

Millennials' willingness to pay for socially responsible investment and its institutional and individual antecedents – evidence from Italy, Poland, and Ukraine

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ABSTRACT

The readiness to sacrifice profit while making socially responsible investments among millennials, as future investors and managers, was examined. Specifically, a multi-level perspective on willingness to pay for socially responsible investment was assumed to understand how nationality, personal values and investment knowledge affect millennials' readiness to sacrifice profit to achieve sustainability goals. Using survey data of 521 business students from Italy, Poland and Ukraine, it is showed that a considerable share of millennials prefer social and environmental performance of investment over financial return and that their nationality is the most powerful factor in explaining willingness to pay for socially responsible investment along with their sensitivity to environmental issues that takes the leading role among all personal values motivating investors to accept lower rates of return. The results can be relevant for financial institutions

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aiming at developing socially responsible investment products. Policy implications of the results are insights into nationality-related tensions while Europe-wide regulation of socially responsible investment could enter into force.

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1. INTRODUCTION

Integration of environmental, social and governance (ESG) criteria in investment decisions, often referred to as socially responsible investment (SRI), can give a push to the global economy's transition toward a sustainable model (Scholtens, 2006). Results of studies on SRI financial performance are mixed (Barber et al., 2021; Kim, 2019; Lopez-de-Silanes et al., 2020; Matallín-Sáez et al., 2019). Thus the demand for SRI products may highly depend on investors' preference for sustainability, including willingness to sacrifice profits to achieve sustainability goals. The greatest hopes lie in the millennials, they are an ethical generation and are aware of business practices (Chatzopoulou and de Kiewiet, 2021). Yet their willingness to sacrifice profit to achieve sustainability goals remains unexplored in academic literature. The study examines the choices of millennials made in terms of trade-offs between financial gain and sustainable goals drawing on the public goods and externalities theory. There is a strong rationale behind focusing research on millennials in general and students of economics and finance in particular. *First:* attitudes toward dividends and capital gains continue to change as new generations of investors take turns (Hood et al., 2014). New investors entering a market are a chance for a change towards sustainability. The generation that is to be examined seems to be the most globally and socially oriented in history (Desai and Lele, 2017; Priporas et al., 2017). *Second:* business schools are the “nurseries” of the corporate world (van Baardewijk and de Graaf, 2020) where those who will be future fund managers and professional advisors are studying now. To make SRI market development possible, SRI fund managers have to be able to place priorities on social considerations while managing fund portfolios. It is reported that SRI fund managers are under a strong pressure to meet financial targets first and soften the edges of rigid ethical stances (Cetindamar and Ozkazanc-Pan, 2017; Haigh and Jones, 2006). Genuine personal commitment of SRI fund managers to sustainability is thus necessary to keep SRI truly social. It is also pointed, that socially responsible investors who want to integrate their personal values into their investment decisions, look for professional advisors who empathize with their goals and do not lecture them about the folly of such integration (Laskin, 2018; Statman, 2008). *Third:* due to the change from materialist to post-materialist values observed in developed societies (Diekmann and Preisendörfer, 2003) it is likely that new generations of investors will represent different patterns of sustainable investment decisions making than present ones. *Fourth:* previous research demonstrates also that highly educated individuals invest more often in SR mutual funds and accounts (Diouf et al., 2016; Rossi et al., 2016). Consequently, examining students may provide insight into forthcoming financial products consumers' demand for SRI.

It is argued here that the potential to trace the public good portion submerged in SRI is offered by contingent valuation. The method reveals the monetary value of goods (willingness to pay) that are not properly traded on the market via surveys revealing the use values along with the non-use values (Navrud and Strand, 2018). Although the concept of measuring value through surveys is used to determine ESG characteristics for various goods (Schäufele and Hamm, 2017), the studies on willingness to pay (WTP) for ESG attributes in financial products are rare (Brodback

et al., 2020) and new insights are urgently needed. This paper seeks to determine whether or not millennials exhibit WTP for socially responsible characteristics of investment and what guides their WTP.

Few extant studies point to rather diverse antecedents of sacrificing profit while making SRI decision (Borgers and Pownall, 2014; Riedl and Smeets, 2017; Rossi et al., 2016). Demographic factors are widely reported on (Cheah et al., 2011; Borgers and Pownall, 2014). However, the complexity of the psychological factors has not been adequately addressed in the existing literature as investor psychological profiles are rather broadly defined as “attitudes” or “concerns”. The study focuses on stable psychological constructs – personal values – as antecedents of WTP for SRI. Since Wins and Zwergel (2014) have noticed that investors interested in SRI investments feel insufficiently informed, a new area of factors of WTP for SRI is added, SRI’s decision-making competence. It is contoured with financial expertise, risk attitudes and SRI background knowledge.

Following the call by Riedl and Smeets (2017) to investigate if and how the relationship between social preferences and SRI relates to variations in institutional aspects, an institutional level to the research framework is added. Next to individual level antecedents of WTP for SRI (personal values and SRI decision making competence) an institutional-level factor – nationality – is accounted for. A combination of theories related to institutional-level and individual-level factors of WTP for SRI is used, which enables us to properly address different levels of analysis.

The method used is based on a contingent-valuation approach. A survey is used in which participants – business students from Italy, Poland and Ukraine – are asked to state their willingness to pay for a SRI fund comparable in terms of risk with a conventional mutual fund to elicit WTP for SRI. The experiment is followed by a questionnaire on financial knowledge, risk attitude, SRI background and personal values to investigate the factors of WTP.

The study provides several contributions. The existing literature on market inefficiencies related to ESG impacts perceived as public goods by studying financial products is added. By examining millennials, insights are provided into the multi-facet prospects of future SRI market development. Adoption of a novel framework to study antecedents of WTP for SRI provides well-structured insights into the relative importance of factors of WTP for SRI and, in the context, it can elicit more precise responses to consumer preferences for financial products. Finally, making comparisons between countries adds to the discussion on universal regulations in the SRI sector, when local and universal ethics may clash. The paper adds the insight on the demand for SRI in Italy, Poland and Ukraine – countries that (to the authors’ knowledge) so far never have been included in empirical studies on SRI investor profiles. The paper structure is as follows: first, there is a review of the literature on non-use values of financial products and contingent valuation method. Then, it is elaborated on institutional- and individual-level factors of SRI and a hypothesis is developed. In the next section, data and methodology are presented. It is followed by showcasing the results. Finally, results and limitations of the study are discussed.

2. LITERATURE REVIEW

2.1. Willingness to sacrifice financial profit while making SRI decisions

SRI can be perceived as a composite phenomenon, constituting a mixture of purely private gain (financial profit) and public or quasi-public effects (i.e., environmental improvements) (Sandberg et al., 2009). However, the non-financial aspects of SRI portfolio may not be reflected properly in market prices as such impacts have features of externalities (Consolandi et al., 2020). When a market operates efficiently, the price reflects the fair value of the good as the demand curve mirrors the true willingness-to-pay (WTP) that offsets the buyer’s utility gain from the purchase. However, with market distortions (externalities), the market price may diverge from

WTP leading to allocative inefficiency (Boardman et al., 2014). The long-established contingent valuation methods (CVM) allow to capture the total value of externalities in capital investment appraisal (Boardman et al., 2014; Florio, 2014). The method uses a survey to create a hypothetical market (when the real one is non-existing) and thus allows for capturing not only the value of public good for its user, but also non-use values incorporated in public goods (Fujiwara et al., 2019; Tonin, 2019). This makes CVM potentially interesting for reflecting ESG impacts of financial investments as SRI aims both at achieving financial performance as well as increasing social welfare.

Although measuring non-use values of consumer good (e.g., fair-trade) via WTP is often practiced (Yu et al., 2014; Schäufele and Hamm, 2017), research has been scant in terms of WTP for ESG attributes of financial products. In the SRI literature, there are studies examining the demand for SRI that do not directly examine WTP for SRI (Barreda-Tarrazona et al., 2011; Wins and Zwergel, 2016). However, the studies show the importance of non-financial issues among investors and thus warrant further investigation of willingness to forego financial reward. Few studies examine the conditions under which investors are willing to make economic sacrifices to buy SRI products. Glac (2009) finds a positive correlation between the return level of conventional investment options and the level of trade-offs that investors are willing to make when considering SRI. Pasewark and Riley (2010) find that the propensity to sacrifice profit was highly dependent on individual concerns about societal implications of such investments. Borgers and Pownall (2014) reveal that WTP for pension plans possessing SR features is lower for men, rises as education and income levels rise, and is stronger among those with positive attitudes towards social and environmental issues. Apostolakis et al. (2016) also investigate WTP for pension investments and also report that the willingness to sacrifice profits is positive. Rossi et al. (2016) find that in the Netherlands, a latent demand exists for SRI, even when SRI investments are less profitable than conventional ones and found more evidence of demographic factors' importance. The paper adds to the previous results by investigating explicitly WTP for SRI using a hypothetical market approach allowing respondents to state their preferences towards accepting a lower return on investment bringing about positive ESG impacts.

Assuming that some millennials are willing to bear economic sacrifices to buy SRI it is hypothesized that:

H1: WTP for SRI is positive for a certain proportion of the respondents.

2.2. Institutional level antecedents of WTP for SRI

Institutional approach allows for dismissing silent assumptions that individuals have solely private value systems, proposing that they share a set of principles with others guiding their actions (Geels, 2004). Such sets of principles are particularly distinctive among nations. Extant studies have discovered significant differences in WTP for ESG features in consumer goods among different countries (Basu and Hicks, 2008). National social settings can also be influential in terms of consumer demand for financial products with ESG attributes (Sandberg et al., 2009; Scholtens and Sievänen, 2013; Waring and Edwards, 2008). However, comparative studies covering SRI demand parameters in European countries have not been conducted yet. Especially the differences between Western, Central and Eastern Europe remain uncovered. Comparative analysis of Poland, Italy and Ukraine can bring about interesting results for several reasons: (1) their populations are relatively homogenous (there are no major ethnicities other than domestic, which could impact study results) with respect to language, cultural, religious and historical background; (2) no large studies on attitudes towards SRI in Italy, Poland or Ukraine have been conducted; (3) they have not adopted any regulations to enforce or encourage institutional investors to allocate part of their assets to SRI; (4) Italy and Poland are European Union (EU) members and, thus, may be

influenced by any future Europe-wide regulations of SRI while Ukraine is not an EU member country; (5) Poland and Ukraine are transitioning from command economies to mixed-market economies; and (6) SRI markets in the three countries are on the early stage of development and will be shaped by future investors and financial market professionals.

Italy is the biggest economy in Southern Europe and the fourth-largest economy in the European Union, but its SRI presence is still marginal (EUROSIF, 2018). Poland has been transitioning economically towards a democratic and market-oriented system, with its well-developed Warsaw Stock Exchange (WSE) being the most important exchange in Central and Eastern Europe. However, Poland's SRI market presence is negligible (Doś and Foltyn-Zarychta, 2017). Ukraine is a former Soviet republic with a weak economic system and is presently trying to address an urgent need to accelerate development of its domestic financial markets, which include a practically non-existent SRI market presence (Shkura, 2017). Considering the differences, it is expected that WTP for SRI may vary between countries and it is hypothesized:

H2: Nationality influences WTP for SRI among millennials.

2.3. Individual level antecedents of WTP for SRI

2.3.1. Personal values

Personal values commonly are identified as “beliefs that a specific mode of conduct or end-state of existence is personally and socially preferable to alternative modes of conduct or end-state of existence” (Rokeach, 1973). Because of their stability and centrality in an individual's cognitive structure, personal values are functional in focusing attention on what is essential in a decision situation, thereby assisting the person in making more efficient decisions (Dietz and Stern, 1995; Schwartz, 1992). As such, values serve as a powerful drive for action. So far, many different personal values have been identified (e.g. Elizur et al., 1991; Rokeach, 1973; Schwartz, 1992). To choose the values to focus on, it was drawn from the consumer behavior literature (Barber et al., 2012; Tsen et al., 2006). It suggests that some values have a greater impact on WTP for ESG attributes of consumer goods than others. The set encompasses: ethics, environmentalism, religiosity, collectivism, and materialism. Accordingly, the focus was on the set of personal values to their impact on WTP for financial products.

In practice, SRI often means that investors exclude companies from their investment sphere, as well as they do with intermediaries and practices that betray their convictions (Dembinski et al., 2003). Richardson (2009) describes the deontological type of SRI, involving investors who personally do not wish to profit from unethical activities. Hunt and Vitell (1986) emphasize that the tendency to follow deontological norms when assessing the set of alternatives in a given situation (ethicality) qualifies as a personal value. Thus, it is expected that the higher level of ethicality influences WTP for SRI positively.

Environmentalism is the belief that the individual and other social actors have an obligation to alleviate environmental problems (Stern et al., 1995). As the number of SRI funds have an explicitly pro-environmental profile, it is expected that environmentalism positively influences WTP for SRI.

SRI developed from being merely a religious phenomenon towards investments increasingly concerned about environmental, geopolitical, and democratic issues (Schwartz, 2003). Nevertheless, religiosity seems to remain as one of the important characteristics of SRI investors (Hoepner et al., 2011; Kurtz and Di Bartolomeo, 2005). Religiosity is conceived as the general attitude of a person towards religious issues and themes, regardless of their affiliation with a given religion. Therefore, it is expected that religiosity will correlate positively with WTP for SRI.

Dembinski et al. (2003) and Starr (2008) stress how SRI had been associated with the common good, which implies considering the consequences that actions will have on absent third parties.

Thus SRI can be associated with collectivism, a value related to putting the goals of the collectives over personal goals (László, 2013). Consumer studies reveal that collectivistic consumers are willing to pay more for sustainability-linked products (Barber et al., 2012; Tsen et al., 2006). Therefore, it is expected that collectivism will impact WTP for SRI positively.

WTP for SRI relates to forgoing some part of an investor's profit in exchange for SR characteristics. The financial goal is associated most closely with materialism. Materialism sees material possessions as the most important component of happiness (Richins and Dawson, 1992; Ward and Wackman, 1971). Chowdhury and Fernando (2013) find that the individuals who exhibit higher levels of materialism tend to be less critical of unethical actions that lead to beneficial outcomes than the ones who behave unethically. Additionally, materialism is negatively correlated with people having higher ethical standards as consumers (Muncy and Eastman, 1998). Thus, it is expected that materialism negatively affects investors' WTP for SRI.

Assuming that personal values impact WTP for SRI the third hypothesis is formulated:

- H3a:** Ethicality positively affects WTP for SRI,
- H3b:** Environmentalism positively affects WTP for SRI,
- H3c:** Religiosity positively affects WTP for SRI,
- H3d:** Collectivism positively affects WTP for SRI,
- H3e:** Materialism negatively affects WTP for SRI.

3.2.2. SRI decision-making competence

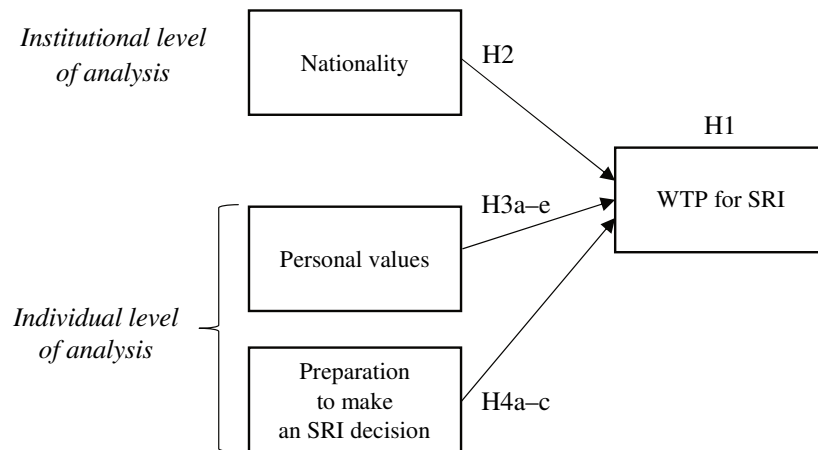
Information on SRI constitutes relevant investment decision frames that may channel the impact of psychological factors on the decisions being made (Døskeland and Pedersen, 2016). Financial decision making requires not only appropriate information, but also relevant knowledge to effectively use the information (Clark et al., 2017). Thus, the possible significance of having information about SRI and of financial knowledge in the model of factors of WTP for SRI is taken into account.

Investors may see responsible investment as an opportunity for equivalent return at relatively lower risk or higher returns for the same level of risk, as compared with other funds (Beal et al., 2005). Thus, investors willing to pay for SRI may look for other than social and environmental benefits which substitute forgone profit. Lowered risk can be one of such benefits (Bauer and Smeets, 2015). Because some investors seem to be moving to SRIs by focusing on a risks-returns balance decision making (Benson and Humphrey, 2008; Galema et al., 2008) adopt a two-dimensional financial framing of SRI decisions is assumed and it is expected that risk attitude will be influential in terms of WTP for SRI. SRI background, financial knowledge and risk attitude constitute a set of factors determining investors preparation to make SR investment decisions. Thus, a set of hypotheses was formulated:

- H4a:** Having information about SRI positively affects WTP for SRI,
- H4b:** Financial knowledge positively affects WTP for SRI,
- H4c:** Risk aversion positively affects WTP for SRI.

The hypotheses and their relation to the two-level conceptual framework assumed in the study are presented in Figure 1.

Figure 1
Conceptual framework



Source: Authors' own elaboration.

3. METHODOLOGY AND DATA

3.1. Survey design

The survey consisted of three parts: the experiment for deriving bids for SRI, questions referring to preparation for SRI decision making and questions investigating personal values.

3.1.1. Dependent variable: WTP for SRI

To elicit WTP for SRI the survey was equipped with a hypothetical scenario aiming at deriving WTP for the SRI fund. At first, respondents are asked to imagine that they are intending to make a long-term investment of 5,000 EUR. Then they are asked to state their preferences in a scenario when they can choose between fund A and B. Fund A is described as “a conventional mutual fund investing in companies with a stable market position, average risk and average growth forecasts” and expected long-term rate of return set at 10%. The long-term level of return is settled based on average long-term stock performance for mature financial markets (Shen, 2005; RamseySolutions, 2021). The B fund is described as the fund that “fulfills SRI requirements, which means that firms in B’s portfolio are companies where activities are based on environmental criteria (non-harmful for environment), social criteria (not making profits on e.g., pornography, gambling, respects human rights), fair competition and good employment policy criteria (fair advertising, non-discrimination in workplace etc.)”.

The participants are asked to state what is their required annual minimum rate of return for the SRI fund to choose it over the non-SRI mutual fund (cf. Borgers and Pownall, 2014; Glac, 2009). This question is open-ended to allow participants to make an unrestricted choice (cf. Carson and Hahneman, 2005). This format allows to avoid an anchoring bias (Gordillo et al., 2019).

The design of experiments serves eliciting WTP for the SRI fund, holding the level of risk stable. Thus, investing in the non-SRI mutual fund (A fund) and possessing a certain financial gain (x) is equivalent in terms of utility to holding the SRI fund (B fund) with the gain lower by WTP:

$$U(\text{A fund}, x) = U(\text{B fund}, x - \text{WTP}) \quad \text{Eq. (1)}$$

With holding the utility level unchanged the difference in declared rates of return can explain respondents' WTP for non-financial characteristics of the B fund. Considering, that the rate of return on conventional fund was set at 10% level, three options were possible: the first: that a respondent states less than 10% to choose the SRI fund instead of conventional one; the second: that a respondent states exactly 10%, or the third: a respondent states more than 10% to choose the SRI fund instead of the conventional one. The three options represent three ways of expressing preference for SRI. In the first one the respondent is ready to sacrifice financial profit to make a sustainable investment (WTP for SRI is positive). In the second scenario a respondent prefers the SRI fund over the conventional one but is not willing to pay for it (WTP for SRI is equal to 0). In the third scenario, the investor follows primarily financial goals – they choose the SRI fund only if it offers higher return than the conventional one.

3.1.2. Personal values

In the survey all values are rated on a seven-point scale ranging from 1 (don't agree at all) to 7 (totally agree), except for one value (student's ethics) where the 7-point Likert scale is reversed. To measure personal values, the already tested scales were adopted, as described below.

To measure "environmentalism", three items from the most widely accepted scale of New Ecological Paradigm (NEP) by Dunlap et al. (2000) were adopted. The scale is originally made of 15 items, however considering the methodological necessity to limit the questionnaire, the scale is narrowed. The narrowed NEP scales maintain consistency (Dunlap, 2008).

"Religiosity" was measured, following the suggestion by McDaniel and Burnett (1990) who pointed out that religiosity can be measured in terms of cognitive and behavioral dimensions. Thereof to measure religiosity, a 2-item scale developed by Ramasamy et al. (2010) was adopted, where one item refers to cognitive dimension and the second item – to the behavioral dimension.

Collectivism is measured using a three-item measure developed by Chan (2001). To measure materialism 3 items from the scale of Richins and Dawson (1992) were adopted, they were selected to create a validated shortened scale (Richins, 2004; Stanton et al., 2002). The scale includes one item from each category: success, centrality, and happiness.

Students are surveyed. Thereof two scales to measure ethicality among students were used. The first scale consists of two items selected from a larger scale for measuring dishonesty in academic settings by McCabe (2005). The second scale is a three-item scale developed by Lawson (2004) to measure students' ethicality in a non-academic setting (the reverse scale). The results of Lawson's study (2004) indicate that there is a very strong relationship between students' propensity to engage in unethical behaviors in an academic setting and their attitude towards such behaviors in the business world.

3.1.3. SRI decision making competence

To capture competences to make SRI decisions, first respondents were asked whether they participated in a course devoted to SRI (binary choice). Next Likert's scale-based questions were asked on risk attitude and financial knowledge. Following Bauer and Smeets (2015) respondents were directly asked how they self-rate their financial knowledge. Following Bauer and Smeets (2015) risk attitude was self-rated from 1 (strongly risk averse) to 7 (high risk-seeker).

3.2. Data collection and sample characteristics

The data was collected via questionnaires distributed among business students. Survey was conducted in three countries among solely domestic students, thereof nationality was determined by country. Three large universities were investigated: Università Cattolica del Sacro Cuore in Milan (Italy), University of Economics in Katowice (Poland) and Alfred Nobel University

in Dnipro (Ukraine). All locations represent highly dense urban and industrial areas. The survey was conducted online. Participation in the survey was voluntary, non-incentivized and anonymous. Respondents filled questionnaires translated to their national languages (Italian, Polish and Ukrainian). 521 questionnaires were collected out of which 455 were used in the analysis: 85 from Italy, 215 from Poland and 155 from Ukraine. The remaining 66 questionnaires were rejected due to missing data or extreme WTP bids, identified via the Tukey (1977) method.

Respondents are mainly graduate business students (68% of respondents held bachelor degrees and studied master programs). The respondents' age is between 17 and 26 with the average of 21,67-year-old, 73% of them are female, 45% with income lower than the country average (the average per capita net income for Italy, Poland and Ukraine was set at, respectively 1860 EUR, 1386 PLN, 5100 UAH based on countries statistics offices (Statistics Poland, 2021; Istat, 2021; Ukrstat, 2021)). Since the relevance of demographic factors for SRI decisions is widely reported in the literature and because a relatively homogenous group of respondents is investigated, demographic factors are not treated as explanatory variables in the analysis.

Table 1 provides respondents' characteristics on the country. Table 2 shows the structure of respondents based on having a course on SRI and Table 3 demonstrates risk attitude, financial knowledge and personal value questions for the general sample, while tables 4, 5 and 6 separately for Italy, Poland and Ukraine.

Table 1
Respondents by country

	Italy	Poland	Ukraine
Country (%)	18.68	47.25	34.07

Source: Authors' calculation.

Table 2
Share of respondents having course related to SRI

	Yes (%)	No (%)
Have you had a course on SRI or contents related to SRI in previous courses	27.91	72.09

Source: Authors' calculation.

Table 3
Attitude to risk, financial knowledge and personal values questions for general sample (all countries)

Question	% of responses						
	1	2	3	4	5	6	7
<i>Risk attitude</i>							
How would you describe your attitude towards risk-taking in investment?	4.62	12.09	30.55	30.99	16.04	3.74	1.98
<i>Financial Knowledge</i>							
How would you assess your knowledge on finance?	1.32	7.03	23.96	34.73	27.03	5.49	0.44

continued Table 3

Question	% of responses						
	1	2	3	4	5	6	7
<i>Materialism</i>							
I admire people who own expensive homes, cars, and clothes.	20.22	20.44	20.88	20.22	9.89	5.05	3.30
Buying things gives me a lot of pleasure.	3.52	9.89	18.02	21.76	22.64	11.43	12.75
My life would be better if I owned certain things I don't have.	8.79	14.07	17.58	20.00	19.56	9.01	10.99
<i>Religiosity</i>							
Do you consider yourself to be religious?	12.75	9.23	12.09	29.01	15.38	14.07	7.47
Apart from weddings and funerals how often do you attend religious services these days?	21.32	22.20	9.89	12.53	12.53	11.87	9.67
<i>Environmentalism</i>							
Humans are severely abusing the environment.		2.64	3.74	10.33	21.54	26.15	35.60
Despite our special capabilities humans are still subject to the law of nature.	1.10	1.98	7.69	16.26	25.05	22.86	25.05
Balance of nature is very delicate and easily upset.	1.10	1.76	7.03	11.21	20.44	29.23	29.23
<i>General ethics</i>							
It is OK to lie to a potential employer on an employment application.	38.90	28.35	14.51	9.23	5.05	2.42	1.54
It is OK to use a fake ID or someone else's ID to purchase alcohol.	73.85	12.31	5.05	4.18	1.76	1.32	1.54
Using insider information when buying and selling stock is unethical behavior.	40.66	16.04	13.63	10.99	7.47	5.27	5.93
<i>Student's ethics</i>							
How often do you use crib notes on a test or copy from another student during a test.	25.71	32.75	16.92	9.89	8.79	3.30	2.64
How often do you copy material and turn it in as your own work or turn in work done by someone else.	57.80	21.76	10.55	4.40	3.08	1.32	1.10
How often do you copy a few sentences of material from a published source without footnoting it.	25.93	25.71	15.38	9.67	11.65	6.59	5.05
<i>Collectivism</i>							
Well-being of others is important to me.	1.54	3.52	8.57	13.85	24.18	30.11	18.24
It is important to me that I respect the decisions made by my groups.	1.10	2.20	4.84	15.38	30.33	31.43	14.73

Source: Authors' calculation.

Table 4

Attitude to risk, financial knowledge and personal values questions for Italy

Question	% of responses						
	1	2	3	4	5	6	7
<i>Risk attitude</i>							
How would you describe your attitude towards risk-taking in investment?	1.18	15.29	23.53	35.29	20.00	3.53	1.18
<i>Financial Knowledge</i>							
How would you assess your knowledge on finance?	2.35	17.65	30.59	30.59	17.65	1.18	
<i>Materialism</i>							
I admire people who own expensive homes, cars, and clothes	18.82	21.18	25.88	20.00	10.59	3.53	
Buying things gives me a lot of pleasure	7.06	14.12	27.06	23.53	16.47	5.88	5.88
My life would be better if I owned certain things I don't have	20.00	17.65	22.35	15.29	15.29	5.88	3.53
<i>Religiosity</i>							
Do you consider yourself to be religious?	20.00	21.18	7.06	18.82	12.94	5.88	14.12
Apart from weddings and funerals how often do you attend religious services these days?	32.94	24.71	3.53	9.41	8.24	5.88	15.29
<i>Environmentalism</i>							
Humans are severely abusing the environment			1.18	4.71	20.00	36.47	37.65
Despite our special capabilities humans are still subject to the law of nature		1.18	1.18	10.59	25.88	21.18	40.00
Balance of nature is very delicate and easily upset			1.18	5.88	17.65	30.59	44.71
<i>General ethics</i>							
It is OK to lie to a potential employer on an employment application.	24.71	23.53	28.24	14.12	8.24	1.18	
It is OK to use a fake ID or someone else's ID to purchase alcohol.	62.35	15.29	11.76	7.06	2.35	1.18	
Using insider information when buying and selling stock is unethical behavior.	5.88	16.47	9.41	16.47	14.12	22.35	15.29
<i>Student's ethics</i>							
How often do you use crib notes on a test or copy from another student during a test;	58.82	24.71	9.41	4.71	2.35		
How often do you copy material and turn it in as your own work or turn in work done by someone else;	78.82	15.29	4.71	1.18			
How often do you copy a few sentences of material from a published source without footnoting it.	38.82	30.59	17.65	2.35	7.06	3.53	
<i>Collectivism</i>							
Well-being of others is important to me		3.53	3.53	9.41	31.76	32.94	18.82
It is important to me that I respect the decisions made by my groups			2.35	5.88	29.41	41.18	21.18

Source: Authors' calculation.

Table 5

Attitude to risk, financial knowledge and personal values questions for Poland

Question	% of responses						
	1	2	3	4	5	6	7
<i>Risk attitude</i>							
How would you describe your attitude towards risk-taking in investment?	7.91	14.42	35.35	25.12	13.49	2.79	0.93
<i>Financial Knowledge</i>							
How would you assess your knowledge on finance?	0.47	3.72	18.60	37.67	32.09	6.98	0.47
<i>Materialism</i>							
I admire people who own expensive homes, cars, and clothes.	19.07	20.93	20.93	18.14	10.70	6.98	3.26
Buying things gives me a lot of pleasure.	1.86	11.16	15.35	21.86	27.44	13.02	9.30
My life would be better if I owned certain things I don't have.	6.98	16.28	20.00	18.60	20.47	9.77	7.91
<i>Religiosity</i>							
Do you consider yourself to be religious?	6.51	5.58	10.23	25.58	23.72	21.86	6.51
Apart from weddings and funerals how often do you attend religious services these days?	8.37	17.67	9.30	12.56	17.67	21.40	13.02
<i>Environmentalism</i>							
Humans are severely abusing the environment.		4.19	5.58	15.81	25.58	23.72	25.12
Despite our special capabilities humans are still subject to the law of nature.	0.47	0.93	3.72	9.77	23.26	30.23	31.63
Balance of nature is very delicate and easily upset.	0.93	2.33	6.98	10.70	21.86	30.70	26.51
<i>General ethics</i>							
It is OK to lie to a potential employer on an employment application.	36.74	34.42	11.63	7.44	2.79	4.19	2.79
It is OK to use a fake ID or someone else's ID to purchase alcohol.	77.67	13.02	3.26	3.26	0.93	0.47	1.40
Using insider information when buying and selling stock is unethical behavior.	65.12	16.28	8.84	4.65	2.79		2.33
<i>Student's ethics</i>							
How often do you use crib notes on a test or copy from another student during a test.	25.12	46.51	16.28	7.91	3.26	0.93	
How often do you copy material and turn it in as your own work or turn in work done by someone else.	70.70	21.40	6.05	0.47	1.40		
How often do you copy a few sentences of material from a published source without footnoting it.	33.02	29.77	16.28	7.91	8.84	2.79	1.40
<i>Collectivism</i>							
Well-being of others is important to me.			2.79	11.63	22.79	38.60	24.19
It is important to me that I respect the decisions made by my groups.	0.47	1.86	1.40	12.56	32.56	37.67	13.49

Source: Authors' calculation.

Table 6

Attitude to risk, financial knowledge and personal values questions for Ukraine

Question	% of responses						
	1	2	3	4	5	6	7
<i>Risk attitude</i>							
How would you describe your attitude towards risk-taking in investment?	1.94	7.10	27.74	36.77	17.42	5.16	3.87
<i>Financial Knowledge</i>							
How would you assess your knowledge on finance?	1.94	5.81	27.74	32.90	25.16	5.81	0.65
<i>Materialism</i>							
I admire people who own expensive homes, cars, and clothes.	22.58	19.35	18.06	23.23	8.39	3.23	5.16
Buying things gives me a lot of pleasure.	3.87	5.81	16.77	20.65	19.35	12.26	21.29
My life would be better if I owned certain things I don't have.	5.16	9.03	11.61	24.52	20.65	9.68	19.35
<i>Religiosity</i>							
Do you consider yourself to be religious?	17.42	7.74	17.42	39.35	5.16	7.74	5.16
Apart from weddings and funerals how often do you attend religious services these days?	32.90	27.10	14.19	14.19	7.74	1.94	1.94
<i>Environmentalism</i>							
Humans are severely abusing the environment.		1.94	2.58	5.81	16.77	23.87	49.03
Despite our special capabilities humans are still subject to the law of nature.	2.58	3.87	16.77	28.39	27.10	13.55	7.74
Balance of nature is very delicate and easily upset.	1.94	1.94	10.32	14.84	20.00	26.45	24.52
<i>General ethics</i>							
It is OK to lie to a potential employer on an employment application.	49.68	22.58	10.97	9.03	6.45	0.65	0.65
It is OK to use a fake ID or someone else's ID to purchase alcohol.	74.84	9.68	3.87	3.87	2.58	2.58	2.58
Using insider information when buying and selling stock is unethical behavior.	25.81	15.48	22.58	16.77	10.32	3.23	5.81
<i>Student's ethics</i>							
How often do you use crib notes on a test or copy from another student during a test.	8.39	18.06	21.94	15.48	20.00	8.39	7.74
How often do you copy material and turn it in as your own work or turn in work done by someone else.	28.39	25.81	20.00	11.61	7.10	3.87	3.23
How often do you copy a few sentences of material from a published source without footnoting it.	9.03	17.42	12.90	16.13	18.06	13.55	12.90
<i>Collectivism</i>							
Well-being of others is important to me.	4.52	8.39	19.35	19.35	21.94	16.77	9.68
It is important to me that I respect the decisions made by my groups.	2.58	3.87	10.97	24.52	27.74	17.42	12.90

Source: Authors' calculation.

3.3. Personal values – factor analysis

To check the consistency of personal values questions as well as for the purpose of distinguishing psychological factors which may potentially influence WTP, Principal Component Analysis and varimax rotation are used. Each value is measured by a 2–3 item scale. Cronbach's alpha is calculated on the dataset to determine the internal consistency and reliability of scales. Upon evaluation of eigenvalues and scree plot six factors are detected. Five factors load strongly. In case of ethics in non-academic setting alpha is at 0.53 level. Nevertheless, it is decided to include the factor due to the fact that ethics is particularly important for SRI as well as because the scale was used successfully before (Lawson, 2004). Factors overlap perfectly with scales used to measure all considered values: environmentalism, collectivism, religiosity, materialism, ethics in academic setting and ethics in non-academic setting. Results of factor analysis are available in table 7.

Table 7
Factor analysis of personal values

Dependent	Loading value
<i>Factor 1 ($\alpha = 0.711$) Materialism</i>	
I admire people who own expensive homes, cars, and clothes	0.794
Buying things gives me a lot of pleasure	0.788
My life would be better if I owned certain things I don't have	0.758
<i>Factor 2 ($\alpha = 0.873$) Religiosity</i>	
Do you consider yourself to be "very religious", (7)	0.927
Apart from weddings and funerals how often do you attend religious services these day	0.925
<i>Factor 3 ($\alpha = 0.616$) Environmentalism</i>	
Humans are severely abusing the environment	0.812
Despite our special capabilities humans are still subject to the law of nature	0.587
Balance of nature is very delicate and easily upset	0.798
<i>Factor 4 ($\alpha = 0.530$) Ethics</i>	
It is OK to lie to a potential employer on an employment application	0.705
It is OK to use a fake ID or someone else's ID to purchase alcohol	0.708
Using insider information when buying and selling stock is acceptable	0.670
<i>Factor 5 ($\alpha = 0.748$) Student ethics</i>	
Using crib notes on a test or copying from another student during a test	0.841
Copying material and turning it in as your own work or turning in work done by someone else	0.768
Copying a few sentences of material from a published source without footnoting it	0.759
<i>Factor 6 ($\alpha = 0.618$) Collectivism</i>	
Well-being of others is important to me	-0.807
It is important to me that I respect the decisions made by my groups	-0.839

Source: Authors' calculation.

4. RESULTS

To investigate the antecedents of WTP for SRI the declared rates of return on the SRI fund in the general sample and each country are initially analyzed separately.

The descriptive statistics (Table 8) show that for the whole sample the mean of WTP for SRI is 11.87% with standard deviation of 6.33% and median rate of 10%. Such discrepancy between negative average WTP and median respondent can be assigned to the positive skewness of the bids and high discrepancy of Ukrainian bids, with maximum declared rates reaching 50%. Polish average bids are slightly above 10%, while Ukrainians declare the highest required returns, ranging from 15% to almost 17%. However, the median value for the whole sample and for Italy and Poland are all equal to 10%, indicating that half of respondents in those two countries are willing to sacrifice some of their profit to achieve ESG goals. The results support the H1 hypothesis that a considerable share of students are willing to pay for SRI.

The declared rates of return differ between countries (ANOVA Kruskal-Wallis with p value $< 0,05$ indicate that differences are statistically significant).

Table 8

Means, medians, standard deviations, skewness and kurtosis of self-declared rates of return (%) for the socially responsible fund

	Mean	Median	SD	Skewness	Kurtosis
All countries (N = 455)					
Declared rate	11.87	10.00	6.33	2.71	9.48
Italy (N = 85)					
Declared rate	9.71	10.00	2.67	1.16	3.39
Poland (N = 215)					
Declared rate	10.15	10.00	3.42	1.95	7.54
Ukraine (N = 155)					
Declared rate	15.44	15.00	8.86	1.65	2.73

Source: Authors' calculation.

The question on WTP bids allows participants to give unrestricted required rate of return for the SRI fund. Due to skewness of the declared rates of return the bids are grouped into three categories: positive WTP (representing participants declaring rates below 10%), neutral WTP (when participants declared rates equal to 10%, meaning they are willing to choose the SRI fund as long as it rates of return is equal to the non-SRI fund), negative WTP (for participants bidding rates higher than 10%) requiring some additional financial reward to invest in SRI funds. The categorization makes it possible to run multinomial ordered regression models with logit link for each question to identify variables that explain participants' WTP (Böhning, 1992).

The models are constructed assuming that the base state of the dependent variable is positive WTP, where respondents declare that they are willing to sacrifice some part of the profit (bids lower than 10%) when investing in the SRI fund. The potentially significant variables for final models are chosen in the two-step procedure. First, the relationships between WTP for the SRI fund and each potential explanatory variable are analyzed separately. Based on the variables that are found to be significant, multinomial regression models with multiple variables are built.

Based on the variables that are found significant for explaining WTP (one-variable models), they are grouped into three categories and a regression is run for each group separately (country – model A, preparation to make an SRI decision – model B, and personal values – model C) and for all groups together (model D) to find which variable-mix gives the highest potential to explain WTP for SRI. The goodness of fit for models is assessed on the basis of AIC and BIC criteria coupled with scaled Chi squared and its relation to degrees of freedom (X^2/Df). Results are presented in Table 9.

Table 9
Antecedents of WTP for SRI

	Model A	Model B	Model C	Model D
Intercept 1	-0.78 [0.11]***	-0.37 [0.41]	-0.81 [0.10]***	-0.51 [0.43]
Intercept 2	0.80 [0.11]***	1.09 [0.41]***	0.74 [0.10]***	1.12 [0.43]***
<i>Country</i>				
Ukraine	-0.97 [0.13]***			-0.97 [0.20]***
Poland	0.33 [0.12]***			0.37 [0.16]**
<i>Preparedness</i>				
SRI course		-0.18 [0.10]*		-0.10 [0.09]**
Risk attitude		-0.17 [0.07]**		-0.08 [0.08]
Financial knowledge		0.04 [0.08]		-0.02 [0.09]
<i>Personal values</i>				
Materialism			-0.14 [0.09]	-0.10 [0.09]
Religiosity			-0.22 [0.09]**	-0.07 [0.10]
Environmentalism			0.27 [0.09]***	0.25 [0.09]***
General ethics			0.02 [0.09]	-0.09 [0.10]
Student's ethics			-0.33 [0.09]***	0.09 [0.12]
Collectivism			0.26 [0.09]***	0.06 [0.10]
Scaled Chi ²	915.40	911.11	917.10	928.35
AIC	953.00	1000.42	975.83	956.57
BIC	969.48	1021.02	1008.79	1010.13
Log-likelihood	-472.50	-495.21	-479.91	-465.86
X^2/df	1.01	1.01	1.02	1.04

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1.

Source: Authors' calculation.

The results indicate WTP changes for the country variable and the changes are significant both for Ukraine ($\beta = -0.97$; $p < 0.01$) and Poland ($\beta = 0.37$; $p < 0.01$) in comparison with Italy. While Ukrainians are less eager to declare positive WTP for SRI, Italians, Polish students are more willing to sacrifice part of their returns when choosing an SRI fund (both in Model A and D). The results (along with initial analysis of rates of return, where (ANOVA Kruskal-Wallis test indicated that differences between countries are statistically significant) strongly support the H2 hypothesis.

In the “values model” (model C), religiosity, environmentalism, student’s ethics and collectivism are significant. While higher religiosity lowers the chances of declaring positive WTP (H3c is strongly rejected), both remaining values correlate positively with willingness to pay for SR characteristics (H3a, H3b, H3d supported). The impact of general ethics is negligible ($p = 0.84$), however materialism’s p-value (0.12) is just slightly higher than what the ceiling for the p-value (0,1) – overall lack of support for H3e. The results differ in the D model, where environmentalism alone justifies WTP changes with $p < 0.01$. A strong confirmation is thus given for H3b, referring to the positive impact of environmentalism on WTP for SRI. H3a referring to the positive influence of student's ethics is partially supported by Model C. H3d referring to the positive influence of collectivism is strongly supported only by Model C. All models are reasonably well-suited to data with Chi squared/Df statistics staying close to 1 in all cases and AIC and BIC criteria having similar levels.

Finally, accounting for SRI decisions competence alone (Model B), pursuing an SRI course, as well as higher risk tolerance, negatively influence WTP for SRI, but only the former enters the D model. Thus, weak support is found for H4c (Risk aversion positively affects WTP for SRI) while H4a (Having information about SRI positively affects WTP for SRI) is rejected. General financial knowledge is insignificant in explaining the changes in WTP and there is no support for H4b (Financial knowledge positively affects WTP for SRI).

5. DISCUSSION AND CONCLUSION

A two-level framework is used to study millennials’ readiness to sacrifice profit while making SRI decisions. Based on a survey done in three European countries, it is found that a substantial share of young people is willing to accept lower returns for a SRI product or choose it over conventional investment product at a return equal to a conventional one. The investors willing to pay for SRI challenge the traditional view of an investor as a purely self-interested and profit-motivated person. By evidencing non purely self-interested behaviors there is contribution to building a realistic view of finance and opportunities to mobilize the financial market for achieving sustainable development, even in case of trade-offs between ethical and financial criteria of investment decision making. The results urge for taking a new perspective on estimating the value of the SRI market. If SRI allows consumers of financial services to derive utility that exceeds purely financial aspects – the value of the SRI market should be understood as a composition of financial value expressed in market price and a non-financial value.

Secondly, it is found that the institutional-level factor – nationality, is a powerful explanatory factor of WTP for SRI. Students from two countries, which are both market-oriented and both are members of the European Union (Italy and Poland), differ with respect to their WTP for SRI. Also students from two countries, which both have communistic past and are under the process of transition – Poland and Ukraine – differ significantly with respect to their WTP for SRI. Differences between Italian and Ukrainian respondents’ WTP are even more pronounced. The discrepancies between countries are in line with studies on the SRI market such as Renneboog et al. (2011) who find some differences between the US and EU. The paper results support the need to further explore national differences accounting for institutional complexity.

It is also showed that, apart from nationality, individual-level factors are powerful in explaining WTP for SRI. Among personal values, environmentalism is an equally strong determinant of WTP for SRI as nationality. It means that carrying for the natural environment is the predominant factor stimulating investors to accept a lower rate of return on SRI. This can stem from the relatively well-established ecological education in all examined countries. It is in line with other studies covering Western European countries (Apostolakis et al., 2016; Berry and Junkus, 2013).

In addition religiosity, student's ethics and collectivism, are all statistically significant in terms of affecting WTP for SRI. Consequently, it is showed that WTP for SRI is a phenomena that is both social norm-driven and personal value-driven. The study supports the previous findings that personal values play a significant role in investment decisions, apart from financial motives (cf. Pasewark and Riley, 2010). The added value of the research is that it provides insights into five separate categories of personal values, while previous studies investigate generally described societal or ethical concerns (e.g., Barreda-Tarrazona et al., 2011; McLachlan and Gardner, 2004) or collectivism only (Apostolakis et al. 2016). Thus, the study reveals complexity of psychological traits significant in terms of SRI.

Contrary to what it was expected, the results indicate that higher religiosity decreases WTP for SRI. The explanation can be due to the specific religious profile of the examined countries. Italians and Polish are mostly Catholic and Ukrainian people are mostly Orthodox. Kumar and Page (2014) show that Catholic investors are more likely to own sin stocks than Protestant investors. Salaber (2013) shows that sin companies' share price is depressed when they are located in a predominantly Protestant environment, relative to a Catholic environment. Following further investigation is needed in terms of defining how investors belonging to different religious denominations value investment in shares of companies with different social policies. Focusing research effort in the area is of paramount importance in times of migration and mixed religious profile of modern societies.

The results show that the influence of SRI decision-making competence on WTP for SRI is complex. Financial knowledge appears not to be important in terms of WTP for SRI. Surprisingly, having knowledge on SRI negatively influences WTP for SRI. This is an opposite to what is reported e.g., by Borgers and Pownall (2013), they confirm that difficulties in managing financial and non-financial goals coexists with low financial knowledge. One possible explanation is that the knowledge is correlated with being aware of the shortcomings of SRI policies of mutual funds. For example, the neglectful portfolio selection. Another explanation can be that better financial knowledge may be related to stronger exposure to standard models of investment decision, like the Markowitz model risk-return variables, which in some cases can have a normative power. This view is supported to some extent by Glac (2009) who reports that investors who have a financial decision frame are less eager to sacrifice profits while making SRI decisions. Based on the paper analysis, the risk-attitude is the only "competence" variable important for WTP for SRI. Risk-averse respondents tend to be more willing to pay for SRI, which is in line with Apostolakis et al. (2016). The result confirms that the risk-mitigating effect of SRI policy yields additional utility for investors.

The results have important implications for academia, policymakers and financial institutions. First: by knowing whether millennials will accept lower rates of return on SRI investments versus those of conventional investment products, SRI fund managers could continue using an SRI strategy, even if in the short term, it turns out to be less profitable than a conventional strategy. The implications of the latter include forecasting stability and consistency of SRI markets to help understanding whether and how financial markets can be realigned with sustainable and equitable economies. Second: the results shed light on the role of informal institutions as important determinants of the path for financial markets development when a non-purely materialistic perspective is taken into account. The findings have compelling implications for public policy from the viewpoint of designing and implementing international regulation of the SRI market.

The findings indicate that millennials of diverse nationalities, although often generally believed as a most sustainable generation (Su et al., 2019), may exhibit different levels of acceptance towards policies promoting SRI in case of SRI products being less profitable than conventional ones. While designing such policies arising tensions have to be taken into account. The result is also important for financial institutions aiming at developing SRI products – it informs on unequal demand parameters across European countries. Further investigation of components of country-level informal institutions drive WTP for SRI as necessary. Third, insights are provided into individual antecedents of WTP for SRI that encompass psychological factors (personal values) and investment decision preparedness elements. The results are also of crucial importance for financial institutions – they indicate that policies for product design and market segmentation need to be guided by in-depth understanding of clients' profiles, including knowledge on their personal values. Big data technologies may thus be necessary for future development of the SRI market.

The study contributes to the development of a theory of demand for SRI products showing that accounting for contingencies among drivers of readiness to sacrifice profit while making SRI decisions is necessary to understand their relative importance. The results support a multi-level approach to analyze socially responsible investment decisions since it is evidenced that the relative power of individual drivers as well as institutional drivers of WTP for SRI may change when they are analyzed simultaneously.

The study also has several limitations. The survey method allows us to obtain information on personal values, financial knowledge and risk attitude directly from individuals. The obvious disadvantage of the contingent valuation methods based on surveys that create a hypothetical market is that actual decisions in a real-world setting are not observed, therefore issues referring to question format bias or strategic bias may be expected (Diamond et al., 2015). Some reservations on CVM also concern the ability to appropriately catch moral perspective in monetary terms, as respondents may perceive it in terms of expressing their “warm glow” (the emotional reward of giving to others) preferences rather than trading-off social responsibility for money (Nunes and Schokkaert, 2003).

An avenue for future research could be to combine survey evidence on values and attitudes with trading/holding data. Another shortcoming is that WTP is a declared value that may not be translated into changed behaviors. Although results from consumer surveys state that people are willing to pay more for products with positive social or environmental connotations, such products have market shares of less than 1% (MacGillivray, 2000). It can be a consequence of socially desirable answers in surveys (Paulhus, 1991), as well as an attitude-behavior gap. Lonnqvist et al. (2007) found no evidence of socially desirable responses. It also validates the results. Vyvyan et al. (2007) examined Australian investors and found a discrepancy between investors' SRI attitudes and actual choices. The attitude-behavior gap, in relation to personal values and national culture, needs to be investigated further.

Finally, the paper findings cannot not be taken as a representative for investigated countries' populations since the focus of the study is limited to business students with relatively uniform demographic characteristics, which limit the results and may lead to suggestions for future research on a nation-wide sample of investors.

Declaration of interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in the paper.

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