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The Global Financial Crisis and the Values of Professionals in Finance: An Empirical Analysis

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Abstract The idea that the ethical values of professionals in finance (PIFs) (e.g., stockbrokers and fund managers) have played a role in the global financial crisis (GFC) is widespread. The crisis-of-ethics debate is important, concerning one of the main policy challenges of our times, but is based on popular lore and anecdotes rather than systematic evidence. We analyze the self-enhancement and self-transcendence values of PIFs vis-à-vis the general population and test for patterns of variation that are consistent with the idea of a crisis of values, meaning patterns of variation that would implicate PIFs' values in the GFC. Employing pre-crisis data allows for an unbiased assessment. Results reveal only minor differences in values between PIFs and the general population, too small to support the idea of a crisis of ethical values by objective standards. Extensive robustness checks confirm these findings, sometimes actually revealing values differences counter to the crisis of ethical values idea. We conclude that the financial system would not have fared better had we had a different breed of PIFs. Rather, situational forces can induce severe disregard for the welfare of others, also in people with ordinary, decent values. Hence, if anything, the GFC shows that the financial services industry has been providing an environment highly conducive to unethical behavior. The practical implication is that fixes to the financial system can only come from improved regulatory design.

Keywords Crisis of ethical values · Effect size · Financial system · Global financial crisis · Personal values · Situationist ethics · Schwartz

Introduction

We empirically analyze the values of professionals in finance (PIFs) (e.g., stockbrokers and fund managers), seeking to assess the role that these values might have played in the global financial crisis (GFC). Specifically, we look for systematic values differences between PIFs and the general population that would implicate the former in the GFC and support the idea that the financial system would have fared better had we had a different breed of financial services professionals.

More than half a decade on, the financial meltdown that hit countries all over the globe still keeps a lot of people in dire straits. Many consider this crisis to be, more than anything else, a crisis of values, meaning that the values of PIFs are at least partly to blame for the financial turmoil of recent years. In 2010, the World Economic Forum conducted a poll reaching over 130,000 respondents (World Economic Forum 2010). Of the respondents, 68 % agreed that the GFC is “also a crisis of ethics and values,” while only 19 % did not. Many professional commentators, not to mention politicians, similarly find that the GFC has “ethic proportions” (e.g., Bogle 2009; Jenkins and Jones 2009; Madrick 2010), as do investigative committees, seating Nobel laureates, and other renowned experts (Financial Crisis Inquiry Commission 2011; Stiglitz and Members of a UN Commission of Financial Experts 2010). Academic scholars have also weighed in, with various studies discussing the GFC and the role of ethics and values therein (e.g., Boddy 2011; Curtis et al. 2013; Donaldson 2012; Graafland and van de Ven 2011; Jin et al. 2013).

Our concern here is that the important debate on the ethics or values of PIFs as an important ailment of the financial system is being conducted on an exceedingly weak evidentiary basis. Improving the financial system is

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one of the main policy challenges of our times. Fundamentally, malfeasances by PIFs (Madrack 2010; Friedman 2011)—e.g., withholding information to pursue personal gain with extreme disregard for the welfare of others—cannot implicate PIFs' values in the GFC, however, as they do not indicate that ordinary people would behave more “ethically” under the same circumstances. Furthermore, the systematic evidence that has been brought forward to support the idea of a crisis of ethical values has turned out to be unfounded, notably, newspaper reports of psychopaths ruling Wall Street (Huffington Post 2012; Hare 2012). In principle, the financial system could actually be in worse shape today had it been run by people randomly drawn from the general population.

Background and Hypotheses

We are interested in the personal values of PIFs, which we compare to the values of the general population to see whether the patterns of variation that we find support the idea that PIFs' values have played a role in the GFC. Values concern desired end states that transcend specific situations and provide the basis for judging and evaluation, directing people in selecting between alternative courses of action (Schwartz 1992, p. 5). Values are more fundamental than, for instance, greed as being greedy is an instrument to achieving desired end states. As principle guidelines that shape individuals' behavior, the importance of values for social science and people and societies in general has long been recognized (Hitlin and Piliavin 2004; Meglino and Ravlin 1998; Rohan 2000).

The idea of studying the values of PIFs is not new. The global association of investment professionals (the Chartered Financial Analysts institute or CFA) has, on different occasions, commissioned survey studies of ethics in the investment profession (e.g., Veit and Murphy 1992). These studies did not compare the values of PIFs to the values of the general population nor to the values of other occupations, however. More in line with the present research, in the past, various studies have actually compared the values of selected professions. The most relevant of these did not compare PIFs with other people or occupations but considered other interesting groups, for instance managers vis-à-vis business owners, manual workers, and farm laborers (Inkeles 1960) or managers vis-à-vis research scientists (Tagiuri 1965). More similar in spirit to our analysis is the large body of work on the effect of studying economics or business on individuals' values. Typically, these studies are rather critical of economics and business education, finding that students in these fields care less about fairness and more about personal gain than does the general population, although there are strong selection effects (Carter and Irons

1991; Frank et al. 1993, 1996; Marglin 2008; Marwell and Ames 1981). Finally, Chen (2013) compares the willingness of managers versus non-managers to justify ethically suspect behaviors. As is, there is no empirical evidence on differences in values between PIFs and the general population that sheds light on the idea of a crisis of ethical values.

Before developing our hypotheses, we should clarify that we cannot perform our analysis by looking at just any personal value. Rather, we need to consider a specific set of values, namely those values that are plausibly linked to the sort of unethical behavior that has been associated with the GFC, e.g., misleading clients for personal gain. To help our selection of relevant values, we draw on the framework of universal human values developed by Schwartz and collaborators (Schwartz 1992; Schwartz and Bilsky 1987, 1990), which is the standard values framework in psychology. A key feature of this framework is that it is designed to cover the complete spectrum of human motivations, which, in our view, makes it more appropriate for studying the ethical values of PIFs than other frameworks that might focus on the idea of ethical dispositions more narrowly. Concretely, we find that the Schwartz framework indeed covers motivations that match the observed malfeasances of PIFs. Specifically, we find that Schwartz's self-enhancement values which mean the enhancement of a person's own personal interests (at the expense of others), and Schwartz's self-transcendence values, which mean the transcending of one's selfish concerns and the promotion of the welfare of others, are exactly the types of values that would be implicated in the GFC.¹

Popular lore notwithstanding, theoretical expectations concerning the nature of differences in these values between PIFs and the general population are actually ambiguous. To start, the idea of a crisis of ethical values provides us with two hypotheses (H1a and H1b) concerning the values of PIFs:

Hypothesis 1a Compared to the general population, PIFs attach substantially more value to self-enhancement, meaning material wealth, status, et cetera.

Hypothesis 1b Compared to the general population, PIFs attach substantially less value to self-transcendence,

¹ Still, while we think that these values and the Schwartz framework are most appropriate for the purpose of assessing the ethical values of PIFs, we are also the first to recognize that the assessment of the appropriateness of any specific value or values framework remains necessarily subjective. To deal with this contingency, when checking the robustness of our main results, we also consider differences between PIFs and the general population in other dispositional domains. In addition, where possible, we link Schwartz's self-enhancement and self-transcendence values to other measures plausibly capturing individuals' ethical dispositions.

meaning, *inter alia*, helping others, and a concern for fairness and general well-being.

Situationist ethics, finding that circumstances can drive people toward extreme behavior, offers an opposing view. Most famously, Milgram's experiments on obedience (Milgram 1963) and the Stanford prison experiment by Zimbardo and collaborators (Haney et al. 1973; Zimbardo 2014) have shown that situational forces can induce severe disregard for the welfare of others, also in people with ordinary, decent values.² Even when malfeasances are ubiquitous, there need not be anything special about the values of PIFs. Our empirical analysis of the values of PIFs vis-à-vis the general population considers this theoretical ambiguity. We do so by not only testing H1a and H1b but by also providing an explicit test of the corresponding null hypotheses (H0a and H0b) of no significant values differences between PIFs and the general population. How exactly we go about this testing is discussed in the next section, which presents our empirical approach.

Empirical Approach

Data

Human Values

To bring our hypotheses to the data, we operationalize the framework of universal human values using the Portrait Values Questionnaire developed by Schwartz and collaborators (Schwartz et al. 2001). Schwartz's framework of revolves around ten basic value constructs, which matches the spectrum of human motivations that we mentioned above. These basic values are placed in a circle (often referred to as a circumplex) where adjacent values are seen as being compatible, while values that are not compatible are placed opposite each other (Fig. 1).

For our analysis, we utilize the basic values of Power, Achievement, Universalism, and Benevolence. These four basic values feed into the two higher order subdimensions that we already mentioned, self-enhancement (power and achievement) and self-transcendence (benevolence and universalism). Self-enhancement and self-transcendence, in turn, form one of the two main values dimensions in the Schwartz framework, namely self-enhancement versus

Fig. 1 The framework of universal human values. *Notes:* values included in the empirical analysis are in bold. Plusses and minuses indicate hypothesized differences between PIFs and the general population (H1a & H1b), with PIFs scoring higher (+) or lower (-) on the selected values

self-transcendence (SEST) (Fig. 1). We test our hypotheses using individuals' scores on both the four basic values and on the Self-Enhancement, Self-Transcendence, and SEST values, for a total of seven dependent variables. The description of the basic values is that Power refers to social status and prestige, control, or dominance over people and resources; Achievement refers to personal success through demonstrating competence according to social standards; Universalism refers to understanding, appreciation, tolerance, and protection for the welfare of all people and for nature; and Benevolence refers to preservation and enhancement of the welfare of people with whom one is in frequent personal contact (Schwartz et al. 2001).

The Portrait Values Questionnaire consists of 21 items all in the same format and using a Likert-type answer scale that ranges from 1 to 6. A potential issue with the items in the Portrait Values Questionnaire is that certain respondents may systematically understate or overstate their values, for instance, because they focus on only one end of the answer scale. If we interpret these ratings as a direct reflection of their values, we would discover that among these respondents, some people attach little value to everything, while others have great appreciation of just about everything. We follow the recoding protocol developed by Schwartz (n.d.), as available from the website of the ESS, and correct for response artifacts such as these through so-called ipsatization, meaning that, for each item in the questionnaire, we subtract the individual's mean

² The situational forces that affect behavior are broad and carry substantial power in the opposite direction as well, leading people to care for others. An example is the study by Isen and Levin (1972), which examines the effect of positive mood on behavior. In their experiment, finding a dime in the coin return of a public telephone while making a call increased the percentage of people who spontaneously helped to pick up papers that were dropped in front of them from 4 % (1 out of 25) to 87.5 % (14 out of 16).

score on all values items combined.³ This way, we obtain standardized values measures with scores indicating how important a particular value is relative to the person's other values. If an individual scores above zero on one basic value, it indicates that, on average, this value is given more priority than the other basic values. In the event of a negative score, the opposite holds true, and the value is given comparatively less priority than the other basic values. We have applied this recoding protocol to all our values measures, not only those concerning basic values but also those concerning self-enhancement, self-transcendence, and SEST values. Self-enhancement and self-transcendence scores, then, are constructed by adding the ipsatized scores on Power and Achievement and on benevolence and universalism respectively. Similarly, SEST scores are constructed by subtracting an individual's Self-Enhancement score thus obtained from his/her Self-transcendence score thus obtained.⁴ In our analyses, we consider only individuals with non-missing data on the seven values measures of interest (self-enhancement, power, achievement, self-transcendence, Universalism, Benevolence, and SEST).

The framework of human values by Schwartz has been widely validated.⁵ Moreover, evidence shows that the (basic) values that we consider are indeed related to ethical behavior of the kind implicated in the GFC. Schwartz (1996), for example, studies interpersonal cooperation in a laboratory setting and reports that benevolence and universalism correlate most strongly positively with cooperative behavior, while Power and Achievement correlate most strongly negatively with this type of behavior. Similarly, Caprara et al. (2012) report that self-transcendence is the strongest correlate of prosocial behavior such as sharing, helping and taking care of others' needs, much

stronger than openness-to-change, self-enhancement, and conservation. Schwartz (2009) reviews the evidence, reporting further correlations between (power, achievement, and self-enhancement) values and such actions as delinquency and shoplifting.

Data Collection

In designing our research, we encountered a significant challenge. Crisis-of-ethics stories have become so common that we cannot reasonably expect post-GFC measures of PIFs values to be unbiased. This problem rules out simply conducting behavioral experiments to assess how PIFs behave more or less ethically than do samples of people drawn randomly from the population. In fact, any systematic attempt to compare the values of PIFs and the general population in the wake of the GFC faces extreme difficulties in making sure that the data obtained are unbiased. We discovered a solution in employing values survey data collected before the beginning of the GFC, in the period 2002–2006. These data have been collected as part of the European Social Survey or ESS (Jowell and Central Co-ordinating Team Jowell 2007) and provide us with complete values measures for 120,668 respondents, representing populations from 29 countries and covering over 150 nationalities. The ESS values data have also been widely validated (e.g., Bilsky et al. 2011; Davidov et al. 2008). The website of the ESS, <http://www.europeansocialsurvey.org>, provides more information about the survey and the dataset. Table 11 in the appendix presents the countries in our sample and the number of respondents from these countries.

Classification of Professionals in Finance (PIFs)

To classify individuals as PIF or not, we use detailed data on occupation as measured through four-digit codes from the International Standard Classification of Occupations (ISCO).⁶ We apply restrictive criteria, classifying only actual professionals and people higher-up on the corporate ladder as PIFs and not support staff. The four occupational categories that we classify as belonging to the financial services industry are (i) Finance and sales associate professionals (ISCO 3410), (ii) Securities and finance dealers and brokers (ISCO 3411), (iii) Business services agents and trade brokers (ISCO 3420), and (iv) trade brokers (ISCO 3421). We have 414 individuals classified as PIF in our sample (and, accordingly, 120,254 individuals classified as non-PIFs in our sample).

³ See Schwartz (n.d.) and <http://essedunet.nsd.uib.no/cms/topics/1/4/4.html>, which provides SPSS syntax to make the necessary calculations.

⁴ The recoding protocol provided on the ESS website (<http://essedunet.nsd.uib.no/cms/topics/1/4/4.html>) actually does not say anything about the ipsatization of the four higher order subdimensions and the two overarching values dimensions. Moreover, the only SPSS syntax provided for these dimensions calculates non-ipsatized values measures. Hence, to be complete and to ensure comparability of our work to other work that may have followed this protocol to the letter, we also present results on differences between PIFs and the general population on measures of self-enhancement, self-transcendence, and SEST values that have been calculated without ipsatization. In this case, Self-Enhancement and Self-Transcendence scores are constructed as means of raw value item scores, while SEST scores are obtained by subtracting an individual's Self-Enhancement score from his/her self-transcendence score.

⁵ Schwartz's values framework is also regularly used in business studies. An example most similar in spirit to our analysis is Lan et al.'s (2009) comparison of the personal values of accounting practitioners with those of students.

⁶ ISCO codes have been developed by the *International Labour Organisation* (ILO). See <http://www.ilo.org/public/english/bureau/stat/isco/intro.htm> for more information.

The available ISCO codes refer to the ISCO-88 framework (currently succeeded by ISCO-08). The ISCO codes 3410 and 3420 included in the ESS are not officially included in the ISCO-88 framework. The class of Finance and sales associate professionals and of Business services agents and trade brokers are included in ISCO-88, however, referred to by three-digit ISCO codes: ISCO 341 and ISCO 342. The higher order rubrics related to the four ISCO codes are ISCO 34 (Other associate professionals) and ISCO 3 (technicians and associate professionals). ISCO codes pertaining to the financial services industry that we do not classify as PIFs include Finance clerks (ISCO 4122) and Bank tellers (ISCO 4212) as these do not concern *professionals* in the financial services industry.⁷

Other Variables Used in the Statistical Analyses

To check the robustness of some of our results and to extent our main analysis, we also consider some additional measures of individuals' characteristics. These are either available from the ESS dataset or can be obtained using data from the ESS. The first additional variable that we consider indicates whether a person is a manager, yes (1) or no (0). A second dummy variable is sex (0/1), where we assign the score of 1 to males. A third dummy variable concerns age, whether a person is below (1, younger) or above (0, older) the mean age in the sample. Both sex and age are important control variables in some of our analyses, where we do not consider the young–old dummy but individuals' actual age. A further important control variable is social status. We construct a measure of social status by combining the rank of a person's income in the country in which he or she lives with the rank of the same respondent's occupational status, also in the country of residence. The ESS questions respondents about their household's total net income. We calculate rank income as the percentage of respondents from the same country scoring lower on this income scale. Occupational status refers to the prestige of one's job. It is based on Ganzeboom and Treiman's (1996) sorting of ISCO-88 codes into the International Socio-Economic Index of Occupational Status (ISEI). ISEI scores range from 16 (e.g., Farmhand) to 90 (Judge). As with income, we calculate occupational status rank as the percentage of respondents from the same country with lower ISEI scores. The reason for examining rank and not the absolute scores is that social status is based on one's position in society and, therefore, has a strong hierarchical component. We apply factor analysis to the two percentile scores to deduce the measure of social

status (factor loadings are equal to 0.819). The last control variable that we add to some of our analyses concerns a respondent's country, where we assign the value of 1 if the respondent lives in a certain country and 0 otherwise. Meanwhile, the final variable that we create is again a dummy variable, which we call Low SEST. For this variable, we assign respondents a score of 1 when their SEST score is more than one standard deviation below the mean of the sample and assign a score of 0 otherwise.

Compared to the complete sample, PIFs are more likely to be managers (39.8 vs. 30.0 %) and have higher mean social status (0.872 vs. 0 with SD = 1). These differences are consistent with our sample of individuals employed in the financial services industry consisting of professionals and people higher-up in the corporate hierarchy and not of support staff such as clerks. Complete descriptive statistics for all variables in our analysis are available on request.

Method

We statistically test H1a and H1b using a *t* test with robust procedures (bootstrapped with 1,000 repetitions). As probability theory does not allow one to accept a null hypothesis, we test hypotheses H0a and H0b using an analysis of effect sizes instead (Cohen 1988). This analysis involves applying objective standards to test for the (non-)triviality of values differences between PIFs and the general population. In addition to comparing means, we also use regression analysis when assessing the robustness of our results. Notably, we estimate several models with individuals' values as the dependent variable and a dummy variable indicating whether the individual is a PIF and several control variables as independent variables (see above).

The standard measure of effect size in a comparison of means is Cohen's *d*, which is calculated by dividing the difference in the means of two samples by the pooled variance of these two samples (Cohen 1988). Cohen's *d* is not only widely used, but also has established criteria for judging the (non-)triviality of any found effect. The classification of effect sizes is as follows: a "small" effect requires $d > 0.2$; a "moderate" effect requires $d > 0.5$; and a "large" effect requires $d > 0.8$ (Cohen 1988).

Our data are not normally distributed. Therefore, we cannot make direct use of Cohen's *d* as this measure only applies to normally distributed data (Cohen 1988). We use a two-step procedure instead. First, we calculate the probabilistic superiority measure which is an alternative to Cohen's *d* for non-normal data (Grissom 1994). Probabilistic Superiority denotes the probability that a randomly sampled score from one population outranks a randomly sampled score from another population. Transformations of how Probabilistic Superiority relates to Cohen's *d* are given in Grissom (1994). In the second step, we employ

⁷ The higher order rubrics for these two latter occupational categories are Clerks (ISCO 4) and Office clerks (ISCO 41) and Customer services clerks (ISCO 42).

Table 1 Values differences between professionals in finance (PIFs) and the general population

Value	Mean for PIFs ($n_F = 414$)	Mean for general population ($n_{GP} = 120, 254$)	Difference PIFs versus general population	Probabilistic superiority of general population (%)	η^2 (%)
SEST	1.166	1.276	-0.110 ± 0.055 (0.0519)	52.40	0.0033
[-5, +5]	{1.111}	{1.121}			
Self-enhancement	-0.578	-0.654	0.076 ± 0.037 (0.0460)	47.21	0.0037
[-3.810, 3.250]	{0.749}	{0.733}			
Power	-0.802	-0.865	0.063 ± 0.041 (0.1369)	47.56	0.0017
[-4.333, 3.3]	{0.863}	{0.892}			
Achievement	-0.355	-0.443	0.088 ± 0.047 (0.0639)	47.52	0.0030
[-4.176, 3.25]	{0.954}	{0.936}			
Self-transcendence	0.587	0.622	-0.034 ± 0.026 (0.1918)	51.52	0.0015
[-2.778, 2.952]	{0.503}	{0.524}			
Universalism	0.547	0.585	-0.038 ± 0.032 (0.2388)	51.58	0.0012
[-3.278, 3.75]	{0.650}	{0.641}			
Benevolence	0.628	0.659	-0.031 ± 0.030 (0.3077)	51.69	0.0007
[-3.6, 3.476]	{0.611}	{0.659}			

Differences in means are followed by robust standard errors (bootstrapped with 1,000 repetitions), which are indicated with $\pm$. Two-tailed p values for t test are given in parentheses. Robust standard deviations are given in accolades. Sample minimums and maximums are given in square brackets. For the subdimensions and basic values, higher scores imply a higher priority for this value. A PS score of 47.21 % (52.79 %), the highest effect size found, implies a Cohen's d of almost 0.10, well below the threshold for a small effect (Grissom 1994). Table 12 in the appendix presents results for non-ipsatized measures of self-enhancement, self-transcendence, and SEST values (see Note 4)

these transformations to derive Cohen's d and apply the known criteria for effect size for this measure. Mappings of standard cut-off points for small, moderate, and large effect sizes measured in Cohen's d onto Probabilistic Superiority scores are as follows (Cohen 1988; Grissom 1994):

- No effect ($d = 0$): probabilistic superiority = 50 %;
- Small effect ($d > 0.2$): probabilistic superiority > 55.62 % or probabilistic superiority < 44.38 %;
- Moderate effect ($d > 0.5$): probabilistic superiority > 63.82 % or probabilistic superiority < 36.18 %;
- Large effect ($d > 0.8$): Probabilistic Superiority > 71.42 % or Probabilistic superiority < 28.58 %.

Results

Main Results

Values differences between PIFs and the general population are in the hypothesized direction (Table 1). However, only differences in SEST, self-enhancement, and achievement values are statistically significant at usual levels. What is more, effect sizes never reach above the objective threshold for being a small effect (Cohen 1988; Grissom 1994). These results lead us to accept the null hypotheses (H0a and H0b) that there are only trivial differences in the value that PIFs and the general population attach to self-enhancement and

self-transcendence. This finding is strengthened when looking at variance explained (η^2), which is small.

Values Differences in Comparative Perspective

A comparative perspective assists in obtaining a clearer understanding of the above findings, particularly where it concerns the found effect sizes. Table 2 repeats the analysis in Table 1 but for values differences between the sexes and between younger versus older individuals. The nature of the sex and age differences in our sample is in line with previous research (e.g., Schwartz and Rubel 2005). More relevant to our purposes and also in line with prior research, sex and age differences are approximately twice as large as differences between PIFs and the general population. In addition, they can account for a much higher percentage of variation in personal values, more than 5.2 %, compared to the maximum 0.0037 % for financial occupation. These findings confirm that values differences between PIFs and the general population are rather trivial.

For a further comparative perspective, we examine the values of other occupational categories. Out of the 491 separate occupations present in our sample, 148 actually have lower SEST scores than PIFs have. These occupations include such unsuspected groups as Architects, town and traffic planners, civil engineers, and bakers, pastry-cooks and confectionery makers (Table 3, panel a). For self-transcendence and achievement values, we find similar

Table 2 Values differences between men and women, and young and old

Women versus men ($n = 120,507$)			Value	Age ($n = 120,068$)		
Difference in means (men–women)	Probabilistic superiority of women (%)	η^2 (%)		Difference in means (young–old)	Probabilistic superiority of old (%)	η^2 (%)
-0.389 ± 0.007 (0.0010)	60.04	2.996	SEST	-0.464 ± 0.006 (0.0010)	61.96	4.282
0.217 ± 0.004 (0.0010)	41.50	2.173	Self-enhancement	0.301 ± 0.004 (0.0010)	38.17	4.225
0.215 ± 0.005 (0.0010)	43.01	1.445	Power	0.172 ± 0.005 (0.0010)	44.46	0.932
0.218 ± 0.005 (0.0010)	43.35	1.354	Achievement	0.430 ± 0.005 (0.0010)	36.79	5.288
-0.172 ± 0.003 (0.0010)	40.44	2.688	Self-transcendence	-0.163 ± 0.003 (0.0010)	59.12	2.402
-0.148 ± 0.004 (0.0010)	56.5	1.319	Universalism	-0.188 ± 0.004 (0.0010)	58.50	2.148
-0.197 ± 0.004 (0.0010)	58.90	2.225	Benevolence	-0.137 ± 0.004 (0.0010)	56.27	1.083

Differences in means are followed by robust standard errors, which are indicated with $\pm$. Two-tailed p values for t test are given in parentheses. For the subdimensions and basic values, higher scores imply more emphasis on this value. A PS score of 36.79 % (63.21 %) implies a Cohen's d of almost 0.48 (Grissom 1994). Respondents for which data on sex or age were missing have been excluded

results.⁸ As a way to assess the appropriateness of focusing our analysis on Schwartz's self-enhancement and self-transcendence values, we also present mean values scores for occupational categories known to have a high/low incidence of psychopathology (Dutton 2012). The differences in mean values between these occupations—nurses and care workers scoring high, and lawyers and sales and marketing department managers scoring low on SEST values—are fully in line with the patterns for the occupational incidence of psychopathology reported by Dutton (2012), giving additional credence to our use of self-enhancement and self-transcendence values to study the ethical values of PIFs (Table 3, panel b).

Robustness Checks

Occupational Categories and Classifying PIFs

An important issue to consider in assessing the robustness of the results in Table 1 is the classification of individuals as belonging to the group of PIFs. Perhaps the classification used for the main analysis somehow affects our findings on mean values differences between PIFs and the general population. To check the robustness of our results for classification choices, we redo our main analysis, changing our classification of PIFs and the general population in two ways. First, we expand our classification to include one additional ISCO category, namely Finance and sales associate professionals not elsewhere classified (ISCO 3419). Broadening our classification reassigns 619

respondents, increasing the total number of PIFs to 1033. This broadening of the classification of PIFs works to lower the values differences between PIFs and the general population found earlier (Table 4, panel a).⁹

Second, we apply a more narrow classification, only classifying respondents with ISCO codes 3411 (securities and finance dealers and brokers) and 3421 (trade brokers) as PIFs. This alternative classification leaves 196 PIFs in our sample. Values differences are now both more pronounced and less pronounced than before (Table 4, panel b) but still well below the cut-off point for being a small effect (Cohen 1988; Grissom 1994).

Controlling for Other (Potential) Determinants of Values

A chief limitation of the analyses in Table 1 is that they do not take into account the possibly confounding role of other individual characteristics. Other variables may be correlated with both values and financial occupation, and ideally we control for such omitted variables. A growing literature finds a strong relationship between people's social status and their ethical values and behavior (Kraus et al. 2012; Piff et al. 2012). A particular concern, therefore, is that values differences between PIFs and the general population are biased if we do not control for differences in social status between these two groups. Table 5 presents regression results for values differences between PIFs and the general population, controlling for social status. Again, we focus on SEST, self-enhancement, and achievement values, because only the values in these three domains showed

⁸ We focus on SEST, self-enhancement, and achievement values only and do not consider the other four values, as only values in these first three domains exhibit statistically significant differences between PIFs and the general population (see Table 1).

⁹ Compared to Table 1, there are more instances in which the values difference between PIFs and the public are statistically significant at usual levels, however. This is as expected given that the number of individuals classified as PIF is now higher (1,033 vs. 414).

Table 3 Mean values scores for selected occupations

Value	Panel a			Panel b				
	Mean for PIFs ($n_F = 414$)	ISCO 2141: architects, town and traffic planners ($n = 252$)	ISCO 2142: Civil engineers ($n = 266$)	ISCO 7412: bakers, pastry-cooks and confectionery makers ($n = 394$)	ISCO 223(0): nursing and midwifery professionals ($n = 669$)	ISCO 5139: personal care, related workers not elsewhere classified ($n = 245$)	ISCO 2421: lawyers ($n = 253$)	ISCO 1233: sales and marketing managers ($n = 435$)
SEST	1.166 {1.111}	1.103 { 1.089 }	0.981 { 1.124 }	1.079 { 1.107 }	1.592 {1.068}	1.679 {1.082}	0.908 { 1.057 }	0.882 { 1.054 }
Self-enhancement	-0.578 {0.749}	-0.471 { 0.713 }	-0.434 { 0.762 }	-0.588 {0.748}	-0.812 {0.705}	-0.851 {0.720}	-0.346 { 0.695 }	-0.385 { 0.683 }
Power	-0.802 {0.863}	-0.827 {0.858}	-0.670 { 0.877 }	-0.838 {0.950}	-1.062 {0.825}	-1.097 {0.866}	-0.594 { 0.855 }	-0.652 { 0.797 }
Achievement	-0.355 {0.954}	-0.115 { 0.907 }	-0.198 { 0.916 }	-0.338 { 0.956 }	-0.561 {0.927}	-0.605 {0.945}	-0.098 { 0.818 }	-0.118 { 0.833 }
Self-transcendence	0.587 {0.503}	0.631 {0.527}	0.547 { 0.503 }	0.491 { 0.530 }	0.780 {0.500}	0.828 {0.500}	0.562 { 0.502 }	0.497 { 0.513 }
Universalism	0.547 {0.650}	0.675 {0.625}	0.572 {0.630}	0.442 { 0.650 }	0.708 {0.632}	0.742 {0.638}	0.537 { 0.629 }	0.454 { 0.672 }
Benevolence	0.628 {0.611}	0.587 { 0.685 }	0.522 { 0.646 }	0.540 { 0.685 }	0.852 {0.620}	0.913 {0.601}	0.588 { 0.561 }	0.540 { 0.617 }

Standard deviations are given in accolades. For the subdimensions and basic values, higher scores imply more emphasis on this value. Mean scores on SEST, self-transcendence, universalism, and benevolence that are lower, and mean scores on self-enhancement, power, and achievement that are higher than the mean scores of PIFs are in bold

Table 4 Values differences between PIFs and the general population using a broader and narrower classification of PIFs

Value	Panel a: broader classification			Panel b: narrower classification		
	Mean for PIFs (<i>n</i> = 1,033)	Difference PIFs versus general population	Probabilistic Superiority of general population (%)	η^2 (%)	Mean for PIFs (<i>n</i> = 196)	Difference PIFs versus general population
SEST	1.198 {1.162}	-0.078 ± 0.038 (0.0440)	51.68	0.0042	1.159 {1.211}	-0.117 ± 0.087 (0.1908)
Self-enhancement	-0.595 {0.772}	0.059 ± 0.025 (0.0220)	47.85	0.0056	-0.598 {0.823}	0.056 ± 0.058 (0.3297)
Power	-0.818 {0.886}	0.047 ± 0.028 (0.0959)	48.50	0.0024	-0.809 {0.931}	0.056 ± 0.066 (0.3856)
Achievement	-0.372 {0.946}	0.072 ± 0.029 (0.0180)	48.00	0.0050	-0.388 {1.031}	0.055 ± 0.075 (0.4525)
Self-transcendence	0.603 {0.520}	-0.019 ± 0.017 (0.2458)	50.67	0.0011	0.560 {0.526}	-0.061 ± 0.038 (0.0999)
Universalism	0.550 {0.672}	-0.035 ± 0.021 (0.0979)	51.02	0.0025	0.486 {0.672}	-0.100 ± 0.049 (0.0430)
Benevolence	0.656 {0.616}	-0.003 ± 0.019 (0.8671)	50.32	0.0000	0.635 {0.628}	-0.023 ± 0.044 (0.6004)

Differences in means are followed by robust standard errors, which are indicated with $\pm$. Two-tailed *p* values for *t* test are given in parentheses. Robust standard deviations are given in accolades. For the subdimensions and basic values, higher scores imply more emphasis on this value. A Probabilistic Superiority score of 47.85 % (52.15 %) implies a Cohen's *d* of slightly less than 0.08 (Grissom 1994) (Panel a). A Probabilistic Superiority score of 54.39 % implies a Cohen's *d* between 0.15 and 0.16 (Grissom 1994) (Panel b)

statistically significant differences between PIFs and the general population.

In line with past research, results show that social status is associated with less priority attached to SEST values and more priority attached to self-enhancement and achievement values. More importantly, controlling for social status significantly reduces values differences between PIFs and the general population, rendering the differences statistically insignificant at usual levels (SEST) or even overturning initial differences (self-enhancement and achievement). Hence, compared to their peers at similar levels in the corporate and societal hierarchy, the values of PIFs are not special at all. Of course, a possible explanation for this finding is that social status not only is a determinant of SEST, self-enhancement, or achievement values, but is also partly an outcome of these values. Such a reverse causal effect does not in any way detract from the conclusion that, when compared to their peers, there is nothing out of the ordinary about the values of PIFs, however.

Adding additional controls in the form of a standard sex dummy, a linear and cubic age variable, and dummy variables for all the countries in the analysis renders highly similar results (Table 6). In all cases, the difference between PIFs and the general population is both small and statistically insignificant. For Achievement, the sign of the regression coefficient is again counter to the idea that PIFs' values are special in a way that implicates them in the GFC, though this coefficient remains statically insignificant at usual levels.

Differences in Other Domains: Hedonism and Stimulation Values and Economic Morals

A further possible criticism of the above analysis is that the values that we have studied are simply not the values that have been most relevant in the GFC. Other values (even within the Schwartz framework) could have played a role or maybe a combination of values has been chief in PIFs' observed malfeasances. Our immediate response to this idea is to restate how the whole debate on the values of PIFs really revolves around the human motivations that coincide with the values that we have studied so far, self-transcendence and self-enhancement. However, a more insightful response is to study some other values and moral dispositions than the values that we have studied so far. Hence, below, we broaden our evidentiary basis and further consider differences between PIFs and the general population in other, less obvious domains. We do so in two ways.

First, we repeat parts of our main analysis of values differences between PIFs and the general population but add two other values from the Schwartz framework to the mix, namely Hedonism and Stimulation. The description of these

Table 5 Financial occupation and social status as predictors of SEST, self-enhancement, and achievement values

	Dependent = SEST		Dependent = self-enhancement		Dependent = achievement	
Intercept	1.355 ± 0.004 (0.0010)	1.355 ± 0.004 (0.0010)	−0.696 ± 0.003 (0.0010)	−0.696 ± 0.003 (0.0010)	−0.472 ± 0.003 (0.0010)	−0.471 ± 0.003 (0.0010)
PIF (0/1)	−0.136 ± 0.060 (0.0220)	−0.032 ± 0.058 (0.5754)	0.085 ± 0.043 (0.0559)	−0.0041 ± 0.054 (0.9041)	0.085 ± 0.053 (0.1119)	−0.030 ± 0.052 (0.5305)
Social status	–	−0.118 ± 0.004 (0.0010)	–	0.103 ± 0.003 (0.0010)	–	0.131 ± 0.003 (0.0010)
R^2 adjusted	0.0001	0.0115	0.0000	0.0201	0.0000	0.0199

Estimated coefficients are followed by robust standard errors (bootstrapped with 1,000 repetitions), which are indicated with $\pm$. Two-tailed p values are given in parentheses. Respondents for which social status scores were missing have been excluded. Number of observations is 75,715

Table 6 Financial occupation and other (potential) predictors of SEST, self-enhancement, and achievement values

	Dependent = SEST	Dependent = self-enhancement	Dependent = achievement
PIF (0/1)	−0.063 ± 0.057 (0.2438)	0.017 ± 0.037 (0.6703)	−0.027 ± 0.050 (0.5614)
Social status	−0.078 ± 0.004 (0.0010)	0.075 ± 0.003 (0.0010)	0.094 ± 0.003 (0.0010)
Sex (1 = male)	−0.388 ± 0.008 (0.0010)	0.207 ± 0.005 (0.0010)	0.191 ± 0.006 (0.0010)
Age (/10)	0.346 ± 0.013 (0.0010)	−0.182 ± 0.008 (0.0010)	−0.249 ± 0.011 (0.0010)
Age ² (/100)	−0.021 ± 0.001 (0.0010)	0.009 ± 0.001 (0.0010)	0.012 ± 0.001 (0.0010)
Country dummies included	Yes	Yes	Yes
R^2 adjusted	0.153	0.148	0.142

Estimated coefficients are followed by robust standard errors (bootstrapped with 1,000 repetitions), which are indicated with $\pm$. Two-tailed p values are given in parentheses. Respondents for which data on the control variables were missing have been excluded. Number of observations is 75,442. To save space, we do not report coefficients for the country dummies, but these are available on request

two values is that Stimulation refers to excitement, novelty, and challenge in life and that Hedonism refers to pleasure and sensuous gratification for oneself (Schwartz et al. 2001). Our interest hereby is not so much in the scores on these values themselves but in scores on indexes that combine these values with values that we already studied, specifically power and achievement. In short, we seek to assess the combination of seeking power and/or achievement with a tendency to pursue challenging endeavors with risky outcomes. The underlying idea is that while differences in self-enhancement (power and achievement) values may be trivial and unsupportive of the idea of a crisis of ethical values, the combination with other Schwartz values could still implicate the values of PIFs in the GFC.¹⁰ Practically, we consider differences both in stimulation and hedonism values directly and in three indexes that combine Stimulation and Hedonism values with power and achievement values (Table 7). Results show larger differences between PIFs and the general population than before, which are also in the right direction, meaning that PIFs score higher than non-PIFs do.

¹⁰ We thank an anonymous referee for pointing out this idea and the possible relevance of the combination of stimulation and hedonism values with power and achievement values.

However, in all cases, found effect sizes remain below the threshold for even a small effect in Cohen's (1988) classification. Furthermore, adding control variables as in Table 6 again reduces the values differences between PIFs and the general population substantially, also rendering them statistically significant (see Table 13 in the appendix). In fact, two out of five values differences are overturned when controlling for other (potential) determinants of values, although in these cases, the estimated regression coefficients are also not statistically significant at usual levels.

Second, we extend our initial analysis to consider dispositions outside of the Schwartz framework, specifically so-called economic morals. The second wave of the ESS has included a module probing respondents on how they see rules and laws pertaining to business and on how they feel citizens and members of society should behave in economic exchanges, among others. Using items from this module, we can dig beyond the universal framework of human values and provide broader insights into exactly how and how much PIFs may be different from the general population.¹¹ Table 8 presents results for survey items concerning issues

¹¹ Again, we thank an anonymous referee for suggesting this analysis.

Table 7 Differences in hedonism and stimulation values and combinations of hedonism and stimulation values with power and achievement values

Value	Mean for PIFs ($n_F = 414$)	Mean for general population ($n_{GP} = 120,189$)	Difference PIFs versus general population	Probabilistic superiority of general population (%)	η^2 (%)
Stimulation [−4.421, 3.476]	−0.555 {0.954}	−0.710 {1.011}	0.156 ± 0.048 (0.0020)	45.68	0.0081
Hedonism [−4.158, 4]	−0.092 {0.955}	−0.254 {1.010}	0.162 ± 0.045 (0.0010)	45.00	0.0088
Stimulation, hedonism and power index [−6.452, 5.786]	−1.126 {1.152}	−1.347 {1.213}	0.222 ± 0.057 (0.0010)	44.58	0.0114
Stimulation, hedonism and achievement index [−7.111, 5.250]	−0.688 {1.294}	−0.925 {1.339}	0.237 ± 0.063 (0.0010)	45.04	0.0107
Stimulation, hedonism, power and achievement index [−12.222, 10.500]	−1.814 {2.217}	−2.272 {2.310}	0.458 ± 0.108 (0.0010)	44.46	0.0135

Differences in means are followed by robust standard errors, which are indicated with $\pm$. Two-tailed p values for t test are given in parentheses. Robust standard deviations are given in accolades. Sample minimums and maximums are given in square brackets. Higher scores imply more emphasis on a value. Individuals with missing data on any of the four basic values measures of interest (stimulation, hedonism, power, or achievement) are excluded. The stimulation, hedonism and power index is an additive index, where stimulation and hedonism are added with half the weight of power. The stimulation, hedonism and achievement index similarly adds stimulation and hedonism with half the weight of achievement. For the stimulation, hedonism, power, and achievement index, all values are added with equal weights. A PS score of 44.46 % (55.54 %), the highest effect size found, implies a Cohen's d of almost 0.20 (Grissom 1994)

deemed most relevant in relation to the GFC. As before, we find that differences between PIFs and the general population are trivial. More importantly, however, differences are mostly not in the hypothesized direction, meaning that when it comes to economic morality, PIFs typically have higher standards than non-PIFs do.¹²

Together, the above analyses convincingly show that our finding of trivial values differences between PIFs and the general population is not driven by the specific values that we have chosen to study. Rather, the triviality of values differences between these two groups appears a general phenomenon, extending from basic human values to domain-specific morals.

¹² Meanwhile, the data on economic morals further give us the opportunity for an indirect robustness check, assessing the validity of self-enhancement and self-transcendence values in relation to the kind of unethical behavior associated with the GFC. We find that such values as SEST and self-transcendence consistently correlate most strongly positively with the condemning of such behavior as concealing faults in second-hand products or making false insurance claims, while such values as self-enhancement and power consistently correlate most negatively with the condemning of such behaviors (cf. Schwartz 1996). Similar results obtain to respondents' views of rules and laws. Details of the correlations between basic values and economic morality are available on request.

Alternative Assessment of the Idea of a Crisis of Ethical Values

A final, alluring objection to our results takes issue with the general approach of gathering systematic evidence on the idea of a crisis of ethical values by looking at mean values differences. PIFs, on average, can have values much like everyone else. However, within the group of PIFs, there could also be a few “bad apples,” and perhaps the idea of a crisis of ethics revolves more around these bad apples than around the values of the average PIF. Many may remember the story of Nick Leeson, who, by an escalating series of risky trades, single-handedly caused the collapse of his employer, Barings Bank, the oldest merchant bank in London (Fay 1997). With trades such as those of Leeson, one person can literally earn millions for a company (and for his/her colleagues). The idea of a crisis of ethics then questions whether the average PIF has done enough to keep the bad apples in check or gladly looked the other way, perhaps even actively supporting these colleagues in the latter's dubious dealings. Given our evidence on the average values of PIFs, the above idea of course begs the question of what motivated the average PIF to support their bad apple colleagues in the first place. Still, we want to move beyond anecdotal evidence, also on this count.

Table 8 Differences in economic morals between professionals in finance (PIFs) and the general population

Economic morality item	No. of PIFs	No. of non-PIFs	Difference PIFs vs. general population	Probabilistic Superiority of general population (%)	η^2 (%)
Wrongness of behaviors (1—not wrong at all, 4—seriously wrong)					
Paying cash with no receipt to avoid taxes	151	45,219	-0.108 ± 0.064 (0.0959)	53.49	0.0054
Concealing faults in second-hand product	154	46,588	0.064 ± 0.044 (0.1409)	48.57	0.0035
Making exaggerated or false insurance claims	155	46,210	0.033 ± 0.051 (0.5245)	49.53	0.0008
Public official asking favor or bribe	156	46,520	0.123 ± 0.037 (0.0050)	45.70	0.0152
Views of rules and laws (1—agree strongly, 5—disagree strongly)					
If you want to make money, you can't always act honestly	157	46,108	0.134 ± 0.096 (0.1648)	46.16	0.0044
You should always strictly obey the law, even if it means missing good opportunities	155	46,365	-0.032 ± 0.074 (0.6563)	50.39	0.0004
Occasionally, it is alright to ignore the law and do what you want	157	46,212	0.021 ± 0.080 (0.8042)	48.53	0.0002

Differences in means are followed by robust standard errors (bootstrapped with 1,000 repetitions), which are indicated with $\pm$. Two-tailed p values for t test are given in parentheses. Differences that are in the opposite direction than expected from our hypotheses, meaning that PIFs have higher moral standards than the general population, are in bold. A PS score of 53.49 %, the only effect size that is in the direction of our hypotheses, implies a Cohen's d between 0.12 and 0.13 (Grissom 1994). More information on the items measuring respondents' economic morals is available from the website of the ESS, <http://www.europeansocialsurvey.org>, which also provides access to the complete dataset

Table 9 The incidence of bad apples among PIFs and the general population

Dependent	Coefficient for PIF dummy (0/1)	Nagelkerke R^2
Low SEST (0/1)	0.016 ± 0.140 (0.9071) [0.984]	0.0000
High self-enhancement (0/1)	0.162 ± 0.131 (0.1998) [1.176]	0.0000
High power (0/1)	0.059 ± 0.130 (0.6653) [1.061]	0.0000
High achievement (0/1)	0.133 ± 0.128 (0.2957) [1.142]	0.0000
Low self-transcendence (0/1)	-0.157 ± 0.151 (0.3047) [0.854]	0.0000
Low universalism (0/1)	0.109 ± 0.133 (0.4106) [1.115]	0.0000
Low benevolence (0/1)	-0.067 ± 0.143 (0.6294) [0.935]	0.0000

Estimated coefficients are followed by robust standard errors (bootstrapped with 1,000 repetitions), which are indicated with $\pm$. Two-tailed p values are given in parentheses. For power, achievement, and self-enhancement, individuals received a dummy score of 1 if they scored more than one standard deviation above the sample mean. For universalism, benevolence, and self-transcendence, individuals received a dummy score of 1 if they scored more than one standard deviation below the sample mean. Odds ratios in square brackets and bold. Number of observations is 120,668

We define a bad apple as an individual who scores at least one standard deviation below the average SEST score for the whole sample ($n = 120,668$). A logistic regression with the low-SEST dummy as the dependent variable and the dummy indicating whether someone is a PIF as the independent variable shows that PIFs are, in fact, less likely to qualify as a bad apple (Table 9). The difference is small (-1.6 %), however, and not statistically significant at usual levels.

For further completeness, we also look at “bad apple” dummies for the other six values measures. For the majority of values, the incidence of bad apples is higher among PIFs than among the general population (positive coefficient for the PIF dummy) (Table 9). This is not always the case, however, and there are no instances in which the observed differences are statistically significant at usual levels.

Of more direct concern than the incidence of bad apples is how PIFs, as a group, deal with these bad apples. We address this issue by examining the relationship between PIFs' SEST values and their managerial responsibilities as a way to gather systematic evidence that PIFs have deliberately organized themselves in a way that support(s)(ed) or at least facilitate(s)(d) individual PIFs to engage in shady business dealings that are lucrative for the group as a whole. If such a “grand scheme” exists, we expect that PIFs with low-SEST values are more likely to fulfill

Table 10 The effect of low-SEST values on the likelihood of being a manager (0/1)

Dependent = being a manager (0/1)	Model 1 (sample with PIFs only)	Model 2 (complete sample)
Intercept	-0.377 ± 0.110 (0.0020)	-0.865 ± 0.007 (0.0010)
Low SEST (0/1)	-0.265 ± 0.308 (0.3726) [0.768]	0.123 ± 0.019 (0.0010) [1.130]
PIF (0/1)	—	0.487 ± 0.109 (0.0010) [1.628]
PIF $\times$ low SEST	—	-0.387 ± 0.316 (0.2088) [0.679]
Observations	412	107,227
Nagelkerke R^2	0.0027	0.0008

Estimated coefficients are followed by robust standard errors (bootstrapped with 1,000 repetitions), which are indicated with $\pm$. Two-tailed p values are given in parentheses. Odds ratios in square brackets and bold. Respondents for which data on being a manager were missing have been excluded

leadership positions in their organizations. The dependent variable in this analysis is a dummy measure indicating whether a person is a manager (see above). The key independent variable is the dummy variable indicating whether an individual scores low on SEST values (again see above). Results indicate that, rather than low-SEST values helping the career of a PIF, low-SEST values actually reduce the chance that someone becomes a manager in the financial services industry (Model 1 in Table 10). This result—although the coefficient is not statistically significant at usual levels—is directly counter to the idea of a grand scheme among PIFs.

For further evidence, we compare the effect of low-SEST values on managerial responsibilities for PIFs with the effect of low-SEST values on managerial responsibilities for people employed in other industries. The rationale is that, even if low-SEST PIFs are not awarded more responsibilities than high-SEST PIFs, the financial services industry as a whole might still be much more appreciative of low-SEST individuals than other industries are. If so, we can still make a case that there exists a grand scheme among PIFs. To assess whether the financial services industry indeed is comparatively more appreciative of low-SEST individuals, we add an interaction term to Model 1 in Table 10, showing the differential effect of SEST values on the likelihood of being a manager for PIFs vis-à-vis all other occupations. Results reveal that while low-SEST individuals are more likely to be managers in non-financial industries, they are actually less likely to be managers in the financial services industry (Model 2 in Table 10). Although the industry difference is not statistically significant at usual levels, this result again contradicts the more nuanced idea of a crisis of ethical values that suggests that the financial services industry is organized around facilitating bad apples.

Overall, we do not discover any indication of the existence of a grand scheme among PIFs in which bad apples are promoted to higher ranks or given more responsibilities for engaging in shady but lucrative business deals.

Discussion and Conclusion

The main conclusion of our study is that values differences between professionals in finance (PIFs) and the general population are so trivial that the financial system would not have fared better had we had a different breed of PIFs. In the wake of the global financial crisis (GFC), questioning the values of PIFs has been something of an international pastime. Sweeping statements identifying PIFs' values as the main ailment of the financial system are regularly made with only anecdotal evidence to back up purported claims. We cannot readily observe the behavior of PIFs to determine how they behave less ethically than other people in the same situation do. Moreover, as PIFs are presently very much aware that their values are being disputed, results from any behavioral experiment are bound to be highly biased. We have drawn on comprehensive values data collected before the crisis began in order to provide a systematic and unbiased assessment of the popular idea that PIFs' values are distinctive in a way that implicates this group in the GFC. Contrary to popular lore, none of the evidence discovered provides outright support for the idea that PIFs' values are a key ailment of the financial system. This finding continues to hold in a range of robustness checks including changing the classification of individuals as PIFs. Moreover, some patterns of variation found within the group of PIFs actually contradict the widespread idea of PIFs' values as a key ailment of the financial system. In addition, there is nothing unethical about the values of PIFs

once we take the social status of PIFs into account. Finally, beyond human values, we have also compared the economic morals of PIFs with those of the general population, again finding only trivial differences, the majority of which are actually at odds with the idea that the values of PIFs have been important in the GFC.

Our research has several limitations. A first limitation is that we have considered a relatively broad group of PIFs instead of focusing on the people at the very top of the hierarchy. However, we think that the debate about the role of PIFs' values in the GFC has also been broad, involving the whole profession and not just the CEOs that were ultimately in charge. In addition, our analysis of bad apples and managerial responsibilities gives no indication that higher-ranked PIFs indeed value self-enhancement more and self-transcendence less, actually suggesting the opposite.¹³ A second, more important limitation is that our contribution to the crisis-of-ethics debate, in a way, has been indirect, systematically assessing the values of PIFs but not directly considering (the ethics of) their actions. Hence, our evidence concerning the triviality of values differences between PIFs and the general population cannot be used to claim that ethics did not play a role in the GFC (nor was our goal to collect evidence that could prove or disprove this claim). Certainly, our findings do not absolve an individual PIF from personal responsibility in any wrongdoing. However, we can use the results of our analysis to say that questioning the ethical values of PIFs as a group is not helpful for understanding the role of ethics in the GFC and actually steers the crisis-of-ethics debate in the wrong direction. Indeed, a different conclusion for our research could be that, whichever exact ethical issues have mattered for the GFC, these do not involve the actual values of PIFs, which brings us to the practical relevance of our findings.

Our systematic evidence raises the level of debate on the GFC and its (ethical) causes, but we think it should do more, namely instill in policy makers and especially politicians, the recognition that a change in values is not the way to fix the financial system. As PIFs' values do not stand out, it becomes obvious from actual events surrounding the GFC that the financial services industry has been providing an environment highly conducive to unethical behavior and that fixes to the financial system can only come from a redesigning of regulation and

accountability practices. A theoretical starting point for this paper has been the theory of situationist ethics, finding that situational forces can lead ordinary individuals to have extreme disregard for the welfare of others. Our finding that there is nothing special about the values of PIFs as a group resonates with this theory to suggest that regulatory reform needs to go down to the level of individuals and deal with individual-specific behavior. The challenge for regulation lies in what individuals can and will do under the "right" circumstances.

Appendix

See Tables 11, 12, 13.

Table 11 Country samples included in the analysis

Country	No. of observations
Austria	6,700
Belgium	5,320
Bulgaria	1,237
Switzerland	5,849
Cyprus	930
Czech Republic	3,648
Germany	8,408
Denmark	4,361
Estonia	3,345
Spain	4,977
Finland	5,094
France	4,920
United Kingdom	5,853
Greece	4,746
Hungary	4,377
Ireland	4,558
Israel	2,167
Italy	1,430
Luxembourg	1,548
Netherlands	5,939
Norway	4,882
Poland	5,223
Portugal	5,511
Russia	2,294
Sweden	4,925
Slovenia	4,016
Slovakia	3,087
Turkey	1,589
Ukraine	3,734
Total	120,668

¹³ Obviously, we should be a bit careful to generalize this result all the way up to the ranks of CEOs of financial firms, as there are very few people like that in the world. Therefore, it would indeed be interesting to study the personal values of top-level executives in the financial services industry, although we envision the same difficulties that kept us from studying the actions of PIFs vis-à-vis the general population more directly, namely biased responses, low willingness to participate, et cetera.

Table 12 Differences in non-ipsatized self-enhancement, self-transcendence and SEST values

Value	Mean for PIFs ($n_F = 414$)	Mean for general population ($n_{GP} = 120,254$)	Difference PIFs versus general population	Probabilistic superiority of general population (%)	η^2 (%)
SEST	1.156	1.268	-0.112 $\pm$ 0.055 (0.0420)	52.36	0.0034
[-5, +5]	{1.123}	{1.126}			
Self-enhancement	3.637	3.544	0.092 $\pm$ 0.047 (0.0519)	47.22	0.0030
[1, 6]	{0.971}	{0.988}			
Self-transcendence	4.793	4.812	-0.020 $\pm$ 0.031 (0.5105)	51.79	0.0003
[1, 6]	{0.636}	{0.687}			

Differences in means are followed by robust standard errors, which are indicated with $\pm$. Two-tailed p values for t test are given in parentheses. Robust standard deviations are given in accolades. Sample minimums and maximums are given in square brackets. For the subdimensions, higher scores imply a higher priority for this value. A PS score of 47.22 % (52.78 %), the highest effect size found, implies a Cohen's d of almost 0.10, well below the threshold for a small effect (Grissom 1994)

Table 13 Financial occupation and other (potential) predictors of differences in hedonism and stimulation and combinations of hedonism and stimulation with power and achievement

	Dependent = stimulation	Dependent = hedonism	Dependent = stimulation, hedonism and power index	Dependent = stimulation, hedonism and achievement index	Dependent = stimulation, hedonism, power and achievement index
PIF (0/1)	-0.010 $\pm$ 0.052 (0.8581)	0.027 $\pm$ 0.051 (0.6194)	0.066 $\pm$ 0.056 (0.2348)	-0.036 $\pm$ 0.063 (0.5774)	0.031 $\pm$ 0.107 (0.7902)
Social status	0.061 $\pm$ 0.004 (0.0010)	0.028 $\pm$ 0.003 (0.0010)	0.101 $\pm$ 0.004 (0.0010)	0.139 $\pm$ 0.004 (0.0010)	0.240 $\pm$ 0.008 (0.0010)
Sex (1 = male)	0.155 $\pm$ 0.007 (0.0010)	0.115 $\pm$ 0.006 (0.0010)	0.358 $\pm$ 0.008 (0.0010)	0.327 $\pm$ 0.008 (0.0010)	0.685 $\pm$ 0.014 (0.0010)
Age (/10)	-0.344 $\pm$ 0.012 (0.0010)	-0.352 $\pm$ 0.010 (0.0010)	-0.464 $\pm$ 0.013 (0.0010)	-0.596 $\pm$ 0.014 (0.0010)	-1.060 $\pm$ 0.023 (0.0010)
Age ² (/100)	0.015 $\pm$ 0.001 (0.0010)	0.018 $\pm$ 0.001 (0.0010)	0.023 $\pm$ 0.001 (0.0010)	0.029 $\pm$ 0.001 (0.0010)	0.052 $\pm$ 0.002 (0.0010)
Country dummies included	Yes	Yes	Yes	Yes	Yes
R^2 adjusted	0.150	0.206	0.181	0.244	0.252

Estimated coefficients are followed by robust standard errors (bootstrapped with 1,000 repetitions), which are indicated with $\pm$. Two-tailed p values are given in parentheses. The stimulation, hedonism and power index is an additive index, where the Stimulation and Hedonism are added with half the weight of power and similarly, for the stimulation, hedonism and achievement index. For the stimulation, hedonism, power, and achievement index, all values are added with equal weights. Respondents for which data were missing have been excluded. Number of observations is 75,432. To save space, we do not report coefficients for the country dummies, but these are available on request

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