you tried to start out your own business?”                         | Yes = 1, No = 0 | 95.0% 5.0%             | 994               |
| HAPPINESS | “Money brings happiness”                                                | Completely disagree = 1, Partially disagree = 2 | 21.6% 15.4% 45.4% 17.6% | 1007            |
| TIME   | “Time is money”                                                          |               | 6.5% 13.0% 47.2% 33.3% | 1006             |
| EVERYTHING | “Money is everything”                                                | Partially agree = 3, Completely agree = 4 | 28.5% 25.9% 32.4% 13.2% | 1003            |
| WORRIES | “Money only brings worries”                                             |               | 7.3% 18.9% 47.2% 26.6% | 1004             |
| DEVIL  | “Money is the eye of the devil”                                          |               | 7.0% 11.3% 32.1% 49.6% | 1006             |
| REWARD | “Money is a reward for work”                                             |               | 2.7% 6.8% 31.3% 59.2%  | 1005             |
| CIRCULATION | “Money is an asset that must circulate”                                   |               | 1.0% 6.5% 32.6% 59.9%  | 1004             |
| Symbol | Question | Codification | Descriptive statistics | n (valid answers) |
|--------|----------|--------------|------------------------|-------------------|
| MOVE   | “Money moves things” | | 3.4% 11.5% 34.6% 50.5% | 1003 |
| LEND   | “It is fair to lend money with interest” | | 66.0% 18.1% 10.6% 5.3% | 997 |
| AGE    | Age (years) | N.A. | Minimum = 18, Maximum = 96, Mean = 55.52, Median = 57, Std. Deviation = 16.69, Skewness = −0.19, Kurtosis = −0.934 | 1011 |
| AGE_GROUPS | Age groups | 18 to 44 = 1, 45 to 64 = 2, 65 and over = 3 | 29.6% 36.6% 33.8% | 1011 |
| BEHAVIOR | “Do you consider you practice religion (going to church, living according to the principles of your church, donating money to the church etc.)?” | Yes = 1 (Active believer), No = 0 (Nominal believer) | 44.9% 55.1% | 1007 |
### Table 2 (continued)

| Symbol | Question | Codification | Descriptive statistics |
|--------|----------|--------------|------------------------|
|        | GENDER   | Male = 1     | 57.0% 43.0%            |
|        | Gender   | Female = 0   |                        |
|        | EDU      | No graduated | 1.1% 8.9% 19.1% 17.3% |
|        | “What did | school = 1   | 25.3% 8.6% 2.2% 14.4% |
|        | you last | Primary school = 2 | 2.5% 0.6%            |
|        | graduate from?” | Gymnasium school = 3 | |
|        |          | School of arts and trades (SAT) (professional school) = 4 | |
|        |          | High-school = 5 | |
|        |          | Post high-school or foremen school = 6 | |
|        |          | University of short length (colleges) = 7 | |
|        |          | University of long length = 8 | |
|        |          | Master (Thorough studies) = 9 | |
|        |          | Doctorate = 10 | |

n (valid answers) 1002 1004
| Symbol | Question | Codification | Descriptive statistics |
|--------|----------|--------------|-----------------------|
| INCOME | “What is the approximate level of your household monthly net income?” Nothing = 0 1–500 lei = 1 500–1000 lei = 2 1001–1500 lei = 3 1501–2000 lei = 4 2001–2500 lei = 5 2501–3500 lei = 6 3501–5000 lei = 7 5001–7000 lei = 8 7001–10000 lei = 9 Over 10000 lei = 10 | 0 | 0.1% | 9.0% | 28.0% | 22.2% | 18.4% | 11.6% | 6.1% | 3.2% | 0.7% | 0.3% | 0.3% | 988 |
| Symbol | Question                                                                 | Codification | Descriptive statistics | n (valid answers) |
|--------|---------------------------------------------------------------------------|--------------|------------------------|-------------------|
|        | “Have you, or someone in your household been abroad for work?”            | Yes = 1      | 86.5% 13.5%             | 982               |
|        |                                                                            | No = 0       |                        |                   |
| EMIGRATION | “If you won an amount, say 100,000 euros, how would you spend it? I would start (extend) a business” | Yes = 1      | 22.0% 62.6% 15.4%      | 988               |
|        |                                                                            | No = 2       |                        |                   |
|        |                                                                            | I don’t know=9 |                        |                   |
Table 2 (continued)

| Symbol | Question | Codification                                                                 | Descriptive statistics | n (valid answers) |
|--------|----------|------------------------------------------------------------------------------|------------------------|-------------------|
| ORTHODOX | “What is your religion of your extended family members (fill in all necessary cells)? You” | Orthodox = 1 Roman-Catholic = 2 Reformed = 3 Pentecostal = 4 Greek Catholic = 5 Baptist = 6 Seventh Day Adventist = 7 Muslim = 8 Unitarian = 9 Christian according to the Gospel = 10 Christian of old ritual = 11 Evangelical Lutheran synod-Lutheran-Reformed-Presbyterian = 12 Evangelical = 13 Evangelical of Augustan confession = 14 Mosaic = 15 Other religion = 16 Without religion = 17 Atheists = 18 | 71.1% 3.0% 3.6% 2.9% 2.6% 3.2% 3.0% 3.6% 3.3% 0.1% 0.2% 0.0% 0.0% 0.0% 2.6% 0.4% 0.0% 0.4% | 984 |

*a’lei’ is the name of Romanian currency. For equivalences, on the time of field research the average exchange rate for 1 Euro was 4.2099 lei*
\[
\ln \left( \frac{P_i}{1 - P_i} \right) = \alpha_0 + \alpha_1 \text{HAPPINESS}_i + \alpha_2 \text{TIME}_i + \alpha_3 \text{EVERYTHING}_i + \alpha_4 \text{WORRIES}_i \\
+ \alpha_5 \text{DEVIL}_i + \alpha_6 \text{REWARD}_i + \alpha_7 \text{CIRCULATION}_i + \alpha_8 \text{MOVE}_i + \alpha_9 \text{LEND}_i + \varepsilon_{1,i}
\]

(1)

On the second phase, the control factors are tested prior to being inserted in the model:

\[
\ln \left( \frac{P_i}{1 - P_i} \right) = \beta_0 + \beta_1 \text{BEHAVIOR}_i + \beta_2 \text{GENDER}_i + \beta_3 \text{EDU}_i + \beta_4 \text{INCOME}_i + \beta_5 \text{EMIGRATION}_i \\
+ \beta_6 \text{100k}_i + \beta_7 \text{ORTHODOX}_i + \varepsilon_{2,i}
\]

(2)

In a third stage, the control variables are inserted in the model (M3):

\[
\ln \left( \frac{P_i}{1 - P_i} \right) = \gamma_0 + \gamma_1 \text{HAPPINESS}_i + \gamma_2 \text{TIME}_i + \gamma_3 \text{EVERYTHING}_i + \gamma_4 \text{WORRIES}_i \\
+ \gamma_5 \text{DEVIL}_i + \gamma_6 \text{REWARD}_i + \gamma_7 \text{CIRCULATION}_i + \gamma_8 \text{MOVE}_i + \gamma_9 \text{LEND}_i + \gamma_{10} \text{BEHAVIOR}_i \\
+ \gamma_{11} \text{GENDER}_i + \gamma_{12} \text{EDU}_i + \gamma_{13} \text{INCOME}_i + \gamma_{14} \text{EMIGRATION}_i + \gamma_{15} \text{100k}_i \\
+ \beta_{16} \text{ORTHODOX}_i + \varepsilon_{3,i}
\]

(3)

In all Eqs. (1), (2) and (3) \( P_i \) is the probability to start a business (ENTREP) and \( \varepsilon_i \) is the residual variable. The regression parameters (\( \alpha_i, \beta_j \) and \( \gamma_j \)) were estimated using SPSS 16.0; the outcomes are presented in Table 4. A simplified version for each model (M1_sig, M2_sig and M3_sig) is later taking into account only those variables which pass the Wald statistical test for a \( p \) value better than 0.1.

In order to check statistical significance of cross tabulations a \( \chi^2 \) test is used while the threshold for \( p \) value is set to 0.05.

### 3 Results

When only the nine factors are included in the model (M1) its explanatory power is low (0.024 Coxand Snell R-Square and 0.072 Nagelkerke R-Square) (see Table 3). This is somehow expected since the model specification does not include any other control (socio-demographic) variables. Most of the signs of the statistically significant regression parameters (EVERYTHING, MOVE and LEND) are negative while for TIME the sign is positive. This means that, as expected, persons who believe that “time is money” tend to have a greater propensity for entrepreneurship. However, it is counter-intuitive that those who consider that “it is fair to lend money with interest” record a lower propensity for entrepreneurship. This surprising outcome proves to be volatile and its statistical significance disappears when only variables which passed the Wald test (M1_sig model) are kept. Unexpectedly, persons whom record a higher propensity for entrepreneurship do not necessarily consider that “money is everything” or “money moves things” since both regression parameters (EVERYTHING and MOVE) are negative. The sign of the regression parameter for the statement “money is everything” could be more easily accepted since it is widely known that important elements such as happiness or health cannot be bought. However it is not so easy to accept (especially for a country like Romania where the level of perceived
corruption is pretty high) (Zaman and Ionescu 2014; Stan 2010) that those who agree that “money moves things” tend to have a lower propensity for entrepreneurship.

As expected, the model (M2) based on the control factors works better in explaining the entrepreneurship propensity. Still, education (EDU) and religious activity (BEHAVIOR) prove to be statistically not significant. Another interesting outcome is recorded for the ORTHODOX group which tends to have a low level for entrepreneurship propensity.

After inserting the control variables in the consolidated model (M3), its explanatory power significantly increases (0.118 Cox& Snell R Square and 0.374 Nagelkerke R Square). The outcomes denoted by regression parameters for the nine factors previously included in the model remains the same. Their significance and their signs are unchanged. This is a confirmation that the model M1 could be considered as robust. As in other studies (Gupta et al. 2009) male respondents tend to have a higher entrepreneurship propensity. Education proves to be statistically non-significant but this is because of multicollinearity effect with the household’s income. In line with other research for emerging countries (Wang et al. 2011) this control variable has a positive statistically significant effect on entrepreneurship propensity. As previously highlighted (Roman and Goschin 2011) the emigration of someone from the household has a very positive impact on its income. Subsequently, this proves to be an important positive statistically significant factor on entrepreneurship propensity. The hypothetical question about “[…] won an amount, say 100.000 euros, how would you spend it? The answer of: I would start (extend) a business” and subsequently choose for starting/extending a business proves to be a very important positive factor. Negative statistically significant effects on entrepreneurship propensity are found for persons considering themselves as being ‘active believers’ or being affiliated to the Eastern Orthodox Church.

4 Discussion and conclusions

The implicit idea which is being tested in the current manuscript is derived from Weber’s (2002) work. The famous German sociologist outcomes an innovative idea which is, sometimes, confirmed by the prosperity of the western countries. The “wealth propensity” according to Weber could be an outcome of an intensive religious behavior. The first protestants who colonized the America (as well as the protestants from the Old Continent from countries like Germany or England) even if they are living under a religious pressure (see predestination issue) are obliged to confirm their “choice by God” through wealth. However, it is tested whether the Romanian society perception (by each religious denomination) is concordant with Weber views. Romania is considered as an Eastern Orthodox Church dominated society. Therefore comparisons with other religious groups are desirable. Nevertheless, for completeness and reaching more universality, we consider that it is of interest to use the religious affiliation as the important variable.

4.1 Money brings happiness

This item focuses, mainly, on the common perception of the important role which money plays in any referential system about happiness (wealth, comfort, power etc.). In fact,
almost all religious entities do not consider, at least officially, such aspects as being important. This is the first item which the respondents have been asked to position themselves.

The most important share of persons (80%) who agree that “money brings happiness” is recorded within the Muslims (Fig. 1). In Christian denominations, the Eastern-Orthodox and Unitarian seem to give a higher priority for money since almost 69% of them agree with the statement. Next in line are Reformed (60%) and Roman-Catholic (almost 54%) while the agreement % share decreases for other Protestant groups (Pentecostal 43%, Baptist 39% and Seventh-Day-Adventist 17%). The Jewish group records an almost 58% level in line with those whom declared themselves as belonging to other non-listed groups (55%). All these differences are statistically significant after applying a $\chi^2$ test (Table 4).

When respondents are grouped by their self-position in regards to religious behavior, the outcomes differ significantly (Fig. 2). Those who consider themselves as being “active” believers are disagreeing that “money brings happiness” (46%) as compared to the “nominal” ones (25%). Moreover, male respondents and those with high income tend to support the statement in a large proportion (Table 4).

4.2 Time is money

This statement takes into account perception of time in relation to money. The idea, behind inserting this item on the list, aims to check the perception of the Romanian post-communist society versus western culture borrowed saying. The Romanian population agrees much that “time is money”: the Eastern-Orthodox, Roman-Catholic and Reformed groups agree in a proportion of 82–83% while other protestant groups record slightly less levels: Baptist (67.7%), Pentecostal (60.7%) and Seventy-Day-Adventist (43.3%). This larger proportion of agreement to the second statement (“time is money”) compared to the first one (“money brings happiness”) offers also a new key point: time does not represent a useless element. Surprisingly, the general population perception agrees upon a Western saying more than a Balkan one! This way of time valorization is also against general perception that Eastern Orthodox are most likely focused on meditation and rest. Persons who consider themselves as being nominal believers, males and well educated ones support the statement in a larger proportion in comparison to other categories (Table 4).

4.3 Money is everything

This item checks if exacerbate affective valorization of an element (money) could be a substitute for every dream. (Of course the construction is implicit and deliberately tendentious in order to picture this extreme positioning.) The outcomes are relatively balanced and not statistically significant (45.4–54.6%) while the majority is against the statement. Active believers, females, well-educated and high incomes persons tend to endorse the statement in a smaller extent than other categories (Table 3).

3 In a sense, this expression has been studied before (Ma et al. 2016) but not in connection with religion.
4.4 Money only brings worries

This statement aims to check the general perception according to which money excess could lead to a psychic discomfort. There are religious groups which agree to this in a very large proportion: Pentecostal (96.5%), Roman Catholic (92.8%), Seventh-Day-Adventist (90%) and Unitarian (89.2%). Lower percentages of agreement are found in Baptist (67.8%) and Reformed (53%). Active believers and less educated persons tend to agree to the statement in a large extent, comparing to other groups (Table 3).

4.5 Money is the eye of the devil

This item aims to mimic one of the most famous saying in (Romanian) society. In fact, this fifth item is putting the fourth one in a larger perspective. From the statistical viewpoint the outcomes suggest that a large part of the population agrees with the statement: Roman-Catholic (100%), Pentecostal (89.3%), Eastern Orthodox (84%), Unitarian (75%), Reformed (74.3%), Seventh-Day-Adventist (72.4%), Baptist (70.9%). The real meaning of this saying highlights the level in which different persons belonging to different religious groups are positioning themselves to a pseudo-concept. It is about a precise identification of the dichotomy between good and evil. The Manicheist position which the vast majority of all denominations’ believers adopts is very easy to be seen. The perfect identification (money = devil) signals, from all items battery used within current study, in the best way the religious attitude which truly believers do have about the money. Practically, we may conclude here that religious affiliation is the most visible in regards to this item. If when first four items are discussed, the outcome could hide the religious affiliation, in case of this fifth item dissimulation is impossible. Older, less educated and low income persons tend to endorse this statement in a larger extent than other groups (Table 3).

4.6 Money is a reward for work

This item aims to check an apparently wide spread idea through the (Romanian) society: “work” is not always a guarantee of a proportional financial reward. When all religions are considered together, the proportion of persons who agree is 91.2%. There are some denominations (especially protestant ones) which score significantly bigger (Unitarian and Pentecostal 100%, Baptist 96.8% and Roman Catholic 96.6%) while a few others are a little bit lower (Greek Catholic 76% and Muslim 82.9%). No control variable proves to be statistically significant (Table 3).

4.7 Money is an asset that must circulate

This is the only item for which a \( \chi^2 \) test proves to be statistically insignificant when different religious groups are compared. The aim of this item is to find if different denominations are more or less similarly oriented toward saving or spending money. Unfortunately the outcomes are not clear enough. Only males and better educated persons endorsed the statement in a great extent (Table 3). When this item was put within the
questionnaire, the research team was thinking to test two ideas. First, it is about the Biblical story of the talents (Matthew 25:14–30) and how this can echo the real life nowadays. Second, it is about a statement which could be better understood by persons with good economics and financial education. The outcomes show that only the latter idea found some grasps since only well-educated persons proved to perceive this statement.

4.8 Money moves things

This item was inserted in order to perceive the “power of money”. The level of agreement about this item is 85.2%. Still there are some protestant denominations which score significantly lower (Seventh-Day-Adventist 56.7%, Baptist 74.2% and Pentecostal 74.1%). No control variable was proved to be statistically significant (Table 3).

| Variables      | M1     | M1_sig | M2     | M2_sig | M3     | M3_sig |
|----------------|--------|--------|--------|--------|--------|--------|
| CONSTANT       | -0.924 | -2.004*** | -5.420**** | -5.244**** | -3.574** | -3.197*** |
| HAPPINESS      | 0.082  |        | -0.03  |        |        |        |
| TIME           | 0.424** | 0.446*** |        | 0.418* | 0.405* |        |
| EVERYTHING     | -0.469** | -0.528*** | -0.605** | -0.765**** |        |        |
| WORRIES        | -0.037 |        | -0.027 |        |        |        |
| DEVIL          | -0.203 |        | 0.028  |        |        |        |
| REWARD         | -0.191 |        | 0.16   |        |        |        |
| CIRCULATION    | 0.139  |        | -0.139 |        |        |        |
| MOVE           | -0.335* | -0.375*** | -0.306 | -0.409* |        |        |
| LEND           | -0.395* |        | -0.382 |        |        |        |
| BEHAVIOR       | -0.309 |        | -0.686 | -0.704* |        |        |
| GENDER         | 0.652* | 0.617* | 0.778** | 0.646* |        |        |
| EDU            | 0.115  |        | 0.05   |        |        |        |
| INCOME         | 0.335*** | 0.409**** | 0.345*** | 0.367**** |        |        |
| EMIGRATION     | 1.169*** | 1.127*** | 1.279*** | 1.165*** |        |        |
| 100 k          | 1.971**** | 1.923**** | 2.12**** | 2.182**** |        |        |
| ORTHODOX       | -1.582**** | -1.464**** | -1.667**** | -1.6**** |        |        |
| n (sample size)| 963    | 979    | 892    | 908    | 870    | 890    |
| Cox & Snell R Square | 0.024  | 0.018  | 0.101  | 0.097  | 0.118  | 0.117  |
| Nagelkerke R Square | 0.072  | 0.055  | 0.320  | 0.306  | 0.374  | 0.371  |

*p value is less than 0.1
**p value is less than 0.05
***p value is less than 0.01
****p value is less than 0.001
4.9 It is fair to lend money with interest

This item intends to check if a fundamental Biblical belief according to which “the interest” is acceptable as long as it does not became usury is still endorsed by some population. Only 15.9% from all persons in the sample endorse this statement. Some religious groups do endorse the statement in a little bit higher proportion than average (Baptist 29%, Reformed 23.5%, Jewish 23.1% and Pentecostal 22.2%). A proportion of the endorsement of active believers is a little bit lower (14.1%) when compared to the nominal ones (17.5%). Persons who consider themselves as nominal believers and those with low income endorse the statement in a larger extent than those in other groups (Table 3). We are aware about the Muslim approach (including banking institutions) which are not allowed to use the concept of interest rate at all. However, this is not so visible within the Muslim group in our sample since their endorsement is positioned on 11.4% which is greater than for groups like Greek-Catholics, Seventh Day Adventists or Unitarians. This aspect could be further studied within an “ethical banking” approach. The literature is rather abundant on this point (Lynch 1991; Tlemsani and Matthews 2002; Fergeson 2004; de Clerck 2011; Azevedo and Ferreira 2019).

In order to sum up, a synthetic view of outcomes with a \( \chi^2 \) test for each cross tabulation for all main factors as well as for the control variables is presented in Table 4. Options on Likert scale are ranked from “completely disagree” to “completely agree”, where possible direction (“+” for direct proportion and “−” for inverse proportion) of concordance is outlined.

The regression analysis highlights that persons who believe that “time is money” tend to have a greater propensity for entrepreneurship. Unexpectedly, active religious adherents who record a higher propensity for entrepreneurship do not necessarily consider that “money is everything” or “money moves things”. In line with other studies, control variables such as gender (male) (Gupta et al. 2009), income and emigration (Roman and Goschin 2011) tend to have a larger propensity for entrepreneurship.

As expected, nominal believers tend to endorse all fundamentals in a lesser extent when compare to active ones. The most important control variable which proves to be statistically...
significant in relation to five items is found to be education, while gender and income are connected to four items, and age only with one.

Of course, further research on this topic should be performed. Larger samples, cross-countries, focus on other groups (e.g. Atheists) studies to test if religion still has an impact over economics and finance related items are for sure desirable and of interest. Among other investigations of interest, one could mention ethical banking (Azevedo and Ferreira 2019). Indeed, religiosity per se would have an effect on people’s ethical beliefs. Thus, consumers who have a high religiosity level would be expected to act more ethically (Giorgi

**Table 4** Outcomes of χ² test for each cross tabulation

| Item                              | Religion affiliation | Religion behavior (nominal = 0) | Age groups | Gender (female = 0) | Education | Income |
|-----------------------------------|----------------------|---------------------------------|------------|---------------------|-----------|--------|
| “Money brings happiness”          | ***                  | −***                            | +**        | +**                 |           |        |
| “Time is money”                   | ***                  | −***                            | +**        | +**                 |           |        |
| “Money is everything”             | ***                  | −***                            | +**        | −***                | −**       |        |
| “Money only brings worries”       | ***                  | +*                              | −**        |                     |           |        |
| “Money is the eye of the devil”   | ***                  | +**                             | −**        | −***                | −***      |        |
| “Money is a reward for work”      | *                    |                                 |            |                     |           |        |
| “Money is an asset that must circulate” |                   |                                 |            | +*                  | +**       |        |
| “Money moves things”              | ***                  |                                 |            |                     |           |        |
| “It is fair to lend money with interest” | ***                  |                                 |            | −*                  |           |        |

*p value is less than 0.05

**p value is less than 0.01

***p value is less than 0.001

![Fig. 2](image-url) Do you agree with the following statement? “Money brings happiness.” by religious behavior

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Significant in relation to five items is found to be education, while gender and income are connected to four items, and age only with one.

Of course, further research on this topic should be performed. Larger samples, cross-countries, focus on other groups (e.g. Atheists) studies to test if religion still has an impact over economics and finance related items are for sure desirable and of interest. Among other investigations of interest, one could mention ethical banking (Azevedo and Ferreira 2019). Indeed, religiosity per se would have an effect on people’s ethical beliefs. Thus, consumers who have a high religiosity level would be expected to act more ethically (Giorgi
and Marsh 1990). This spirituality practice and conditions of the surveyees were our main concerns.

We admit that this work on a very sensitive and important topic only considers the Romanian population as the target one. Nevertheless, the perception of respondents is quite close to the one stated within fundamentals. Still, there are different views across different denominations which are represented.

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