

Overdue debt and selected personality traits – a research based on international surveys

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Abstract. Households and individuals make various financial decisions, some of which are regarding debt. In 2018 a survey was conducted in six European countries on incurring financial liabilities and falling into debt. The survey was expected to provide insights as to the habits and attitudes of the surveyed while making debt decisions. The aim of this paper is to identify personal characteristics of debtors across different European countries and to compare the incidence of these characteristics in the groups examined across those countries. The hypothesis was that individuals who never fall into arrears differ from those who had or still have debt in terms of their personality traits. The research was carried out in Spain, Romania, Poland and Italy. Depending on the country, the sample size ranged from 802 to 1200 participants. The statistical analysis found that for most of these countries there existed significant differences between debtors and debt-free individuals regarding the level of conscientiousness, honesty, attitude towards money and shopping.

Keywords: overdue debt, personality traits, consumer attitudes and behaviour, international survey, chi-square test.

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1. INTRODUCTION

Households and natural persons make up the largest group of the financial market participants. Like other participants of this market, they carry out various operations, in particular, they can invest their financial surplus or take a credit and loan.

Households' debt is of major importance for the economy and the financial market, as it is demonstrated by the values of variables presented in Figures 1 and 2.

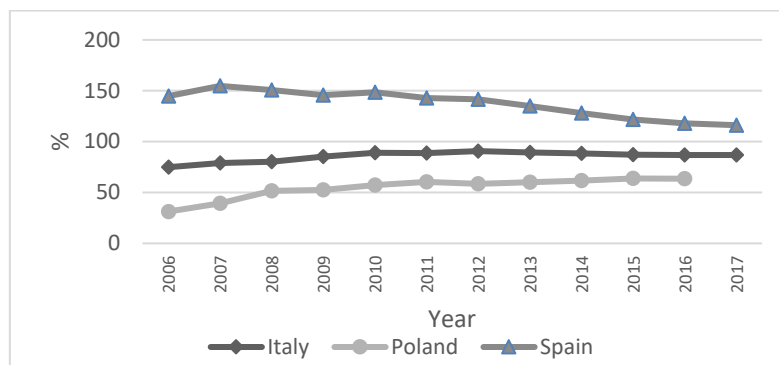


Figure 1. Household debt total, % of net disposable income, 2006 – 2017

Source: own study, based on: OECD (2019), Household debt (indicator).

Figure 1 shows household debt total as % of net disposable income in the years 2006–2017. One can observe that the value of the total household debt represents a significant percentage of household disposable income, ranging between 60% in Poland (in 2016) and 116% in Spain, as of 2017.

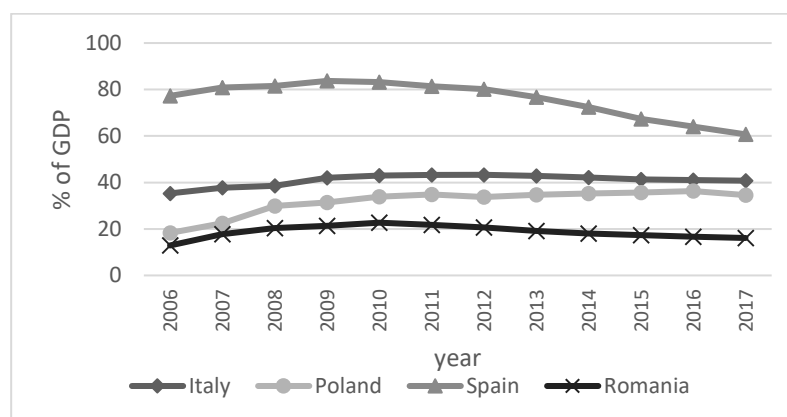


Figure 2. Households debt: loans - % of GDP, 2006 – 2017

Source: own study, based on: Eurostat, <https://ec.europa.eu/eurostat>

As can be gleaned from Figure 2, financial obligations of households in the countries in question ranged between 16% of GDP in Romania and 60% of GDP in Spain, as of in 2017. What can also be observed is that in Poland and Italy the variable value stayed at the same level since 2010, while in Spain there was a clear drop from over 80% to about 40%.

Such considerable level of debt can eventually lead to problems in paying it back. In spite of the fact that financial institutions assess borrowers' creditworthiness, it might happen that borrowers fail to fulfill their financial obligations. The majority of research work which addresses the subject of borrowing money

taking into account borrowers' personality traits or demographics focuses on their association only with the level of debt. Unlike those studies, the research presented in this paper explores the relationship between the personality traits and whether respondents ever had problems repaying their debt. The study centers around the data produced by the surveys carried out in four European countries, i.e. Spain, Italy, Romania and Poland. The subject of the study is the evaluation of personality traits which differentiate individuals who have no difficulty in paying back their debt and those who fail or failed to do so in the past.

Ultimately, identifying those traits should answer the question whether personal characteristics can be associated with difficulty in fulfilling one's financial obligations. Consequently, the aim of the paper is to identify personality traits of debtors from the countries mentioned above and to compare the incidence of those traits between the groups examined in those countries. As such, the aim leads to putting forward the hypothesis that individuals who have never fallen into arrears differ from those who had or currently have debt in terms of certain personality traits.

2. LITERATURE REVIEW

For a long time researchers have been concerned with what affects the level of financial obligations and debt held by individuals, and what determines the problems with repaying debt on time. The factors playing a role in one's tendency to run up debt and its timely payment can be divided into economic and financial, demographics and social factors. A vast body of research has been conducted in this area, with a considerable number of studies being based on surveys. The research centered on the issue of falling into debt has shown that there are various reasons for creating debt. According to Katon (1975), there are three causes which explain why individuals have debt arrears, that is, spend more than they earn. Firstly, it is attributable to low income which does not cover basic needs. Secondly, it is high earnings coupled with a strong desire to spend money. And thirdly, creating debt is brought about by having no will to save (regardless of income). The importance of Katon's research is that he introduces behavioral and psychological factors into the causes of running up debt. The research direction which he delineated has been followed by, for example, Vitt (2004), who observes that the consumers' financial decisions encompass a series of psychological, physical and social values frequently rooted in emotions. Other studies have produced findings similar to Katon's (Anderloni & Vandone, 2011; Elliott, 2005; Disney et al., 2008). The findings suggest that the financial problems relating to incurring debt are a phenomenon which occurs because of the typical patterns of behavior: borrowers frequently get used to a debt lifestyle and incur (more) new debt to pay the old one. Being pushed into this spiral of debt often makes it impossible for debtors to escape it because they are more concerned with financing their current needs given their financial shortages and so they incur further debt, disregarding its impact on their future consumption level (Shah et al. 2012). Hence, excessive debt is the result of "the most convenient" form of responding to one's needs, which is, borrowing more, with practice having on top of that a negative influence on increasing financial difficulties. The study drawing on British Household Panel Survey 2005 (Brown & Taylor, 2014) has found that with respondents' growing financial optimism there comes a greater propensity to incur debt. Meanwhile, risk aversion and conscientiousness are correlated negatively with the level of household debt. What has also been demonstrated is that the level of debt and assets increases monotonically with the subsequent income quartiles. Drawing on the research carried out in Wales (Stephen et al. 1993), the personal traits characteristic for people who tend to run up excessive debt were identified. These people come from lower socioeconomic background, have lower income, are less likely to own a house, have more children with a greater likelihood of being a single parent, they are younger and less likely to consider themselves nonconformists, agnostics or atheists. In addition,

individuals facing more difficulty in paying off debt know more fellow indebted people and show less wariness about having debt. Other surveys carried out in England (Stephen et al. 1995) have found that there is a relationship between economic and personality traits, and difficulty in paying up debt. The research has shown that people who have no problems in debt repayment have more conveniences available to them in managing cash (e.g. bank accounts) and also assess their cash management skills higher than debtors do. Moreover, people who find it difficult to pay up their debt make plans over a shorter time horizon, are more likely to buy cigarettes and presents for their children. According to research conducted in Australia and New Zealand (ANZ 2005 report) people with debt arrears are more often focusing on the present not the future, have no interest in managing finances either current or future, have aspirations to possess as many goods as people in their surroundings, feel better while spending money and have worse financial knowledge. The findings regarding the assessment of one's familiarity with financial matters have also been confirmed by another study conducted among people with difficulty in repaying their debt (Avril et al. 2010). It has revealed that people who fail to fulfill their financial obligations rate their financial skills lower. Most frequently, these are individuals of less than 55 years of age, who rent an apartment, have more children, are more likely to have abandoned their education at the age of 18 and are unemployed. In addition they are less optimistic than people with no problems in paying up debt. The studies carried out earlier in the UK (Kempson et al. 2004) show that the households which are at considerable risk of facing difficulty in repaying their debt have as head of the family people between 20 and 30 years of age whose income has fallen over the last 12 months, with those households renting and not owning property. The study has also found that the more debt a household has the more likely it is to fall into arrears.

The analysis of the Eurostat data, meanwhile, spanning the years 1994-2001 (Georgarakos & Fürth, 2015) has shown that falling into arrears is more likely for households operating in regions considered to be highly corrupt, characterized by the public's low confidence in government authorities and institutions and a low percentage of religious population. Another study conducted on a representative sample of German population (Achtziger et al., 2015) has found that there is a statistically significant relationship between self-control and level of debt and that the link is fully mediated by compulsive buying. Moreover, the analysis of Special Eurobarometr 279 data (Kuchciak, 2013) has produced information that the characteristics which make one prone to going into excessive debt are as follows: age over 50, male, elementary or secondary education, social status – a single or a single parent, the income is less than 60% of median equivalent income, member of ethnic minority; occupational situation – the long-term unemployed, disability, addiction to drugs. In addition, what affects running up excessive debt is having no proclivity for saving, being excessively prone to risk, as well as excessive shopping

The research from various countries shows that economic attitudes and behaviors of people from different countries differ from one another, which has been examined and proven on the example of subjective discount rate (Wang et al. 2009). In a study carried out by Shiller, Boycko and Korobov (1992) the authors analyzed the relationships between economic behaviors and personality factors. The researchers have observed that these relationships develop differently depending on country. The aforementioned research justifies embarking on studies seeking to capture the differences and similarities between the behaviors and personality traits across different countries.

3. METHODOLOGY

In 2018, the present authors, together with Kruk S.A, a debt collection agency, prepared a survey whose objective was to identify the differences characterizing respondents assigned to one of two groups. The first group included respondents who at the time of the survey or in the past at least once had

problem to pay up debt to any kind of institution [Group 1], while the second group was comprised of those who never were late in paying debt [Group 2]. The survey was carried out in 2018 in several European countries, such as Spain, Italy, Romania and Poland. Assuming that the culture, economic conditions, money perception are different in each of these countries data was analyzed separately for each country. In each country professional research company was commissioned to conduct the survey. Once it was completed, the pertinent statistical material was delivered to the authors in the form of databases for each country.

Depending on the country, the size of the sample ranged from 802 in Italy to 1200 participants in Poland. Respondents were over 18 years old, the average age in the individual countries ranged from 43.3 years in Poland to 46.1 years in Italy. The share of women in the samples was between 50% in Spain and Italy to 53% in Romania. All the information on the composition of the samples is presented in Table 1.

Table 1

Sample composition

Sample composition	Country			
	Poland	Spain	Romania	Italy
Sample size	1200	817	892	802
Debtors [Group 1]	600	212	292	402
Debt-free individuals [Group 2]	600	605	600	400
% women	52	50	53	50
Age	18-78	18-80	18-78	18-74

Source: own calculation based on survey results

The questionnaire consisted of a range of single- and multiple-choice questions. The questions examined respondents' various character traits, namely: dutifulness and conscientiousness, optimism and perception of the future, compulsive shopping and attitudes towards shopping, the style of managing money. The list with questions is attached to the paper [see Attachment] with the questions providing the basis for the analysis along with the symbols and content of the questions and the description and codes of individual answers.

The data elicited were analyzed statistically by applying the relevant statistical tests. The necessary calculations were carried out using Microsoft Excel and Statistica program.

4. EMPIRICAL RESULTS AND DISCUSSION

The data gathered in the survey were subject to a statistical analysis. The objective of the paper was to identify personal characteristics of debtors from the countries under study which render them different from those who have never had any difficulty in paying up debt. To this end, as first it was to compare the distribution of answers to selected questions across the two groups – a group made up of respondents who had never fallen into arrears [Group 2] and a group of respondents who at one point of time (at the time of the survey or before) were in arrears [Group 1]. The comparisons were carried out separately for each country. Table 2 contains p-values for the Chi-Square test of independence between the answers given to the individual questions in the two groups [1 and 2]. High p values suggest that the answer distribution is not dependent on whether one belongs to the particular group [either 1 or 2], while low p values indicate that differences exist in the distribution of answers between Groups 1 and 2.

Table 2

P values for the Chi-Square test of independence for the hypothesis on the lack of dependency between the distribution of answers to a particular question and being part of Group 1 or 2

Question	Country			
	Poland	Spain	Romania	Italy
Q28_01	0.532004	0.444680	0.339801	0.828774
Q28_02	0.923239	0.006194***	0.293947	0.459438
Q28_03	0.955085	0.015861**	0.166630	0.174586
Q28_04	0.004033***	0.000000***	0.009766***	0.000000***
Q28_05	0.026416**	0.011386**	0.088729*	0.009861***
Q28_06	0.042914**	0.430280	0.000291***	0.493997
Q28_07	0.013372**	0.078272*	0.373489	0.083796*
Q28_08	0.528859	0.072954*	0.552332	0.049951**
Q28_09	0.010182**	0.002463***	0.000516***	0.003882***
Q28_12	0.268201	0.716729	0.578373	0.446759
Q28_13	0.000000***	0.000022***	0.284299	0.020012**
Q28_14	0.002360***	0.000658***	0.005718***	0.000000***
Q28_15	0.031537**	0.000432***	0.133780	0.033806**
Q28_16	0.157404	0.284858	0.989359	0.537855
Q10	0.004271***	0.027578**	0.002618***	0.23492303
Q12	0.002701***	0.000727***	0.022209**	0.000000***
Q13	0.000133***	0.097773*	0.400347	0.000707***
Q16	0.000000***	0.032142**	0.028613**	0.000000***
Q23	0.014099**	0.000000***	0.174166	0.000000***
M05	0.111404	0.100513	0.795000	0.042637**

Source: Authors' results. * indicates significance level at 0.10 level, ** indicates significance level at 0.05 level, *** indicates significance level at 0.01 level.

Second, for the answers to questions from Q28 Q28_01 to Q28_17 the mean value of answers was calculated by Group 1 and Group 2 in each country and p-value for one-sided test to determine whether two means were equal (the alternative hypothesis suggested that there was inequality between the means in the two groups, while the direction of inequality in the hypothesis was determined based on the sample results). The results of these calculations are presented in Table 3.

For estimating the relationship between dutifulness and conscientiousness, and being part of either group, the answers to the following questions were chosen: Q28_05, Q28_06, Q28_07 and Q28_16. Declaring the extent to which one meets deadlines at work [Q28_05] is statistically significantly associated with whether a particular respondent from each country has ever been in arrears. In addition, the mean values were calculated from the responses to this question. In Poland and in Italy, respondents from Group 1 rated themselves considerably lower in terms of statistical significance compared to respondents from Group 2. In Romania inequality was also significant, but only at the significance level of 0.1 ($p=0.086785$). In Spain, the direction of inequality was maintained, yet it failed to be statistically significant. The extent to which one neglects one's duties (Q28_06) differentiates the answer distributions between the groups in Poland and Romania. Meanwhile, the mean scores in all the countries were significantly higher for respondents from Group 2. Interviewees from Group 1 ranked themselves on average lower in terms of whether they used to do their school homework compared to respondents from Group 2 in Poland, Spain and Italy; likewise, there were significant differences in these countries between

the distribution of answers to this question. In their majority, the findings suggest that the level of dutifulness and conscientiousness differentiates to some extent respondents who are prone to having overdue payments and those for whom the prospect of failing to pay up debt is lower. Respondents who have never fallen into arrears tend to be more dutiful and conscientious.

Table 3

The mean scores of answers to questions Q28_01 -Q28_16 by country and group, and p-values in the test for equality of two means for one-sided hypothesis

Question	Country											
	Poland			Spain			Romania			Italy		
	Av. G1	Av. G2	p one-sided	Av. G1	Av. G2	p one-sided	Av. G1	Av. G2	p one-sided	Av. G1	Av. G2	p one-sided
Q28_01	3.80	3.77	0.3282	3.16	3.23	0.2346	3.95	3.89	0.1763	3.65	3.58	0,1542
Q28_02	3.13	3.07	0.1822	2.96	3.17	0.0065***	3.51	3.59	0.1500	3.39	3.39	0,4970
Q28_03	3.06	3.12	0.2169	2.75	2.70	0.3087	3.42	3.25	0.0118**	2.65	2.45	0,0099***
Q28_04	2.47	2.30	0.0083***	2.52	1.99	0.0000***	3.30	3.08	0.0024***	2.42	1.88	0,0000***
Q28_05	3.97	4.16	0.0014***	3.64	3.76	0.1490	4.23	4.30	0.0868*	4.07	4.27	0,0011***
Q28_06	3.78	3.88	0.0456**	3.20	3.41	0.0276**	4.10	4.33	0.0000***	4.07	4.18	0,0489**
Q28_07	3.30	3.45	0.0147**	3.37	3.55	0.0444**	3.97	3.97	0.4855	3.82	3.96	0,0239**
Q28_08	2.51	2.51	0.4905	2.73	2.71	0.4186	3.01	3.04	0.3636	2.58	2.42	0,0324**
Q28_09	3.34	3.10	0.0005***	3.00	3.03	0.3441	3.68	3.42	0.0001***	3.50	3.26	0,0005***
Q28_12	3.33	3.45	0.0207**	2.86	2.93	0.2024	3.46	3.46	0.4845	3.38	3.39	0,4590
Q28_13	3.36	3.71	0.0000***	2.95	3.29	0.0007***	3.83	3.94	0.0240**	3.72	3.87	0,0068***
Q28_14	3.68	3.63	0.2471	3.52	3.71	0.0410**	3.84	3.58	0.0002***	3.68	3.28	0,0000***
Q28_15	3.92	3.99	0.1404	3.32	3.75	0.0000***	4.05	3.95	0.0394**	3.70	3.83	0,0354**
Q28_16	3.47	3.65	0.0098***	3.33	3.31	0.4381	3.96	3.98	0.4262	3.67	3.63	0,2832

Source: Authors' results. * indicates significance level at 0.10 level, ** indicates significance level at 0.05 level, *** indicates significance level at 0.01 level. P-values are for one-sided test for two means.

What appears to be another character trait possibly differentiating respondents from Group 1 and Group 2 is the attitude towards spending money. With a view to testing this assumption, responses to questions Q28_01, Q28_02, Q28_03, Q28_04, Q13, Q23 and M05 were analyzed. Questions Q28_01, Q28_02, Q28_03, Q28_04 related to planning and doing shopping. Considering each country, there were no major differences between the groups in terms of planning shopping. Apart from Spain, there were no considerable differences in the distribution of answers to the question about unplanned shopping [Q28_02]. With respect to the means, differences occurred in Spain where respondents from Group 2 rated themselves higher than those from Group 1. The analysis of the scores from the question about buying unnecessary things on an impulse [Q28_03] did not give a clear answer. The only significant difference in the answer distributions occurred once again only for Spain, where, in turn, the means did not differ significantly. In Italy and Romania the distributions could be considered to be the same, while the means showed differences. Significant differences, on the other hand, were found in all the countries in terms of buying things which respondents could not afford. In this case, the distributions of answers differed between the groups across all the countries, whereby respondents from Group 1 were always more likely to admit doing this kind of shopping. This, however, may result not so much from the attitude towards shopping as from financial limitations, which we are unable to determine drawing on the data we have. Since questions Q13, Q23 and M05 gave answers of a non-measurable type, in order to analyze the results, the percentage of respondents providing a particular answer was calculated and tests were carried out for two structure indicators in that the percentages obtained were compared with the same answer between Groups 1 and 2. The frequency of the individual answers to questions Q13, Q23 and M05 is shown, respectively in Tables 4, 5 and 6. In Poland, Romania and Italy respondents who had never been

in arrears were significantly less likely to add the finder's fee to their current consumption, in Poland respondents from Group 2 would be more likely to use this money for themselves. In Italy, respondents from Group 2 were more likely to save the finder's fee for a rainy day, while in Romania it was respondents from Group 1 who were more likely to do so. Looking at the overall distribution of answers to question Q13, one can, however, notice that only in Romania the distributions did not differ between Group 1 and 2, whereas the differences produced in the remainder of the countries were significant. The way respondents organized cash for holiday travel [Q23] also differed between the groups in Poland, Spain and Italy (taking into account the differences across the distributions of answers). The percentages of respondents who would save money for holiday over the entire year did not differ significantly. In Poland respondents from Group 2 were more likely to save money on holiday for several months, while in Italy from Group 1. In all the countries respondents from Group 1 were more likely to take a spontaneous holiday loan. In the majority of the countries respondents from Group 2 were more likely to finance holidays by their current expenses. Apart from Italy, no significant differences were found between the distributions of answers to the question what respondents do with their salary/retirement/invalidity pension [M05]. Looking at each answer one can observe that Poles from Group 2 first put some money as ideas savings, while in Spain it was respondents from Group 1. Italians from Group 1 were more likely to plan their spending to cover the whole month before next payment arrives, being less likely to think how they would spend their money and whether it would be enough for everything. Poles from Group 1 were more likely to put money aside to pay the bills, which once again was conversely to Spain, where this answer was more likely to occur in Group 2. The answers provided to question Q28_15 also showed to some extent respondents' attitude towards money, although not in terms of spending but borrowing it. Also with respect to this question, there were differences in the answer distributions in three countries – Poland, Spain and Italy. The Spanish and Italians from Group 2 on average reported that while borrowing money they sought to make this amount as small as possible, whereas in Romania it was respondents from Group 1 who were more keen on the smallest amount possible.

Table 4

The percentage of answers of the given number in question Q13 by groups and countries

Answer code	Country											
	Poland			Spain			Romania			Italy		
	% G1	% G2	pone-sided	% G1	% G2	pone-sided	% G1	% G2	pone-sided	% G1	% G2	pone-sided
1	43	30	0.0000***	47	49	0.2883	29	25	0.0865*	54	44	0.0012***
2	8	8	0.4578	6	7	0.4036	9	10	0.2509	10	8	0.1125
3	13	20	0.0015***	12	15	0.1348	20	21	0.3060	14	15	0.4091
4	14	16	0.1299	22	19	0.1235	12	9	0.0813*	17	23	0.0239**
5	4	6	0.1110	8	3	0.0034***	15	15	0.4880	3	9	0.0005***
6	16	19	0.0550*	2	3	0.1998	10	12	0.1801	1	2	0.1790
7	2	1	0.0983*	3	4	0.1966	5	7	0.0870*	0	1	0.0410**

Source: Authors' results. * indicates significance level at 0.10 level, ** indicates significance level at 0.05 level, *** indicates significance level at 0.01 level. P-values are for one-sided test for two proportions.

Table 5

The percentage of answers of a given number in question Q23 by groups and countries

Answer code	Country											
	Poland			Spain			Romania			Italy		
	% G1	% G2	p one-sided	% G1	% G2	p one-sided	% G1	% G2	p one-sided	% G1	% G2	p one-sided
1	31	30	0.3765	39	42	0.2485	30	31	0.4175	40	39	0.3269
2	17	22	0.0203**	19	17	0.2233	42	45	0.1580	24	18	0.0132**
3	2	1	0.0983*	5	1	0.0001***	4	2	0.0079***	4	0	0.0021***
4	1	1	0.369	7	1	0.0000***	2	2	0.3960	2	1	0.0000***
5	18	23	0.0226**	17	29	0.0002***	8	9	0.3450	14	28	0.0079***
6	31	24	0.0022***	12	10	0.1690	14	11	0.1212	15	15	0.4722

Source: Authors' results. * indicates significance level at 0.10 level, ** indicates significance level at 0.05 level, *** indicates significance level at 0.01 level. P-values are for one-sided test for two proportions.

Table 6

The percentage of answers of a given number in question M05 by groups and countries

Answer code	Country											
	Poland			Spain			Romania			Italy		
	% G1	% G2	p one-sided	% G1	% G2	p one-sided	% G1	% G2	p one-sided	% G1	% G2	p one-sided
1	60	56	0.0717*	42	49	0.033956**	32	30	0.3227	38	38	0.4204
2	4	7	0.0063***	23	18	0.078566*	12	12	0.4108	13	15	0.1731
3	26	26	0.4738	24	21	0.150375	43	45	0.3175	41	32	0.0073***
4	8	8	0.5000	11	9	0.273643	12	12	0.4672	8	13	0.0075***
5	2	2	0.1947	0	2	0.034733**	2	1	0.1210	1	1	0.4972

Source: Authors' results. * indicates significance level at 0.10 level, ** indicates significance level at 0.05 level, *** indicates significance level at 0.01 level. P-values are for one-sided test for two proportions

For rating optimism and how respondents perceive the future, the answers to questions Q28_08, Q28_09, Q28_14 and Q10 were analyzed. The distributions of answers to question Q28_08 differed in Spain and Italy, while only in Italy respondents from Group 1 were more frequent to report never worrying about their future. In all the countries significant differences existed in the distributions of answers to the question whether respondents worried constantly about the future [Q28_09]. In all the countries, apart from Spain, on average respondents from Group 1 were more concerned about the future. Likewise, in all the countries there were differences in the distributions of answers to question Q28_14. In Spain respondents from Group 2 worried more about paying up the loan, in Romania and Italy it was the other way round. Without Italy, in the remainder of the countries there were differences in the distributions of answers to the question about the financial future [Q10]. Table 7 presents the percentages of answers to this question. Regardless of the country, respondents who believed that their situation would get worse were in minority. With the exception of Italy, respondents from Group 1 believed that their financial situation would improve. In this country respondents from this group were more likely to think that their situation would get worse. In all the countries, respondents from Group 2 were more likely to believe that their situation would not change.

Respondents' honesty was assessed based on the answers to questions Q12 and Q16. For these two questions the distributions of answers differed significantly between the groups across all the countries. The distributions of answers to these questions are demonstrated in Tables 8 and 9. In all the countries examined, respondents from Group 2 were more likely to give the money back to the Police [Q12]. One should, however, refrain from prejudging whether this is brought about by respondent's innate honesty or

by his/her current life situation given that in all the countries respondents from Group 1 were more likely to add the money found to their daily consumption. Respondents also rated the behavior of people who evaded paying their debt [Q16]. In all the countries respondents from Group 2 were more likely to judge people evading debt payments as frauds. Apart from Poland, in the other countries respondents from Group 1 were more likely to consider persons who manage to evade payments to be clever and resourceful.

Table 7

The percentage of answers of a given number in question Q10, by groups and countries

Answer code	Country											
	Poland			Spain			Romania			Italy		
	% G1	% G2	pone-sided	% G1	% G2	pone-sided	% G1	% G2	pone-sided	% G1	% G2	pone-sided
1	55	46	0.0009***	47	38	0.0108**	61	52	0.0056***	36	35	0.3836
2	33	41.5	0.0012***	40	51	0.0029***	26	38	0.0002***	49	54	0.0783*
3	12	12.5	0.3958	13	11	0.2162	13	10	0.0894*	15	11	0.0461**

Source: Authors' results. * indicates significance level at 0.10 level, ** indicates significance level at 0.05 level, *** indicates significance level at 0.01 level. P-values are for one-sided test for two proportions

Table 8

The percentage of answers of a given number in question Q12 by groups and countries.

Answer code	Country											
	Poland			Spain			Romania			Italy		
	% G1	% G2	pone-sided	% G1	% G2	pone-sided	% G1	% G2	pone-sided	% G1	% G2	pone-sided
1	12	7	0.0009***	28	18	0.0012***	11	5	0.0005***	36	17	0.0000***
2	1	1	0.5000	3	1	0.1051	3	1	0.0432**	4	3	0.1671
3	4	3	0.1730	4	3	0.3737	4	5	0.3141	8	7	0.2558
4	10	7	0.0736*	18	14	0.0778*	4	5	0.2688	18	20	0.2526
5	4	6	0.0277**	5	2	0.0373**	10	8	0.1427	1	5	0.0007***
6	39	47	0.0012***	30	41	0.0024***	55	63	0.0198**	18	29	0.0003***
7	30	28	0.2422	3	2	0.2855	12	13	0.3863	14	19	0.0324**
8	2	1	0.1411	10	18	0.0037***	1	2	0.4395	1	2	0.1206

Source: Authors' results. * indicates significance level at 0.10 level, ** indicates significance level at 0.05 level, *** indicates significance level at 0.01 level. P-values are for one-sided test for two proportions.

Table 9

The percentage of answers of a given number in question Q16 by groups and countries

Answer code	Country											
	Poland			Spain			Romania			Italy		
	% G1	% G2	p one-sided	% G1	% G2	p one-sided	% G1	% G2	p one-sided	% G1	% G2	p one-sided
1	11.8	10.3	0.2036	10	6	0.0272**	11	8	0.0707*	26	15	0.0001***
2	73.2	61	0.0000***	57	53	0.1628	68	62	0.0399**	43	31	0.0002***
3	15	28.7	0.0000***	33	41	0.0223**	22	30	0.0060***	31	54	0.00000***

Source: Authors' results. * indicates significance level at 0.10 level, ** indicates significance level at 0.05 level, *** indicates significance level at 0.01 level. P-values are for one-sided test for two proportions

Analyzing the answers to questions Q28_12 and Q28_13 one can determine whether respondents rate differently their financial knowledge and skills. The distributions of answers to question Q28_12 failed to differ significantly between the groups in any country. The differences, on the other hand, were

found in the distributions to question Q28_13 across all the countries, with the exception of Romania. Poles from Group 2 gave a higher rating to their financial skills. Respondents from Group 2 in all the countries rated themselves better in terms of managing their household budget.

5. CONCLUSIONS

The aim of the paper was to identify personality traits of debtors in various European countries and to compare the incidence of those traits between the groups analyzed across different countries, i.e. between a group of debtors and a group of individuals who have never had difficulty in fulfilling their financial obligations. The personal characteristics examined included conscientiousness, optimism, honesty, attitude towards money and spending money, as well as financial skills. Summing up the survey, one can conclude that the hypothesis has been confirmed as to the existence of the relationship between certain personality traits and falling into debt arrears. What has also been proven true is that these traits are not always associated with running up debt in the same way in different countries.

It has been demonstrated that the personal characteristic differentiating the two groups of respondents in most of the countries in question are dutifulness or conscientiousness, whereby it is the respondents who never have overdue debt who rate themselves higher in this respect. It seems that the finding may reflect what Brown and Taylor (2014) have demonstrated by observing that conscientiousness is negatively correlated with the level of debt. Differences have also been found in the attitude towards money management. It can be observed that on average persons who have ever been in arrears are more prone to incurring further debt and strive less to borrow as little as possible. Unlike the research carried out in Germany (Achtziger et al. 2015), in Poland and in Spain no observation has been made that debtors are more prone to compulsive shopping; however, this kind of relationship was found to occur for Romania and Italy. Interpreting the results produced regarding respondents' optimism may raise some difficulty. On the one hand, respondents who have ever been in arrears on average share a stronger belief that their financial situation will improve, yet on the other hand, they tend to worry more about the future. Meanwhile, differences can certainly be observed between the groups in terms of the level of honesty which respondents declare. Respondents who have never been in arrears are more likely, whatever the country, to be characterized by the attitudes suggesting honesty. Not unlike the observation made by Avril et al. (2010), in this paper, too, a relationship occurred based on the answers analyzed between how one rates one's financial skills and one's tendency to have overdue debt.

As already demonstrated in the paper, the direction of dependency between personal characteristics and tendency to fall into arrears was not always the same across all the countries. Unfortunately no regularity could be found in these differences. Sometimes the relationship between the character traits was positive in one country, yet in another it was missing. Still, if a particular character trait differentiated debtors from debt-free respondents, then this regularity occurred in most countries. Differences between countries in terms of personality traits characterizing debtors and non-debtors should not surprise anyone. People raised for example in Poland have lived different history than those in Spain and older of them grew up in different economic systems. The culture of borrowing as well as subjective discount rates (Wang et al. 2009) vary between countries.

It should be noted that although studies have been conducted in the past on incurring and paying debt understood as debt arrears, in general they do not cover such a range of personality traits across such a numerous group of countries. This should be recognized as a significant contribution to research on creating debt.

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ATTACHMENT

Question symbol	Question and answers
Q28	To what extent do you agree with the following statements? Single Answer per row. 1–Completely Disagree; 5–Completely Agree
Q28_01	Going to shopping is planning ahead what I will buy
Q28_02	I only come back from shopping with what I planned to buy
Q28_03	It occurs that I would buy out of impulse a thing that I don't need
Q28_04	I cannot stop myself and sometimes I buy things that I cannot afford
Q28_05	At work, I always meet deadlines
Q28_06	I never neglect my duties
Q28_07	I've always been doing homework at school
Q28_08	I never worry about the future, because it will always be somehow
Q28_09	I am worried about the future all the time
Q28_12	I think that I'm good at financial matters
Q28_13	I manage my household budget well
Q28_14	When I take out a loan I always worry if I can pay it back
Q28_15	When borrowing I try to make the loan amount as small as possible
Q28_16	When a bank employee gives me a contract to sign, I read it all very carefully
Q10	How do you think the financial situation of your household will look like over the next few years (Single Answer) 1 – It will improve; 2 – It will not change; 3 – It will worsen)
Q12	If he found an envelope with (sum of money) on a park bench, what would he (a) do with this money? 1–I would add to my household budget for current consumption 2–I would buy a gift for someone 3–I would use it for myself 4–I would put aside for rainy days 5–I would donate to charity 6–I would give them to the police 7–I do not know, it's hard to say 8–Other
Q13	And if you received from someone (sum of money) for returning their lost wallet, what would you do with this money? 1–I would add to my household budget for current consumption 2–I would buy a gift for someone 3–I would use it for myself 4–I would put aside for rainy days 5–I would donate to charity 6–I do not know, it's hard to say 7–Other
Q16	With which opinion you agree about people who evade their obligations (credit, loans) 1–If they succeed, it means they are smart, resourceful 2–They do wrong, but maybe they have some reasons 3–They are cheaters and should be punished severely
Q23	Please, indicate the answer in line with your procedure - for holidays 1–I save all year long 2–I save for a few months 3–I take a spontaneous loan from an institution 4–I borrow from my family / friends

	5–I finance holidays with current expenses 6–Not applicable - I do not go on holiday
M05	After receiving the remuneration / retirement / pension 1–First, I put money away for the fees, and the rest I can freely dispose of 2–First, I save the part for savings, I spend the rest freely 3–I plan to spend the whole month to make up for the next payment 4–I do not think about how I will spend the money and whether it will be enough for everything 5–I act differently