Attitudes to Debt: The Role of Moral Values*

Fiona Paine† Antoinette Schoar‡ David Thesmar§

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Abstract

This paper tests how people's moral values influence their views of debt contracts. We ask participants to make decisions about debt contracts in different hypothetical situations (vignettes). We separately measure their moral values using the Moral Foundations Questionnaire (Graham et al., 2009). We have three main sets of findings. First, differences in moral values strongly explain the cross-section of participants' debt decisions. Participants with more conservative values show more support for credit score-based loan pricing, stricter forms of collateral, and tougher bankruptcy resolution. Second, when we randomly change the economic costs and benefits of debt within our vignettes, we find that participants change their answers in the direction predicted by economic theory. Third, participants' beliefs of the functioning of the credit market strongly correlate with their moral values. Participants with conservative values are more likely to believe that strict enforcement and risk-based loan pricing provide incentives and are economically efficient. More liberal participants believe that insurance against unlucky shocks are important. Consistent with moral values being distinct from Bayesian beliefs, financial literacy does not attenuate moral values in shaping beliefs about what is economically efficient.

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†MIT

‡MIT, NBER and CEPR

§MIT, NBER and CEPR

1 Introduction

A large body of research in finance and economics suggests that a well-designed financial system can facilitate economic growth and generate positive welfare effects. Financial contracts help, for example, to allocate capital from people with savings to entrepreneurs with investment opportunities, or allow people to insure each other against idiosyncratic shocks. Despite these potential benefits, throughout history, many societies have questioned the morality of financial transactions and the principles that should guide them. In this paper, we focus on people's moral perceptions of debt, one of the oldest and most widespread financial contracts.

The economic literature analyzes debt under the lens of *economic efficiency*. The main benefit of debt contracts is that the lender does not need to know much about the borrower, as the threat of default ensures that repayment commitments are (mostly) honored (Townsend (1979), Hart and Moore (1994)). The threat of default also provides incentives for borrowers to exert effort (Hebert, 2018). One downside of debt is that default is costly and debt contracts shift the risk of economic shocks to the borrower (i.e. Laffont and Martimort (2002), Salanié (2005)).

Despite these potential benefits, moral systems have an ambiguous relationship with debt. Some religions are famous for rejecting interest payments (Stulz and Williamson (2003)). In Islam, for example, Sharia law forbids lending at interest. The Bible is full of instances where lending or enforcement of loan contracts is admonished and forgiveness of debt is praised (Exodus 22:25). Beyond religions, debt can be perceived as "unfair", as it gives undue power to lenders over borrowers (Graeber, 2011). Enforcement can also be perceived as repugnant. Jayachandran and Kremer (2006) describe sovereign debt issued by exploitative dictators (but owed by the people) as "odious". Most people would find debtors' prisons unacceptable in the modern world, not to mention the famous "pound of flesh" in Shakespeare's Merchant of Venice. On the opposite side, libertarians may value the freedom to choose the contracts they want to enter, even when it leads to potentially adverse outcomes. Others may perceive debt repayment as a duty, where the borrower is bound to repay by some code of honor.[1] Overall, people might judge the design and fairness of debt contracts very differently, depending on their moral values.

In this paper, we use survey experiments to explore how moral values drive people's attitude to debt contracts. Our survey presents participants with hypothetical but concrete scenarios where they have to make decisions about debt pricing, debt enforcement and the use of different forms of collateral. To measure people's moral values, we rely on the Moral Foundation Questionnaire, which has been developed by Graham et al. (2009)) and is widely used in

[1] In French and English, debt is referred to as "obligation"; In German, the word for debt is "guilt".

social psychology and philosophy. Throughout the paper, we follow Graham et al. (2009) and classify as more "conservative", participants who express strong support for "loyalty to the in-group", "authority" and "purity", and weaker support for "fairness" and "care". Moral values measured this way have been shown to strongly correlate with political affiliation (Haidt, 2012), and explain a large variety of outcomes: voting patterns (Enke (2020)), economic policy preferences (Landier and Thesmar, 2025), or attitudes to corporate behavior (Hart et al. (2024), Iliewa et al. (2025)).[2]

We have three main sets of findings: First, moral values strongly explain the cross-section of participants' attitudes to debt, even holding constant other observables. We find that participants with more "conservative values" tend to be more supportive of credit-score based loan pricing, tougher bankruptcy resolution and loans with stricter forms of collateral. In contrast, more liberal individuals prefer pooling of interest rates and lenient bankruptcy resolution. Overall, decisions are very consistent within participants (participants who favor credit score-based pricing also favor tough bankruptcy resolution and the use of stringent collateral). This allows us to summarize overall attitudes using principal component (PC) analysis. The first PC, which we term 'downside insurance,' explains almost 40% of the variation across our four different vignettes. Second, participants do take economic reasoning into account as well. In our vignettes, we present participants with different economic trade-off in the use and design of debt contracts. We find that attitudes to debt respond to these shifts in economic circumstances in the direction predicted by economic theory. For instance, lower risk of default tilts participants to recommend loans with stricter collateral (since such loans are cheaper). Our third set of results shows that people's economic models of the world align with their moral values. People with more conservative moral values are more likely to believe that incentives and strategic behavior of market participants are important. More liberal people tend to believe that chance and factors outside a person's control affect default. We also find that neither financial nor general education attenuate the role of moral values in shaping attitudes to debt. This is consistent with two different channels that this paper cannot distinguish. One channel is that moral values represent moral preferences (as described in the large literature on altruism and fairness, e.g. Fehr and Gächter (2000)). In this case, economic beliefs about debt are chosen to align with preferences and minimize discomfort, as in theories of "motivated beliefs" (Brunnermeier and Parker (2005), Bénabou and Tirole (2016)). Another channel is that moral values are deeply anchored priors about how the world works in general, and are applied to understand credit markets without much updating. In either case, the participants' responses do not show that people see a tension between economic efficiency and morality.

[2]It is interesting to note that conservatism or liberalism as measured with the Moral Foundations Questionnaire only partially correlates with religious notions of morality.

Our analysis is implemented as follows. We recruited 1,741 participants online through the widely used platform *Prolific*. We showed these participants a series of four concrete vignettes: Three on debt enforcement and one on credit score-based interest rates. These vignettes were then followed by questions designed to elicit the (moral or economic) motivations behind participants' choices. At the end of the survey, we added a short questionnaire on socio-demographic characteristics and moral values. We summarize moral values as the first principal component of the five moral foundations of Graham et al. (2009): fairness, care/compassion, loyalty to the in-group, purity/sanctity, and respect for authority (see Haidt (2012) for a detailed description). This first PC explains a large fraction of the overall variation and can be interpreted as "conservative values". It loads positively on authority, loyalty, purity, and negatively on fairness and compassion. As shown earlier by Graham et al. (2009), we confirm in our data that this composite variable strongly correlates with self-positioning on a political scale. We call "conservatives" participants who score high on this PC ("liberals" those who score low). We note that it does not correlate with financial literacy, consistent with financial education *not* making participants more or less conservative.

We first describe the four scenarios and document that answers correlate with moral values.[3] The first vignette elicits people's views on whether loan pricing should consider differences in credit scores between borrowers. Participants are asked to choose the maximum acceptable interest rate difference between high versus low credit score borrowers, while highlighting the economic logic of linking interest rates to creditworthiness. We find that people who score higher on the conservative values PC are much more tolerant of interest rate inequality. This result holds after controlling for other observable characteristics such as income, gender, age, or financial literacy. Women and younger people are, on average, more likely to prefer a smaller interest rate range, while people with higher incomes tend to favor a larger range. Financially literate people are more supportive of larger interest rate differences. But none of these controls materially changes the coefficient on Conservative Values PC.

The second set of vignettes explores participants' preferences for the strictness of debt enforcement in default. In one of the vignettes (the order is randomized), a *hypothetical borrower*, Melissa, is struggling to make car loan payments and has filed for bankruptcy. Survey participants are asked to choose between a tough and a lenient option to liquidate the defaulted claim. This vignette focuses on people's judgment when thinking about the default of an individual person. In the other vignette, participants are asked to think about the *bankruptcy system* as a whole and state the maximum interest rate ex ante that they

[3]We explicitly avoid asking people about their own debt choices or use of credit. We want to avoid people feeling defensive about personal decisions. Maybe more importantly, personal decisions might entail many unobservable characteristics and dimensions that might affect the outcome but are impossible for us to control in an experiment.

would be willing to accept to have a lenient bankruptcy system. This is akin to asking for their willingness to pay for system leniency. We find that in both cases (the personalized and the systemic vignettes), people who are more conservative favor stricter default (and bankruptcy) resolution. More conservative people are more likely to choose the tough option when presented with Melissa's case. They are also less likely to sacrifice debt affordability (lower interest rates) for a more lenient bankruptcy system. Here again, the results are robust to controlling for personal characteristics such as age, gender, income, or financial literacy.

Finally, we designed a last vignette that tests people's tolerance for alternate forms of collateral with stricter enforcement (for an example see Gertler et al. (2024)). This vignette aims to get at the idea that some enforcement mechanisms might be perceived as ruthless, as in Shylock's pound of flesh. We describe the situation of a hypothetical borrower, Isabelle, who seeks to purchase a car on credit. She can either use a standard auto loan (where the car is used as collateral), or one of three (randomized) alternative "self-bonding" solutions: (1) a device shutting off the car if a payment is missed (slightly stricter than standard loans, where foreclosure takes longer), (2) a device shutting off her home electricity in the case of non-payment (a priori more invasive than standard enforcement), (3) or public shaming (friends and family are told about her default). We ask participants how much lower interest rates would have to be, for the alternative collateral to be attractive (if at all). As in the previous two vignettes, participants with conservative values are more likely to find the alternative collateral acceptable and would have Isabelle choose it even for a smaller gain in interest rates.

Overall, our first finding is that, in all vignettes, moral values are strongly correlated with attitude to debt. People who hold conservative values are more likely to support tougher enforcement, credit score based discrimination in loan pricing, and stricter collateral. To confirm the internal consistency of people's answers, we summarize the four debt decisions into one single PC (the "lenient/equalitarian PC"), which explains 37% of the variance. This PC correlates very strongly with the "conservative" PC (univariate t-stat = 11.6), and this is robust to our standard controls.

Our second finding is that respondents value economic efficiency when responding to the tradeoffs presented in our vignettes. In some vignettes, we randomize differences in the economic efficiency of the decisions, and find that reported debt attitudes respond in the direction predicted by economic theory. In the Melissa bankruptcy ruling vignette, for example, when we highlight that across-the-board leniency raises average interest rates, it makes participants less lenient. Similarly, in the "bankruptcy system design" vignette, participants are more likely to choose the lenient option when it is restricted to "unlucky" borrowers. Third, in the strict collateral vignette, describing Isabelle as someone who has a very low chance of losing her job,

makes participants more likely to prefer the strict collateral (possibly taking into consideration that her chances of default will be lower).

Our third set of findings supports the idea that the heterogeneity in participants' expressed morality is aligned with their economic beliefs as in theories of motivated beliefs (Brunnermeier and Parker (2005), Bénabou and Tirole (2016)). In the data, we find a very strong correlation between participants' mental models of the economics of the credit market and their moral values, in line with motivated beliefs (Brunnermeier and Parker (2005)). In the loan pricing vignette, more conservative participants are more likely to agree with the idea that credit score-based interest rates are accurate and good for incentives. In bankruptcy, they are more likely to agree with the notion that high recovery rates help lowering interest rates, while more liberal participants agree with the notion that borrowers often face shocks outside of their control. In the "strict collateral" vignette, conservative participants agree with the propositions that (1) borrowers understand the transactions they engage in, and that the benefits of strict collateral are higher than the potential (ex post) costs. These dimensions of "economic beliefs" can be summarized by their first PC, which loads positively on belief in market forces and incentives, and negatively on the role of luck and borrower rationality. This "pro-credit market PC" shows the internal consistency of borrowers' beliefs, and correlates very strongly with conservative moral values and negatively with liberal values (univariate $t = 23$). This holds independent of whether we control for financial literacy and political leanings, and other personal characteristics.

We also find evidence consistent with the idea that moral values are unlikely to reflect priors that can be revised with Bayesian updating – and therefore are more likely to reflect either preferences or strongly anchored beliefs. In our survey, financial literacy does not attenuate the effect of moral values on debt attitudes. For each one of the four vignettes, we split our sample into high and low financial literacy, and find that the (strong) sensitivity of decisions to moral values is similar (quantitatively and statistically) across these two subsamples. We strongly reject the hypothesis that financial literacy helps participants with different values converge to a common set of attitudes to debt. In a robustness check, we show that the same result holds when we split the sample into college graduates and non-graduates.

Overall, the evidence is suggestive of the idea that participants' economic beliefs are aligned with their moral values, as if to avoid cognitive dissonance and the discomfort of having to trade off moral values and economics.

This paper is part of an emerging literature that connects moral preferences and finance. Many papers in this space focus on socially responsible investing (SRI). Theoretical contributions contrast de-ontological preferences of investors (e.g. Pastor et al. (2021)) and consequen-

tialist ones (e.g. Broccardo et al. (2022)). In these models, investors are always prosocial, but may prefer "value alignment" (buy stocks that are already doing good) or "impact investing" (invest in projects that would not otherwise get funded). The bulk of the evidence seems to be in favor of the de-ontological (value alignment) model. Riedl and Smets (2017) shows that investors are willing to sacrifice returns in order to own well-behaving stocks, consistent with de-ontological preferences (driven by a form of virtue signaling). Similarly, Giglio et al. (2023) study a large panel of ESG investors, and find that ESG returns expectations are low, and a large minority (about 25%) seek to invest for purely ethical reasons. Finally, Bonnefon et al. (2025) experimentally test both views and find evidence in favor of de-ontological preferences.

Fewer papers study the implication of moral preferences on corporate social responsibility (CSR). The null hypothesis in these papers is the "Friedman doctrine" (Friedman (1970)), according to which firm behavior should focus on maximizing profits while leaving moral decisions to individual shareholders. Hart et al. (2024) show that stakeholders of firms exposed to Russia during the invasion of Ukraine are willing to pay to hurt firms who do not withdraw from Russia, even when their personal impact is zero, again consistent with de-ontological preferences. Iliewa et al. (2025) find that corporate actions (especially "traditional" actions such as shareholder payout or CEO pay) are perceived by survey participants as moral issues, and are willing to pay to induce firms to behave morally.

Overall, these papers are consistent with investors striking some form of tradeoff between morals and economics. Our findings suggest that motivated beliefs may be a way to psychologically handle these difficult tradeoffs.

In uncovering the moral drivers of attitudes toward debt enforcement, we also draw from the large economic literature on moral preferences. This literature is too large to be exhaustively cited here, but recent contributions have focused on the notion of moral responsibility, which could be relevant to perception of debt (Cappelen et al. (2007), Falk et al. (2021), Andre (2024)). Our measurement of moral preferences comes from moral psychology Graham et al. (2009), which focuses on five moral foundations (care, fairness, loyalty, authority and purity). This series of contribution adds to altruism (care) and reciprocity (fairness), which have been widely studied in economics (e.g. Andreoni (1990), Fehr and Gächter (2000)), three other moral values that would deserve a deeper treatment in economics. Last, our results resonate with the political literature on views about redistribution which emphasizes different beliefs about the effect of luck versus effort. Piketty (1995) and Alesina and Angeletos (2005) provide models where such beliefs fail to update in spite of rationality (because actions respond to beliefs). Consistent with these models, we find that financial literacy does not cause mental models of the credit market converge.

Section 2 describes the survey, data collection, and the data. We discuss the measurement

of moral values in detail, as they are at the core of the paper. Section 3 presents our first result (debt attitudes are explained by moral values). Section 4 describes our second result (debt attitudes take economic efficiency into account). Section 5 presents our third result (economic beliefs are strongly correlated with moral values). Section 6 concludes.

2 Survey and Sample

This section briefly describes the data collection process, the sample, and the survey structure.

2.1 Data collection and final sample

The survey was designed using the online platform *Qualtrics* and participants were enrolled through the online survey platform *Prolific* (https://www.prolific.com/). *Prolific* allows us to craft samples by imposing restrictions on which participants can enroll. We produce a sample with participants located exclusively in the US, who are US residents, and whose first language is English. The survey was administered on August 4, 2022, and was completed by 1,903 respondents. We include two attention checks and drop participants who failed either of them. By using the unique ID assigned by Prolific to each survey taker, we are able to restrict participants to taking the survey only once. We end up with a final sample of 1,741 participants[4]. Participants took an average of 15.6 minutes to complete the survey (Appendix Figure A.1 reports the shows the distribution of completion times). Participants could use a phone, tablet, or computer to take the survey, and the survey did not require any special technology (ex: no audio or video components). Participants were compensated $4 upon completing the survey (there was no compensation if the participant failed either attention check) and were told the survey would take 14 minutes, which amounts to an hourly rate of $17.14 per hour. The following description was used to advertise the survey on the Prolific platform: "In this survey, we will give you several scenarios and ask you to make choices. Our goal is to understand your attitudes on these issues — there are no right or wrong answers to these questions." Table 1 reports the summary statistics of all the variables we use in our analysis. Appendix Table A.1 reports summary statistics for the overall U.S. population as compared to the sample of participants in our survey.

2.2 Survey structure

The survey consists of four blocks: three scenario-based vignettes and a final section with questions on demographics and moral values. The order of the vignettes was randomized to

[4]There were 96,732 active Prolific participants in the last 90 days that fit our parameters as of March 2025.

avoid unintended framing of answers due to the sequence of the questions. Two attention checks were also included. The first attention check was after the first vignette. The second attention check was after the third vignette, and before the final section with demographics and moral values. If either attention check is failed, the participant is ejected from the survey and is not compensated. These responses are not included in the analysis. Appendix Section A provides the detailed survey questionnaire received by participants. Appendix Figure A.2 contains two screenshots of how the vignettes appeared to survey participants. In this section, text in italics and quotes represents the actual survey text read by participants.

For each vignette, participants read a hypothetical scenario and make choices about the situation. After making their choices, participants provide justifications through a series of close-ended questions. These justification questions followed a consistent format: participants were asked "*How much do you agree or disagree with the following statements?*", followed by a list of statements where they responded using a 5-point Likert scale ranging from "*1-Disagree*" to "*5-Agree*", with "*I don't want to answer*" as an additional option.

The survey explores three distinct aspects of attitudes toward debt through vignettes on: debt pricing discrimination (Appendix A.1), bankruptcy resolution (Appendix A.2), and alternative enforcement mechanisms (Appendix A.3). We now provide more details on each of the survey blocks (vignettes, demographics, and moral values questions).

2.2.1 Debt pricing discrimination

The first vignette (A.1) examines participants' views about allowing interest rates to vary between borrowers based on their credit score or whether they favor a pooling of interest rates. To this end, participants are told that while banks' profits are held constant, they could either charge all borrowers the same interest rate, or they can tailor interest rates to borrowers' credit scores. For example, individuals with good credit scores are granted lower interest rates than people with bad credit scores. Participants are then asked: *As a concerned citizen, do you think banks should be allowed to charge different interest rates?*. Using a slider, participants indicate their preferred interest rate difference between high and low credit score borrowers.

Following a participant's answer to the vignette, they are asked how much they agree with a series of five statements which get at the different moral and economic considerations about pooling versus separation in credit markets. The considerations are: (i) affordability for low credit score people of uniform interest rates; (ii) incentives for credit score-building behavior through interest rate setting; (iii) moral perception of rating people; (iv) fairness of pooling, (v) potential inaccuracy of credit scores.

2.2.2 Bankruptcy leniency

The second vignette (A.2) elicits participants' views about debt default and bankruptcy leniency. We want to understand when participants favor lenient bankruptcy resolution *versus* when they favor tough bankruptcy resolution. The vignette contains two parts. In the first part, we present the case of a fictitious individual: Melissa. [5]

She is a single mother who fell behind on her car loan payments and filed for bankruptcy. We ask the participants to imagine that they are the bankruptcy judge and have to decide how to resolve her bankruptcy case. We also add four treatments by independently randomizing two versions of each of two types of information. To write out the four treatments: irresponsible sentence + tradeoffs sentence, irresponsible sentence + no tradeoffs sentence, unlucky sentence + tradeoffs sentence, unlucky sentence + no tradeoffs sentence. The more detailed version of these treatments is that we first, randomize whether the reason for bankruptcy is due to irresponsible behavior by Melissa *"In the last few years, Melissa has been spending more than usual. She started eating out at upscale restaurants and likes to buy shoes from designer stores."*, versus an unlucky shock *"Recently, Melissa has experienced a series of adverse events. Her daughter broke her leg playing hockey which led to expensive surgery and rehabilitation, only partially covered by insurance. Besides, her boiler broke and had to be replaced."*. Second, we independently randomize whether participants are shown a sentence designed to prime them to think about the tradeoffs involved in bankruptcy decisions. Those receiving the treatment are told that "*In a bankruptcy system where all judges grant large debt reductions, defaulters benefit from a fresh start. However, this increases the interest rate for everyone, because banks lose more money when people default and have to break even on their loans*". We then ask the participants, as bankruptcy judges to choose between two levels of leniency. The participant can choose to (i) forgive part of the loan and allow Melissa to keep the car, or (ii) seize the car and forgive the remaining outstanding loan.

The second part of the vignette asks participants to consider the bankruptcy system in general terms instead of a particular situation. We ask the participants to imagine that they are regulators. They must choose between a baseline system that is either stricter or more lenient. To simplify the prompt, participants are asked to focus on the market for car loans. In the baseline system, cars are seized and the remaining balance on the loan is discharged. In the lenient one, cars are not seized and half the loan is forgiven. To display the tradeoff implied by the lenient system participants are told that "*A system that grants large debt reductions to borrowers in default, can help individuals achieve a fresh start. However, because of these large reductions, banks lose more money and therefore have to charge higher interest*

[5] All the names used in the vignettes (Melissa and Isabelle) are chosen with the goal of being class and race neutral.

rates on loans to everyone, in order to break even". Finally, we randomly tell half of the participants that the lenient system only applies to individuals facing an unexpected negative income shock. We then ask the participants what is the maximum interest rate, above which the lenient system is no longer attractive. Using a slider, participants indicate their preferred interest rate setting such limit. They can also simply choose "*Leniency is always better*".

Following the vignette, participants are asked how much they agree with a series of seven statements related to economic and moral beliefs about bankruptcy. The statements cover: (i) accountability when signing a contract; (ii) the constraints on freedom imposed by debt; (iii) the negative externalities of lenient bankruptcy on interest rates; (iv) compassion towards economic hardship; (v) fairness of leniency when there is a lack of understanding of debt contracts; (vi) fairness of leniency when individuals face unexpected negative shocks.

2.2.3 Debt enforcement and forms of collateral

The third vignette (A.3) studies how accepting people are of alternative ways of enforcing debt contracts. We want to understand for which interest rates are participants willing to accept "harsh" forms of collateral. The vignette can be broken down into two parts as with vignette (A.2). In the first part, our goal is to establish a baseline on the willingness of the participants to take a loan. We present the case of a different fictitious individual: Isabelle. She is a single mother with a steady job who would like to buy a car because it would save her several hours on her commute each week. For now, Isabelle only has sufficient savings for a down payment, not the full cost of the car. She can either (i) start saving to buy the car outright with cash, which would take 1 year, and continue taking the bus in the meantime; or (ii) she can take out a standard 5-year car loan with a competitive interest rate. We ask the participants to give some advice to Isabelle: should she save and wait one year or take the loan?[6]

The second part of the vignette considers a modified scenario. Now, instead of choosing between saving or borrowing to buy a car, the choice is between taking the standard car loan with a 10% interest rate or taking a new type of loan contract with a lower interest rate but alternative forms of collateral. We randomize between three types of alternative collateral which act as commitment tools. If Isabelle misses a payment, the bank can either (i) remotely shut off her car, (ii) immediately shut off her home's electricity supply, (iii) or it can play an automated message at the beginning of the conversation each time someone calls her on her phone: "*Isabelle is late on her bank debt payment, please encourage her to be in line with her debt obligations*". These "harsh" forms of collateral are based on contracts that either exist

[6]Participants are also allowed to answer "*I don't know*" or "*Other*". If they choose "*Other*", they must provide an open-ended answer.

or have been proposed in different countries.[7] We add a second layer of randomization by showing participants a sentence about the probability of job loss as "*very unlikely*" or with "*a reasonable chance*". This randomization highlights different likelihoods that the alternative collateral will actually be implemented by the bank. We then ask participants how low would interest rates have to be, for the alternative loan to be preferable to the standard one. Using a slider, participants indicate their preferred interest rate.

Following the first part of the vignette, participants are asked how much they agree with a series of seven statements related to economic and moral beliefs about debt enforcement. Following the second part of the vignette, participants are asked how much they agree with the same seven statements, plus an additional three statements which are alternative collateral specific. The statements cover: (i) trust in banks; (ii) risks of borrowing; (iii) how debt transforms future savings into present consumption; or (iv) aspects of life that should be off limits of financial contracts.

2.2.4 Socio-demographics and moral values

The last part of the survey consists of a questionnaire about moral values (A.4) and demographics including financial literacy, gender, age, income, religiousness, race, education, and political views. Details on the questions are provided in Appendix A. Importantly, our measure of religiousness is, essentially, a measure of "Christianity" as 75% of participants who describe themselves as religious are Roman Catholics or Protestants (see Appendix Table A.2). Therefore, we will not, in this paper, be able to distinguish the role of various religions in shaping moral preferences.

Financial literacy is measured with 5 questions, which check familiarity with: compound interest, real versus nominal return, bond prices and yields, portfolio diversification and mortgage maturity. We construct a dummy equal to 1 when participants provide the right answer to at least 4 of these 5 questions, and zero else. Religiousness is a dummy equal to 1 when the participants declare themselves as "religious" (whether regularly attending service or not). Political leanings are coded as 1 (conservative), 0 (independent) and -1 (liberal).

Importantly, we also measure moral values. Graham et al. (2009) and Haidt (2012) document that the moral attitudes of individuals, across countries and cultures, can be summarized along five foundations: care/compassion, fairness, in-group loyalty, authority, and purity/sanctity. Haidt (2012) provides a set of questions, the Moral Values Questionnaire (MVQ), to identify the moral attitudes of respondents along the five foundations. The full set of questions can be found at www.yourmorals.org. While the MVQ proposed by Haidt

[7] See for example late payment and car "kill switch" in the US, late payment and social shaming in Nigeria, and smart meters in utilities.

(2012) contains 30 questions, with six per foundation; to keep the survey brief, we use only one question per foundation. The order of these questions is randomized and they are formulated as (see Appendix A):

- *Care/Compassion*: "Compassion for those who are suffering is the most crucial moral value".
- *Fairness*: "I think it is morally wrong that rich children inherit a lot of money while poor children inherit nothing."
- *Authority*: "Respect for authority is something children need to learn."
- *In-group loyalty*: "People should be loyal to their family members, even when they have done something wrong."
- *Purity/Sanctity*: "I would call some acts wrong on the grounds that they are unnatural."

Quite clearly, these questions are not directly related to attitudes to credit markets. Except for the fairness question, none of them involves economic beliefs.

In most of our analysis, we summarize the five moral foundations with their first principal component (PC). It is defined as:

$$\begin{aligned}\text{Conservative Values (PC)} = &-.20 \times \text{Compassion} - .41 \times \text{Fairness} \\ &+ .59 \times \text{Authority} + .42 \times \text{Loyalty} + .51 \times \text{Sanctity}\end{aligned}$$

and it represents 40% of the variance of the five foundations. We label this first PC as "Conservative Values PC" since it captures strong adherence to authority, loyalty, and sanctity as opposed to fairness and compassion.

Table 2 reports the correlation between "Conservative Values PC" and participants' self-reported characteristics. We start by looking, in column (1), at the relationship between "Conservative Values (PC)" and the participants' self-reported political orientation, coded as 1 if conservative, 0 if moderate, and -1 if liberal. In line with Graham et al. (2009) and Haidt (2012), moral values strongly correlate with political positioning (and with voting, as shown by Enke (2020)). The monotonicity of this relationship is visually confirmed through a binned scatter plot in Figure 1. It remains robust across all specifications, maintaining stable point estimates when additional controls are included. In column (2), we examine how "Conservative Values (PC)" relates to religiousness, defined as a dummy equal to 1 if the participant declares to be religious (either attending religious services regularly or not) and 0

otherwise. As with political positioning, we find a strong positive relationship between moral values and religiousness. Further, the relationship is robust across specifications when we include additional controls. In column (3), we include a larger array of explanatory variables. We find that conservative values are more prevalent among participants who are older, male, and with higher incomes. Finally, in column (4), we show that the correlation of moral values with financial literacy is weak, in line with the idea that moral values capture something different from basic knowledge of finance.

3 Moral values explain attitudes to debt

In this section, we focus on our first fact and study how moral values shape attitudes to debt: unequal loan pricing, bankruptcy (two sub-vignettes) and stricter collateral. We discuss each one of our three vignettes separately.

3.1 Attitudes to unequal loan pricing

We begin by focusing on the credit score-based loan pricing vignette (described in section 2.2.1, with details in Appendix A.1). Here, our dependent variable is the maximum interest rate difference between high and low credit score borrowers, considered acceptable by the participant. This is regressed on moral values and a host of controls.

Regression results are reported in Table 3. Column (1) reveals that 4 out of 5 moral foundations matter for preferences on interest rate differences. Three moral foundations are significant at the 1% level. Taken together, moral values explain 12% of the variance of attitude to credit score-based pricing. The results are also fairly intuitive. More altruistic ("Care") and fairness-oriented participants are more likely to reject large interest rate differences. On the other hand, people who defer to authority or emphasize in-group loyalty are more likely to choose larger interest rate differences.

To make things easier to read, we summarize moral values with their first principal component, the "conservative value PC", described in Section 2.2.4. We use this PC alone in column (2), and find that the R^2 remains high, at 10%. The statistical significance is very high ($t = 14$). Participants who load more on this summary measure (i.e. who score high on sanctity, authority, and low on care and fairness) strongly prefer a large range of interest rates. This result is robust across all specifications, with stable coefficients throughout. For example, in column (3) we control for religiousness and political positioning. Even though political positioning strongly correlates with such conservative values PC (see Graham et al. (2009)), the coefficient on "Conservative Values (PC)" is barely affected by the inclusion of

the self-reported "conservative leaning" control. Similarly, the inclusion of religiousness does not attenuate the coefficient associated with conservative values. Overall, conservative values are correlated with religiosity and political leanings, but capture additional important information. The magnitude and significance of conservative values is also unchanged when controlling for financial literacy, a potential driver of attitudes to the credit market (column (4)). This is also true when we include demographic controls in column (5) such as gender, age, or income. For instance, women and younger people are on average more likely to prefer a smaller interest rate range, while people with higher income tend to favor a larger range. However, none of these controls materially change the effect of moral values. Finally, in columns (6) and (7) we split the sample between low financial literacy and high financial literacy, respectively. Again, the coefficient remains stable across both specifications.

3.2 Attitudes to bankruptcy leniency

We now focus on the two bankruptcy vignettes (A.2). We start by looking at how participants reason through a concrete example: the bankruptcy decision in Melissa's case. Our dependent variable is now a dummy equal to 1 if the participant opts for the lenient decision ("*forgive part of the loan and allow Melissa to keep the car*"), and zero otherwise ("*seize the car and forgive the remaining outstanding loan*"). We then regress this variable on the same determinants as in the previous section.

Table 4 presents the results. As before, we first look at all moral foundations separately (column (1)). Also, except for sanctity and in-group loyalty, all moral foundations are statistically significant at the 1% level. The results align with intuitive moral reasoning. In columns (2)-(7), we replace all five moral foundations by our conservative value PC. We find that, across specifications, participants conservative values are less likely to choose the lenient option for the resolution of Melissa's bankruptcy. The relationship is statistically very strong. In column (2), we see that the univariate t statistic is 6.2. Introducing religiousness and politics as controls attenuates this significance somewhat, as political leanings and moral values are highly correlated (column (3)). But overall, it looks like moral values subsume political leanings (the coefficient remains significant). Controlling for financial literacy has no effect on the significance of moral values, neither do other demographics (columns (4) and (5)).

We next explore whether this correlation between leniency and moral values is prompted by the concrete dimension of Melissa's case. A possibility is that a more "abstract" formulation of the tradeoff between leniency and the workings of the credit market equilibrium makes participants less willing to be lenient (by appealing to reason rather than emotions). We exploit the second part of vignette (A.2) to address this question. Here, the participants were

asked to choose a maximum interest rate above which the lenient system is no longer attractive. This is equivalent to asking participants for their willingness to pay for leniency. We also gave participants the option to indicate that the lenient system is always better, regardless of the equilibrium interest rate (380 participants out of our 1,741 chose this option).

Table 5 reports the effect of moral values on participants choice of system leniency. To keep the table concise, we focus here on the conservative values PC (and skip the moral foundation breakdown). It consists of two panels. Columns (1)-(5) use, as dependent variable, the maximum acceptable rate above which a lenient bankruptcy system is no longer acceptable (a number provided only by 1,361 participants only). Columns (6)-(10) uses the dummy equal to 1 if participants think the lenient system is always better, no matter the interest rate (this variable is available for all participants). For each one of these two alternative measures of preference for leniency, we regress the dependent variable on the conservative values PC, and then control for financial literacy and demographics.

The picture that emerges from Table 5 is that the conservative values PC is strongly negatively associated with preferences for system leniency. Consistent with the specific case of Melissa, conservatives prefer a tougher bankruptcy resolution system (univariate t statistics around 5, both in columns (1) and (5)). Further, financial literacy is an important determinant of bankruptcy decisions. Like in Table 4, it somewhat attenuates the coefficient associated with "Conservative Values (PC)", but it remains very strongly significant (columns (2) and (7)). In columns (3) and (8), we explore whether priming participants to think about specific cases (i.e. asking the Melissa question first) affects thinking about the system, but find no effect of such priming. Overall, conservative moral values make participants strongly averse to leniency, be it in specific situations or taking a systemic perspective.

Finally, we show that conservative values also correlate strongly with the propensity to accept stricter debt enforcement through "exotic" collateral. Like for the bankruptcy system vignette, we elicit preference for strict collateral through two separate variables: (1) whether the alternate collateral is acceptable at all (compared to a standard auto loan, described in a previous question), and (2) if so, what is the maximum interest rate that would make such collateral preferable to a standard loan (rate set by convention at 10%). The second question is more quantitative (the average maximum rate is 4%, so significantly below the standard auto loan rate), but is only defined for participants who find the alternative arrangement acceptable (1,055 participants, or about 61% of the sample).

We report the regression results in Table 6. Columns (1)-(5) use as LHS variable the dummy variable equal to 1 if the stricter collateral is not acceptable at any rate decrease. Columns (6)-(10) use the maximum acceptable rate. Overall, the conservative values PC is a robust cross-sectional predictor of more strictly enforced collateral, albeit with slightly weaker

t statistics than in the other three vignettes. Conservatives are more likely to recommend strict collateral (columns (1) and (6)). Religiousness or political leaning have no predictive power (columns (2) and (7)). Controlling for financial literacy (columns (3) and (8)) does not materially change the coefficient on moral values, but makes it slightly more significant (with t stats of 3.3 and 3.7 for each LHS variables).

3.3 Internal consistency of participants' attitude to debt

We summarize answers to the three vignettes into one single PC. We focus on four variables that are available for the entire sample: (1) maximum acceptable rate range (pricing vignette), (2) choice of the lenient option for Melissa's default (first bankruptcy vignette), (3) propensity to agree with the idea that the lenient system is always better (second bankruptcy vignette, order randomized) and (4) statement that the stricter collateral is never acceptable (strict collateral vignette). We omit the two WTP variables (bankruptcy system, strict collateral) as these are by definition not available for the entire sample.

This first PC of these 4 variables explains 37% of the sample variance, and is defined as:

$$\begin{aligned}\text{Downside Insurance} = &-.51 \times \text{Max. acceptable rate range} + .50 \times \text{Lenient option to Melissa} \\ &+ .36 \times \text{Lenient system always better} + .36 \times \text{Stricter collateral never okay}\end{aligned}$$

which is easy to intepret: Participants who score high on this PC tend to prefer less strict collateral, more lenient bankruptcy system and decision, and more equal loan pricing across borrowers. We call this PC "Downside Insurance". It measures how much participants adhere to the idea that credit markets should provide ex ante and ex post insurance, via homogeneous loan pricing, weak enforcement and lenient bankruptcy. The fact that this PC explains a large fraction of the variance shows that the question whether debt should provide insurance or not is the main driver of individual attitudes. In other words, our participants show a high level of internal consistency in their answers.

We regress this "Downside Insurance PC" on moral values and other controls, and report the results in Table 7. As in the previous results, column (1) confirms that Care, Fairness and Authority are the key drivers of attitude to insurance attitude to debt. Each moral foundation is very strongly significant and the sign goes in the expected direction (care and fairness predict more insurance attitudes, respect for authority shows up negative). Column (2) introduces the "conservative values PC", which is as expected given prior results, very strongly negatively significant ($t = 12$, $R^2 = 8\%$): more liberal participants are more likely to adopt insurance attitudes to credit markets. The effect is quantitatively large: a one-s.d. increase in the conservative value PC (1.4) leads to a reduction in the Downside Insurance

PC by about 27% of its own s.d. The relationship is clearly monotonic as evidenced in the binned scatter plot of Figure 2. Columns (3)-(5) progressively add controls, but moral values remain, everywhere, very strongly significant. It is somewhat affected by the political leaning variable, but this is to be expected given that moral values are strongly correlated with – but subsume – political opinions, as discussed in Section 2.2.4.

Overall, debt attitudes expressed in our four vignettes are largely explained by one PC, which represents attitudes to redistribution across borrowers via debt (ex ante and ex post). This PC is highly correlated with measures of moral values that are not elicited in relation to credit markets.

3.4 Fairness and responsibility

When deciding whether an outcome is just, Cappelen et al. (2010) argues that individuals have different criteria. These criteria depend on what they call the "responsibility cut". *Libertarians* tend to hold people responsible for everything that happens to them, whether it results from effort or luck. Then come the *meritocrats*, who hold people responsible for what is in their control, but not for bad luck.[8] Finally, *equalitarians* only consider equal allocations as fair.

We explore here attribution of responsibility through two survey questions and one random treatment. The survey questions are asked after the bankruptcy treatments as part of a series of justification questions. More precisely, we focus on agreement with the following two statements, which come after the bankruptcy vignette:

1. *People should be held accountable. When they sign a contract, they should be expected to follow the terms of the agreement.*

2. *People should face the consequences of their decisions. Otherwise this may create bad borrowing habits.*

Answers to these two questions are very strongly correlated (the first PC, which is the average of both, explains 84% of the variation in the data). They describe the extent to which the participant weighs personal responsibility.

Unsurprisingly, overall, conservative values correlate with agreement that personal responsibility matters. In Table 8, we regress answers to both of these questions on moral values, and find that they are both equally and strongly correlated with moral values. Participants with conservative values are more likely to agree with both statements with univariate t-stats

[8]They actually have two subcategories, depending on whether meritocrats accept the idea that effort is partly dependent on luck, or not. This distinction is beyond our scope here.

around 20. In Figure 3, we show the univariate relation between the first PC of both responsibility questions and conservative moral values. It is monotonic and linear. Table 8, columns (2-3) and (6-7), confirms that socio-demographics have no direct impact and do not attenuate the influence of moral values.

To further clarify the role of agency (libertarians) versus luck (meritocrats), we ran a treatment which highlighted that Melissa's default came from her behavior or events outside her control. Half of the participants were told that Melissa was unlucky: *Melissa has experienced a series of adverse events. Her daughter broke her leg playing hockey which led to expensive surgery and rehabilitation, only partially covered by insurance. Besides, her boiler broke and had to be replaced.* The other half was told that Melissa had been a lavish spender: *In the last few years, Melissa has been spending more than usual. She started eating out at upscale restaurants and likes to buy shoes from designer stores.* We show in Table 9 that participants with conservative values are more likely to attribute Melissa's sitution to her personal responsibility, consistent with the idea that conservatives are closer to "libertarians" in the above typology (individual responsibility extends to shocks beyond one's control). The "Melissa unlucky" treatment has a very large unconditional effect on the propensity of participants to choose the lenient default option (columns (1)-(2)). This effect is, however, reduced by 20% for participants with a conservative PC above median (significant at .6%, columns (3)-(4)). Conservatives are less likely to account for luck in their attitude to Melissa's default.

Overall, this last piece of evidence is consistent with the idea that conservative values come with a "broader" notion of individual responsibility, one extended beyond what individuals control.

4 Economic efficiency treatments

In this section, we show that participants also take economic efficiency into account in their answers. This is consistent with the idea that participants on average care about both in their answers, efficiency and morality.

The challenge with economic efficiency in debt contracts is that it is not unambiguous without a specific context. For example, how lenient or tough a bankruptcy system should be on average, depends on the type of shocks that borrowers face, whether most shocks are in the person's control or exogenous events. But it is easier to make clear statements about efficiency when thinking about comparative statics: for instance, if moral hazard concerns are less important, the optimal bankruptcy resolution is more lenient. Or if default risk is lower, debt is more attractive for the person. To set up such comparative statics, we randomly expose participants to sub-treatments (information context) that should change their perceptions of

the economic efficiency of different decisions in all vignettes (see Appendix A). We sort these treatments into two groups: Treatments that change the perception of efficiency at a global level and those that change the perception of efficiency at the individual level.

The three economic efficiency shifters that we use are designed to minimize the moral loading in their descriptions:

- *Leniency raises interest rates*: In the Melissa default vignette, we randomly emphasize the fact that, if applied across the board, leniency in bankruptcy is likely to increase interest rates to all borrowers, as banks have to cover the costs of low recovery. This should induce participants to be less lenient to Melissa.

- *Leniency option for the unlucky only*: In the bankruptcy system design vignette, we randomly highlight that lenient resolution is restricted to borrowers who are defaulting for reasons outside of their control. Efficiency considerations should encourage respondents to choose the lenient option since this one generates less ex ante moral hazard concerns.

- *Alt. collateral never okay for Isabelle*: Here, we tell half of the participants that Isabelle is unlikely to lose her job. Then, the alternate collateral, whose enforcement is stricter should be relatively more attractive in this condition, since the loan is cheaper.

The first two shifters are "systemic", in that they highlight systemic repercussions of individual decisions. The last shifter is "individual", in that it provides participants with a concrete characteristic of Isabelle.

Table 10 reports the effect of these treatments on the vignette they apply to. The first result is that participants do take economic considerations into account, as predicted by economic theory. Being made aware that excessive leniency in bankruptcy tends to increase interest rates for all borrowers reduces leniency to Melissa. When we suggest that the lenient option in the hypothetical bankruptcy system is only for borrowers who experienced a shock out of their control, this makes the lenient option more likely to be chosen, but this effect is insignificant. Finally, suggesting that Isabelle is very unlikely to lose her job makes participants more likely to recommend the collateral with stricter enforcement, since it is cheaper. Overall, participants are sensitive to shifts in economic efficiency.

The second result from Table 10 comes from comparing the magnitudes and significance of the different treatments. In this Table, we normalize all LHS and RHS variables by their sample s.d. so that coefficients can be directly compared. The individual treatment of Isabelle has a stronger effect, both statistically and quantitatively than the two systemic treatments. This is suggestive of the idea that more personal treatments may have a stronger impact, a fairly intuitive proposition that would warrant further testing.

5 Moral values align with economic beliefs about credit markets

How do participants resolve the potential tension between morality and efficiency? In this Section, we suggest that, on average, people's economic beliefs align with their moral preferences. In other words, people do not perceive a tradeoff between these two domains.

To test this, in each of the 4 vignettes, we ask questions to elicit how participants think of the hypothetical situation, and what motivates their answers (see Appendix A for detailed formulations). Unsurprisingly, though reassuringly, morally loaded justifications are strongly guided by moral values. We provide evidence of this in Appendix Table A.3, but since this is not the main point of the paper, we do not discuss it here. In this Section, we focus instead on *economic* beliefs about how credit market works.

5.1 Mental model of the credit market and moral values

We ask how much mental models of the credit market line up with moral values. After each vignette, we ask participants questions about their representation of the credit market. We focus here on answers to six questions, whose formulations are provided below:

- *Unequal rate better for incentives*: Most borrowers with good credit scores earn it through their good behavior. It is important to keep the incentive of building a good credit score.
- *Credit scores inaccurate*: A credit score may not accurately capture a person's riskiness.
- *Some shocks are outside of control*: Sometimes people have unforeseen shocks. It's fair to be lenient because people shouldn't be punished for events outside of their control.
- *Better recovery lowers rates for all*: If lenders don't recover most of the loans they make, then interest rates will rise for everyone and borrowing may become unaffordable for some people.
- *Terms are easy to understand*: The terms of the loan are straight forward. All borrowers should be able to understand them.
- *Benefits outweigh costs*: There is a chance Isabelle defaults, but the benefit of lower interest rates outweighs the extra costs of the alternative loan.

We wrote these questions so as to make them descriptions of credit market functioning that are as objective as possible. To minimize moral triggers, they do not directly appeal to morality.

We regress answers to each one of these questions on moral values in Table 12. To save space, in each column, we directly control for a host of sociodemographics. But our core result does not depend on these controls: economic mental models are very strongly correlated with moral values, with signs in the expected directions. Conservatives are more likely to agree with the statement that interest rates inequality creates good incentives, that high recovery rates upon default lowers interest rates across the board, and that strict collateral is ex ante "worth it" in spite of higher ex post default costs. Liberals in contrast tend to think credit scores are inaccurate predictors of risk or that borrowers often face shocks outside of their control. Note that conservative values are very strongly significant, with t-stats ranging from 5.4 to 20 depending on the question.

We can further establish the internal consistency of economic mental models by focusing on the first PC of the six economic questions. This PC explains 33% of the variance, and is defined as:

$$\begin{aligned}\text{Credit market discipline PC} = .53 \times \text{Unequal rates good for incentives} \\ - 0.46 \times \text{Credit score inaccurate} - 0.42 \times \text{Some shocks out of control} \\ + .42 \times \text{Better recovery lowers rates} + .28 \times \text{Terms easy to understand} \\ + .24 \times (\text{Benefits of strict enforcement} > \text{costs})\end{aligned}$$

where we interpret the first PC as signaling a propensity to believe that incentives dominate concerns for insurance, borrowers are rational and responsible, and equilibrium feedbacks matter for efficiency. The importance of this principal complement establishes that participants adopt internally consistent beliefs about how the economy works.

In line with our earlier results, the "credit market discipline" PC strongly correlates with the conservative PC. Figure 4 shows the univariate relation between the two variable, through a binned scatter plot. The relationship is quasi-linear and increasing. Table 13 reports regression results. The univariate t statistic with the conservative values PC is 23 and the $R^2 = 25\%$, so the relationship is very strong (column (2)). Controlling for political leanings (column (3)) barely affects this relation suggesting, as before, that conservative values contain more information than pure political self-positioning. Further, controlling for financial literacy or other socio-demographics does not reduce the effect of moral values. Financially literate participants are more likely to believe in credit market discipline as a way to obtain efficiency – similar to the views of most finance professors. The same is true for high income respondents, and the opposite holds for women.

Overall, conservative values go hand in hand with a view that high-discipline credit market are efficient. This is consistent with two options. First, participants rely on moral values as

bayesian priors to shape their decisions in a whole array of settings: Politics, personal life, and in particular economics. As they obtain information in a particular domain (say, credit markets), however, they would update these priors to form more accurate beliefs in this particular domain. Alternatively, moral values could stand for moral preferences or form anchors for non-bayesian beliefs. A large literature on moral preferences emphasizes that individuals are altruistic (e.g. Andreoni (1990)), and value fairness (e.g. Fehr and Gächter (2000)). Such an interpretation is however not distinguishable, in our survey, from non-bayesian updating. For instance, participants may share common preferences and hold different priors. If Bayesian learning about, say, economics, is difficult, then moral values serve as stable anchors for economic beliefs (Piketty (1995),Alesina and Angeletos (2005)). Put differently, economic beliefs never deviate very much from moral values as universal priors, however well informed or trained the agent is.

5.2 Financial literacy and moral values

If people were Bayesian with "universal priors" based on their values, we would expect financial literacy to attenuate the effect of moral values on views about credit markets. By learning about finance, participants' beliefs should rely less on their moral values (which here are universal priors), and more on the models they learn.

To test this, we regressed each debt attitude (across our four vignettes) on moral values and a set of controls, and split the sample into high and low financial literacy participants. High financial literacy participants are those who correctly answered at least 4 of the 5 questions: They represent 63% of our sample. As shown in Table 9, the sensitivity of attitudes to moral values is nearly identical in both subsamples, and differences in coefficients never approach statistical significance.

For example, in the first two columns of Table 9, we report the results for the interest rate vignette. The sensitivity of wide interest rate to the Conservative values PC is .22 ($t = 7.$) and .19 ($t = 8.8$) for low and high financial literacy groups, with an insignificant p-value of equality test. We also split the sample into high and low formal education (high education corresponds to participants with four-year college graduation or more). This is meant as a robustness check against the concern that our financial literacy measure is noisy (it only includes 5 questions about diversification, interest rates, the stock market). We obtain exactly the same outcome: formal education has no effect on the sensitivity of debt attitudes to moral values. The same analysis confirms that education (financial or general) does not attenuate people's beliefs about how credit market economics work.

Overall, this evidence is consistent with participants having motivated economic beliefs

that line up with their moral values, whether these reflect moral preferences or beliefs so sticky they are not revised.

6 Conclusion

In this paper we show that moral values (as measured through questions unrelated to economics) explain a significant part of participants' attitudes to debt. Such attitudes appear highly consistent within participants and across different decisions, as most of their variance is explained by a principal component (PC), which takes large values for participants who think of debt as an insurance tool (across borrowers via homogeneous debt pricing, and across states of nature via lenient enforcement) and vice versa for participants who hold the opposite view. We hypothesize that this PC reflects the overall willingness of the participants to provide "downside insurance" or redistribution. This PC is strongly correlated with "progressive" moral values, such as fairness and care, and negatively correlated with preference for authority.

Second, we offer evidence that participants do not completely ignore economics when assessing the use of debt contracts. We randomize treatments designed to highlight the costs and benefits of redistribution through debt contracts (being lenient raises interest rates, some borrowers should accept strict loan enforcement because they are unlikely to default, etc.). We find that participants respond to all treatments in the direction predicted by economic efficiency. We find, however, that "individual treatment" (treatments affecting the view of an individual, rather than the system) have much stronger effects - consistent with the idea that people are willing to consider "mitigating circumstances" when thinking about an individual but not when thinking about the financial system as a whole.

Our final results are that participants' views of the economics of debt tend to align with their moral values. We find the answers to different questions are internally consistent, and can be summarized by a "belief in credit market discipline" principal component. This PC is strongly and positively correlated with conservative moral values. Such correlation is, however, not attenuated by financial or general education. Such evidence is consistent with two alternative stories: (1) moral values are preferences, and participants choose their economic beliefs to align with their preferences, as in theories of motivated beliefs or (2) moral values are deeply anchored, portable beliefs about how the world works, that are applied to credit markets, but are rarely updated, even applied to credit markets. We leave distinguishing between these two hypotheses for future research.

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7 Tables

Table 1: Summary Statistics

	Mean	St. Dev.	No. Obs.
Care	0.00	1.00	1,716
Fairness	0.00	1.00	1,719
Authority	-0.00	1.00	1,724
In-group loyalty	0.00	1.00	1,732
Sanctity	-0.00	1.00	1,711
Conservative values PC	-0.00	1.41	1,663
Self described conservative	0.16	0.37	1,741
Religiousness	0.39	0.49	1,741
Above median fin. literacy	0.63	0.48	1,741
$30 \leq$ Age ≥ 50	0.48	0.50	1,741
Age > 50	0.21	0.40	1,741
Female	0.53	0.50	1,713
Log income	3.71	1.11	1,739
College graduate or more	0.52	0.50	1,741

This table displays summary statistics for the main variables employed in the paper. Moral foundations are standardized to have a mean of 0 and a standard deviation of 1 here for simplicity. Go back to main text

Table 2: What Characteristics correlate with the conservative values PC?

	Conservative values PC			
	(1)	(2)	(3)	(4)
Conservative politics	.99***	.86***	.8***	.8***
	(26)	(21)	(20)	(20)
Religiousness		.52***	.5***	.5***
		(8.2)	(8)	(8)
$30 \leq$ Age ≥ 50			.13**	.15**
			(2)	(2.2)
Age > 50			.61***	.64***
			(7.6)	(7.8)
Female			-.21***	-.23***
			(-3.7)	(-4)
Log income			.046*	.053**
			(1.8)	(2)
Above median fin. literacy				-.11*
				(-1.7)
Constant	.41***	.16***	-.085	-.043
	(12)	(3.5)	(-.73)	(-.36)
Observations	1,607	1,607	1,583	1,583
R^2	0.29	0.32	0.34	0.35

This table reports the results from regressing "Conservative values PC" on participants' self-reported characteristics. See Section 2.2.4 for a detailed definition of "Conservative values PC". t-statistics are reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% confidence level, respectively.
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Table 3: Preference for wide range of interest rates

	Maximum acceptable interest rate range				
	(1)	(2)	(3)	(4)	(5)
Care	-.84***				
	(-4.7)				
Fairness	-.63***				
	(-5.5)				
Authority	.96***				
	(6.4)				
In-group loyalty	.24*				
	(1.9)				
Sanctity	.12				
	(.98)				
Conservative values PC		1.4***	1.2***	1.4***	1.3***
		(14)	(9.3)	(14)	(12)
Religiousness			-.58*		
			(-1.7)		
Conservative politics			.9***		
			(3.8)		
Above median fin. literacy				1.8***	1.3***
				(5.9)	(4)
Female					-1***
					(-3.4)
$30 \leq$ Age ≥ 50					.8**
					(2.3)
Age > 50					.68
					(1.5)
Log income					.46***
					(3.3)
Constant	9.7***	8.5***	9.1***	7.3***	6***
	(9.8)	(57)	(39)	(30)	(10)
Observations	1,631	1,631	1,577	1,631	1,604
R^2	0.12	0.10	0.10	0.12	0.12

This table reports regression results where the dependent variable is the maximum acceptable interest rate range. t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

Table 4: Lenient Decision for Melissa: Determinants

	Lenient bankruptcy decision for Melissa				
	(1)	(2)	(3)	(4)	(5)
Care	.07***				
	(5)				
Fairness	.026***				
	(2.8)				
Authority	-.044***				
	(-3.7)				
In-group loyalty	.0083				
	(.82)				
Sanctity	.0054				
	(.56)				
Conservative values PC		-.051***	-.029***	-.05***	-.046***
		(-6.2)	(-2.8)	(-6.1)	(-5.2)
Religiousness			-.0047		
			(-.18)		
Conservative politics			-.07***		
			(-3.7)		
Above median fin. literacy				-.13***	-.12***
				(-5.3)	(-4.5)
Female					.023
					(.96)
$30 \leq$ Age ≥ 50					.019
					(.69)
Age > 50					-.024
					(-.67)
Log income					-.019*
					(-1.8)
Constant	.36***	.62***	.6***	.7***	.75***
	(4.6)	(53)	(32)	(37)	(16)
Observations	1,663	1,663	1,607	1,663	1,635
R^2	0.04	0.02	0.03	0.04	0.04

This table reports regression results where the dependent variable is a dummy equal to 1 if the participant opts for a lenient decision in Melissa's bankrupcy case. t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

Table 5: Lenient Bankruptcy System: Determinants

	Maximum Rate in Lenient System			Lenient system always better		
	(1)	(2)	(3)	(4)	(5)	(6)
Conservative values PC	-.31***	-.25***	-.2**	-.039***	-.038***	-.029***
	(-4.9)	(-3.8)	(-2.1)	(-5.5)	(-5.1)	(-2.8)
Above median fin. literacy		-.56***	-.55***		-.11***	-.11***
		(-2.9)	(-2.9)		(-5.2)	(-5.2)
System question first			-.013			-.028
			(-.074)			(-1.4)
Sys. Q first × Conserv. PC			-.092			-.018
			(-.72)			(-1.3)
Female		-.14	-.13		.032	.033
		(-.78)	(-.76)		(1.6)	(1.6)
$30 \leq$ Age ≥ 50		-.41**	-.41**		.016	.017
		(-2.1)	(-2)		(.71)	(.74)
Age > 50		-.89***	-.9***		.037	.035
		(-3.5)	(-3.5)		(1.3)	(1.2)
Log income		-.074	-.076		-.022**	-.022**
		(-.93)	(-.96)		(-2.4)	(-2.5)
Constant	15***	16***	16***	.21***	.33***	.35***
	(172)	(45)	(44)	(21)	(8.3)	(8.4)
Observations	1,309	1,291	1,291	1,663	1,635	1,635
R^2	0.02	0.04	0.04	0.02	0.04	0.05

This table studies the determinant of participants' preferences for a lenient bankruptcy system. Columns (1)-(3) use, as dependent variable, the maximum acceptable rate above which a lenient bankruptcy system is no longer acceptable (a number provided only by 1,309 participants). Columns (4)-(6) uses a dummy equal to 1 if participants think the lenient system is always better, no matter the interest rate. t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

Table 6: Preference for strict collateral

	Strict collateral never okay			Max rate with strict collateral		
	(1)	(2)	(3)	(4)	(5)	(6)
Conservative values PC	-.022***	-.021**	-.029***	.24***	.27***	.21***
	(-2.6)	(-2)	(-3.3)	(4.6)	(4.1)	(3.7)
Religiousness		.031			-.11	
		(1.1)			(-.66)	
Conservative politics		-.011			.005	
		(-.58)			(.042)	
Above median fin. literacy			-.12***			-.15
			(-4.5)			(-.87)
Female			.0084			-.54***
			(.34)			(-3.5)
$30 \leq$ Age ≥ 50			.064**			-.26
			(2.3)			(-1.6)
Age > 50			.19***			.16
			(5.3)			(.71)
Log income			-.031***			-.012
			(-2.8)			(-.16)
Constant	.4***	.38***	.51***	4.1***	4.2***	4.7***
	(33)	(20)	(11)	(56)	(35)	(15)
Observations	1,663	1,607	1,635	1,006	978	991
R^2	0.00	0.00	0.04	0.02	0.02	0.04

This table reports regression results where the dependent variable is a dummy equal to 1 if the participant considers that collateral is never acceptable in columns (1) to (3), and an interest rate in columns (4) to (6). t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

Table 7: Downside Insurance PC

	Downside Insurance view of debt PC				
	(1)	(2)	(3)	(4)	(5)
Care	.2***				
	(5.7)				
Fairness	.11***				
	(5.2)				
Authority	-.2***				
	(-6.8)				
In-group loyalty	-.016				
	(-.62)				
Sanctity	.023				
	(.99)				
Conservative values PC		-.24***	-.18***	-.23***	-.23***
		(-12)	(-7.3)	(-12)	(-11)
Religiousness			.072		
			(1.1)		
Conservative politics			-.19***		
			(-4)		
Above median fin. literacy				-.53***	-.47***
				(-9)	(-7.5)
Female					.16***
					(2.7)
$30 \leq$ Age ≥ 50					.031
					(.47)
Age > 50					.12
					(1.4)
Log income					-.11***
					(-4.3)
Constant	-.54***	-.012	-.13***	.32***	.58***
	(-2.8)	(-.43)	(-2.8)	(6.9)	(5)
Observations	1,631	1,631	1,577	1,631	1,604
R^2	0.11	0.08	0.08	0.12	0.13

This table reports regression results where the dependent variable is the first principal component of debt attitudes (see text for definition). t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

Table 8: Attribution of Responsibility and moral values

	Attribution of responsibility and moral values					
	PPl shld be accountable	PPl shld face consequences		Responsibility PC		
	(1)	(2)	(3)	(4)	(5)	(6)
Conservative values PC	.29***	.36***	.44***	.4***	.44***	.42***
	(19)	(21)	(22)	(16)	(22)	(20)
Religiousness				-.21***		
				(-3.3)		
Conservative politics				.2***		
				(4.3)		
Above median fin. literacy					.32***	.27***
					(5.5)	(4.4)
Female						.0046
						(.079)
$30 \leq$ Age ≥ 50						.058
						(.89)
Age > 50						.21**
						(2.5)
Log income						.11***
						(4.4)
Constant	3.9***	3.8***	-.0038	.17***	-.21***	-.67***
	(176)	(158)	(-.14)	(3.9)	(-4.5)	(-5.8)
Observations	1,638	1,639	1,629	1,576	1,629	1,601
R^2	0.18	0.22	0.23	0.23	0.24	0.25

This table reports regression results where the dependent variables are measures of attribution of responsibility (see text for definition). t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

Table 9: Attribution of Responsibility and moral values

	Lenient bankruptcy decision for Melissa			
			conservative PC:	
			below med.	above med.
	(1)	(2)	(3)	(4)
Melissa was unlucky	.4***	.4***	.45***	.34***
	(19)	(18)	(16)	(11)
Conservative values PC		-.044***	-.072***	-.04
		(-5.5)	(-4.2)	(-1.6)
Above median fin. literacy		-.089***	-.061*	-.12***
		(-3.8)	(-1.9)	(-3.4)
Female		.032	.031	.033
		(1.4)	(1)	(1)
$30 \leq$ Age ≥ 50		.019	.028	-.0026
		(.75)	(.86)	(-.066)
Age > 50		-.016	.0027	-.038
		(-.49)	(.059)	(-.83)
Log income		-.016	-.013	-.019
		(-1.6)	(-.99)	(-1.3)
Constant	.42***	.52***	.42***	.6***
	(28)	(11)	(6.6)	(8.1)
Observations	1,741	1,635	806	829
R^2	0.18	0.21	0.26	0.15
p value of coef. equality			.006	

This table reports regression results where the dependent variable is a dumy equal to one if the participants takes the lenient option in Melissa's bankruptcy. "Melissa is unlucky" is a random treatment describing Melissa as experiencing a series of unlucky shocks, as opposed to having spent irresponsibly. Columns 3 and 4 split the sample into participants whose conservative value PC is above or below median. t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

Table 10: Response to economic shifters or optimal leniency

	Lenient to Melissa	Lenient system better	Alternate coll. never okay for Isabelle
	(1)	(2)	(3)
Leniency raises interest rate	-.047**		
	(-2)		
Lenient option for unlucky only		.039	
		(1.6)	
Isabelle unlikely to lose job			-.11***
			(-4.4)
Constant	1.3***	.49***	.91***
	(40)	(14)	(27)
Observations	1,741	1,741	1,741
R^2	0.00	0.00	0.01

Note: In this Table, we regress attitudes to debt on randomized treatments designed to affect the economic attractiveness of the decision. LHS and RHS variables are all normalized so that their sample s.d. is 1. This allows for a comparison of coefficient magnitude. t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

Table 11: Financial literacy and debt attitudes

	Wide interest rate range okay		Leniency okay in Melissa Default		Leniency okay in Bankruptcy system		Strict collateral never okay	
Fin. Lit.	Low	High	Low	High	Low	High	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Conservative values PC	.22***	.19***	-.072**	-.11***	-.12***	-.079***	-.045	-.064***
	(7.5)	(8.8)	(-2.5)	(-4.7)	(-3.7)	(-3.8)	(-1.4)	(-2.9)
Female	-.11	-.2***	.029	.049	.16*	.039	-.097	.071
	(-1.3)	(-3.3)	(.35)	(.77)	(1.7)	(.69)	(-1.1)	(1.2)
$30 \leq$ Age ≥ 50	.14*	.12*	.075	.0085	.21**	-.071	.1	.15**
	(1.7)	(1.7)	(.89)	(.11)	(2.2)	(-1.1)	(1.1)	(2.1)
Age > 50	.0083	.14*	-.0063	-.08	.2	.014	.26*	.43***
	(.066)	(1.7)	(-.05)	(-.88)	(1.4)	(.17)	(1.9)	(4.9)
Log income	.088***	.058**	.007	-.076**	-.028	-.072***	-.057	-.066**
	(2.7)	(2)	(.21)	(-2.5)	(-.74)	(-2.7)	(-1.6)	(-2.2)
Constant	.86***	1.2***	1.4***	1.5***	.57***	.7***	1.1***	.77***
	(6.2)	(9.7)	(9.9)	(11)	(3.6)	(5.9)	(7.6)	(6)
Observations	576	1,028	594	1,041	594	1,041	594	1,041
R^2	0.12	0.10	0.01	0.03	0.03	0.02	0.01	0.04
p value of coef. equality								
Conservative Values PC	.469		.269		.283		.605	

Note: In this Table, we regress attitudes to debt on moral values and other controls, separately for high and low financial literacy participants. The bottom row provides test of equality of the coefficient on "conservative values PC". t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

Table 12: Economic mental models and moral malues

	Loan pricing		Bankruptcy		Stricter collateral	
	Unequal rates better for incentives	Credit scores inaccurate	Some shocks are outside of control	Better recovery lowers rates for all	Terms are easy to understand	Benefits outweigh costs
	(1)	(2)	(3)	(4)	(5)	(6)
Conservative values PC	.39***	-.19***	-.2***	.21***	.14***	.18***
	(20)	(-10)	(-11)	(11)	(5.4)	(7.3)
Above median fin. literacy	.13**	-.084	-.21***	.23***	.087	-.0049
	(2.3)	(-1.5)	(-4.2)	(4.3)	(1.2)	(-.069)
Female	-.055	.092*	.059	.053	-.14**	-.12*
	(-1)	(1.7)	(1.2)	(1)	(-2)	(-1.8)
$30 \leq$ Age ≥ 50	.14**	-.037	-.033	-.014	.057	-.22***
	(2.3)	(-.63)	(-.62)	(-.25)	(.74)	(-3)
Age > 50	.38***	.012	-.015	.036	.16*	-.33***
	(4.9)	(.16)	(-.22)	(.49)	(1.7)	(-3.5)
Log income	.087***	-.067***	-.072***	.0094	.044	.045
	(3.6)	(-2.8)	(-3.4)	(.41)	(1.4)	(1.5)
Constant	3.4***	4.4***	4.6***	3.8***	2.4***	3.1***
	(32)	(42)	(50)	(38)	(18)	(24)
Observations	1,611	1,617	1,608	1,606	1,608	1,617
R^2	0.25	0.07	0.11	0.09	0.03	0.04

This table reports regression results where dependent variables are answers, on a scale from 1 to 5, to various justification questions to decisions made in each vignette. t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

Table 13: Pro credit market beliefs PC

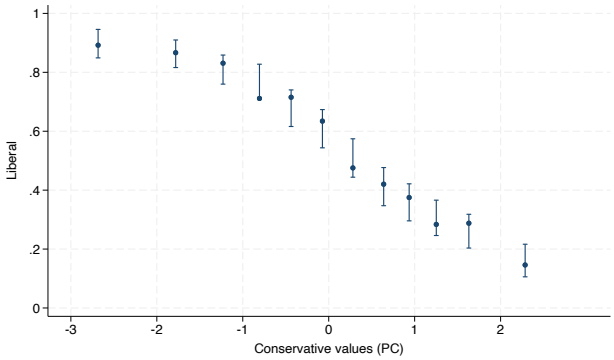
	Credit market discipline PC								
						Financial literacy		Education	
						Low	High	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Care	-.3***								
	(-8.2)								
Fairness	-.28***								
	(-12)								
Authority	.34***								
	(11)								
In-group loyalty	.025								
	(.97)								
Sanctity	.026								
	(1.1)								
Conservative values PC		.51***	.45***	.51***	.48***	.45***	.49***	.46***	.49***
		(23)	(17)	(23)	(20)	(12)	(16)	(13)	(15)
Religiousness			-.22***						
			(-3.1)						
Conservative politics			.24***						
			(4.9)						
Above median fin. literacy				.38***	.29***				
				(5.9)	(4.3)				
Female					-.14**	-.0018	-.22***	-.18**	-.2**
					(-2.2)	(-.017)	(-2.7)	(-2)	(-2.3)
$30 \leq$ Age ≥ 50					.033	.049	.052	.0015	.16
					(.46)	(.44)	(.54)	(.015)	(1.5)
Age > 50					.2**	-.082	.33***	.15	.4***
					(2.1)	(-.5)	(2.9)	(1.1)	(3.2)
Log income					.12***	.11**	.13***	.13***	.15***
					(4.3)	(2.5)	(3.4)	(3.4)	(3.2)
Constant	.82***	.0048	.21***	-.24***	-.61***	-.62***	-.35**	-.41**	-.61***
	(4)	(.15)	(4.3)	(-4.6)	(-4.8)	(-3.4)	(-2.1)	(-2.6)	(-2.8)
Observations	1,543	1,543	1,491	1,543	1,518	548	970	719	799
R^2	0.32	0.25	0.26	0.27	0.26	0.23	0.27	0.24	0.27
p value of coef. equality									
Conservative Values PC						.46		.492	

This table reports regression results where the dependent variable is the "credit market discipline PC" is the first principal component of the 6 LHS variables in Table 12.The last line shows the p value of a test of equality of the coefficient on conservative value PC for high and low financial literacy subsample, and 4-year college or more (high) versus less (low). Go back to main text

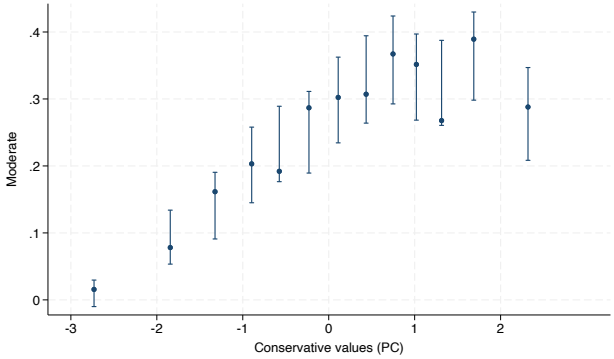
8 Figures

Figure 1: Conservative moral values and self-reported political orientation

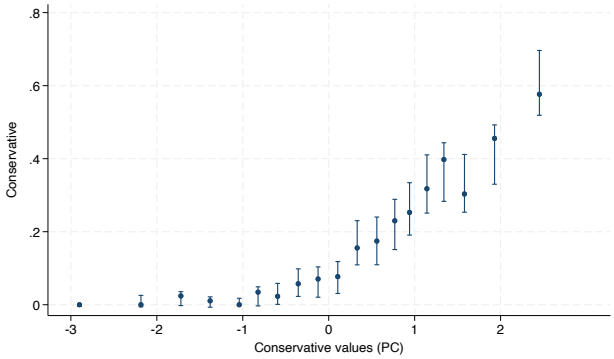
(a) Liberals



(b) Moderates

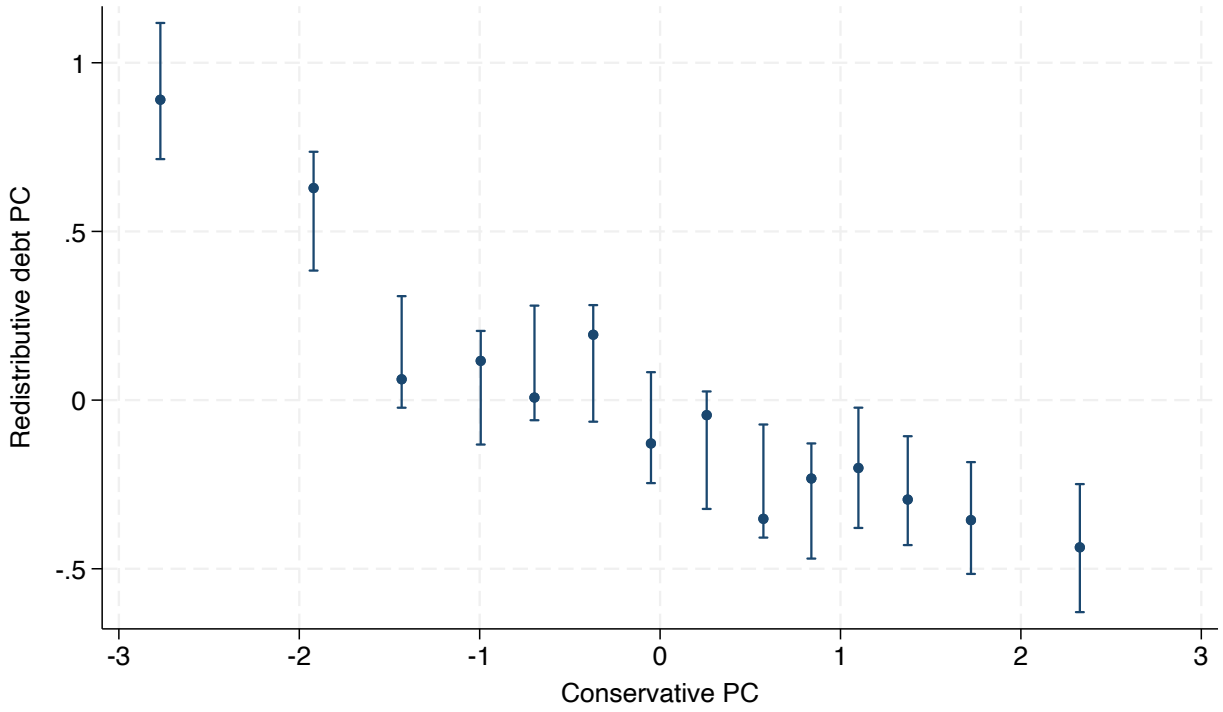


(c) Conservatives



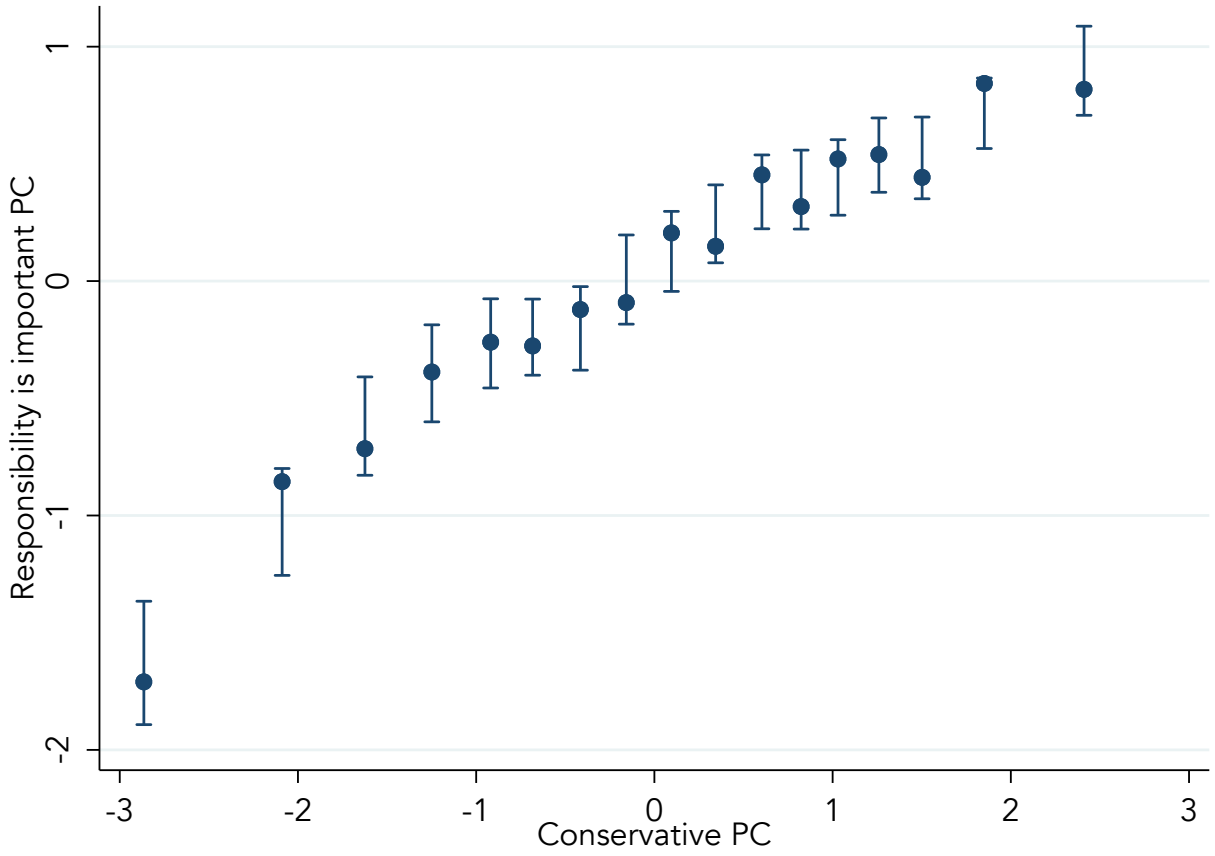
Notes: Each political orientation (liberal, moderate, conservative) is defined as a dummy equal to 1 if the participant self-reports such orientation, and 0 otherwise. Panel A is a binned scatter plot of the probability of self-reporting as a liberal against "Conservative values (PC)". Panel B is a binned scatter plot of the probability of self-reporting as a moderate against "Conservative values (PC)". Panel C is a binned scatter plot of the probability of self-reporting as a conservative against "Conservative values (PC)". See Section 2.2.4 for a detailed definition of "Conservative values (PC)'. Go back to main text

Figure 2: PC of debt attitudes and Moral Values



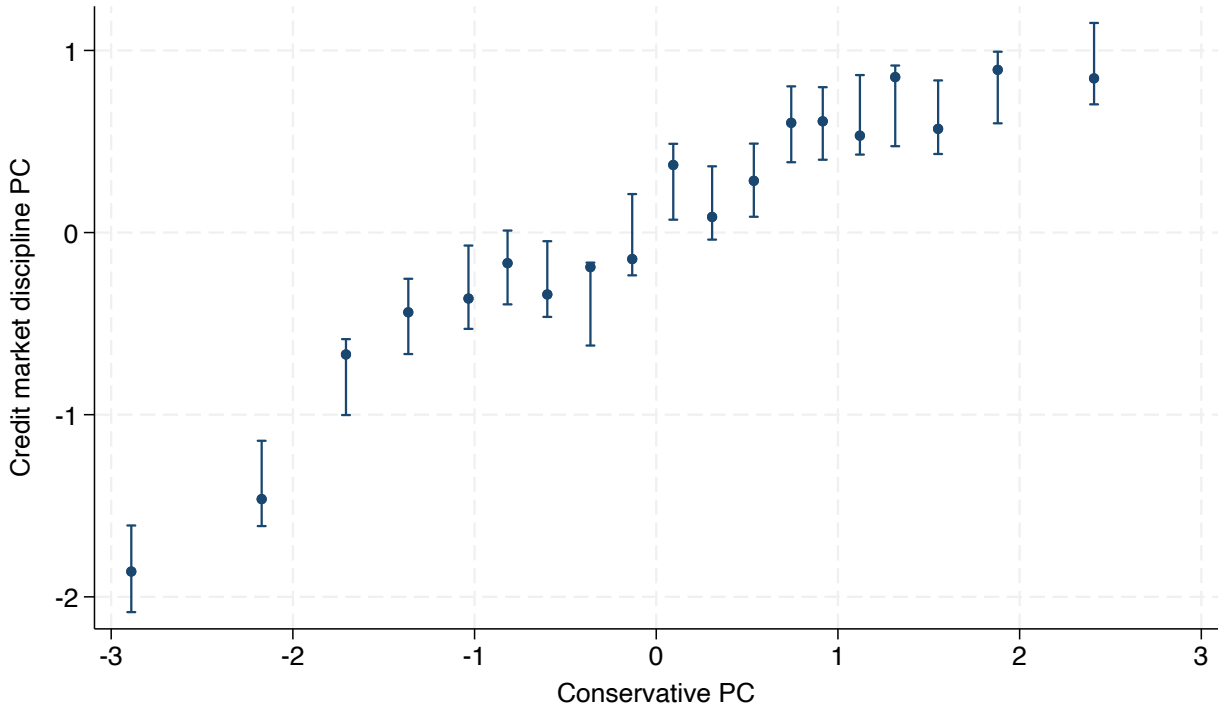
Note: This figure shows a binned scatter plot of the "redistributive debt PC" against the "conservative values PC", both described in the text. The "redistributive debt PC" is the first principal component of debt attitudes and captures the extent to which participants are in favor of ex ante (through homogeneous loan pricing) and ex post (through weak enforcement) redistribution towards the poor. Vertical bars correspond to confidence bands assuming a piecewise linear relation. Go back to main text

Figure 3: Responsibility is important and Moral Values



Note: This figure shows a binned scatter plot of the "responsibility is important PC" against the "conservative values PC", both described in the text. The "responsibility PC" is the first principal component of agreement (on a scale from 1 to 5) with the two questions about the importance of individual responsibility described in the main text. Vertical bars correspond to confidence bands assuming a piecewise linear relation. Go back to main text

Figure 4: PC of pro-market beliefs and Moral Values



Note: This figure shows a binned scatter plot of the "credit market discipline PC" against the "conservative values PC", both described in the text. The "credit market discipline PC" is the first principal component of the six economic belief questions described in the text and captures the extent to which participants think incentives and lender equilibrium reponses matter to make debt markets efficient. Vertical bars correspond to confidence bands assuming a piecewise linear relation. Go back to main text

Online Appendix to "Attitudes to Debt: The Role of Moral Values"

Appendix Tables

Table A.1: Sample representativeness

Variable	Sample	US Population
Female	0.53	0.51
Age	38.09	38.78
18-29 years old	0.32	0.16
30-44 years old	0.41	0.19
45-64 years old	0.22	0.25
65+ years old	0.06	0.16
$0-$19,999	0.12	0.14
$20,000-$39,999	0.20	0.17
$40,000-$69,999	0.51	0.21
$70,000-$109,999	0.00	0.20
$110,000+	0.17	0.29
High-school graduate or less	0.37	0.34
Four-year college degree or more	0.52	0.26

This table displays summary statistics for the overall U.S. population as compared to the sample of participants in our survey. Summary statistics on the U.S. population are constructed using IPUMS-CPS-ASEC data for March 2019 (Flood et al., 2023). Go back to main text

Table A.2: Religious denomination

Religious denomination	Number of obs.	Share
No religion	1,102	0.58
Roman catholic	206	0.12
Protestant	304	0.17
Orthodox	5	0.00
Jewish	39	0.02
Muslim	19	0.01
Hindu	10	0.01
Buddhist	16	0.01
Other	103	0.06
I don't know	25	0.01
Total	1,739	1.00

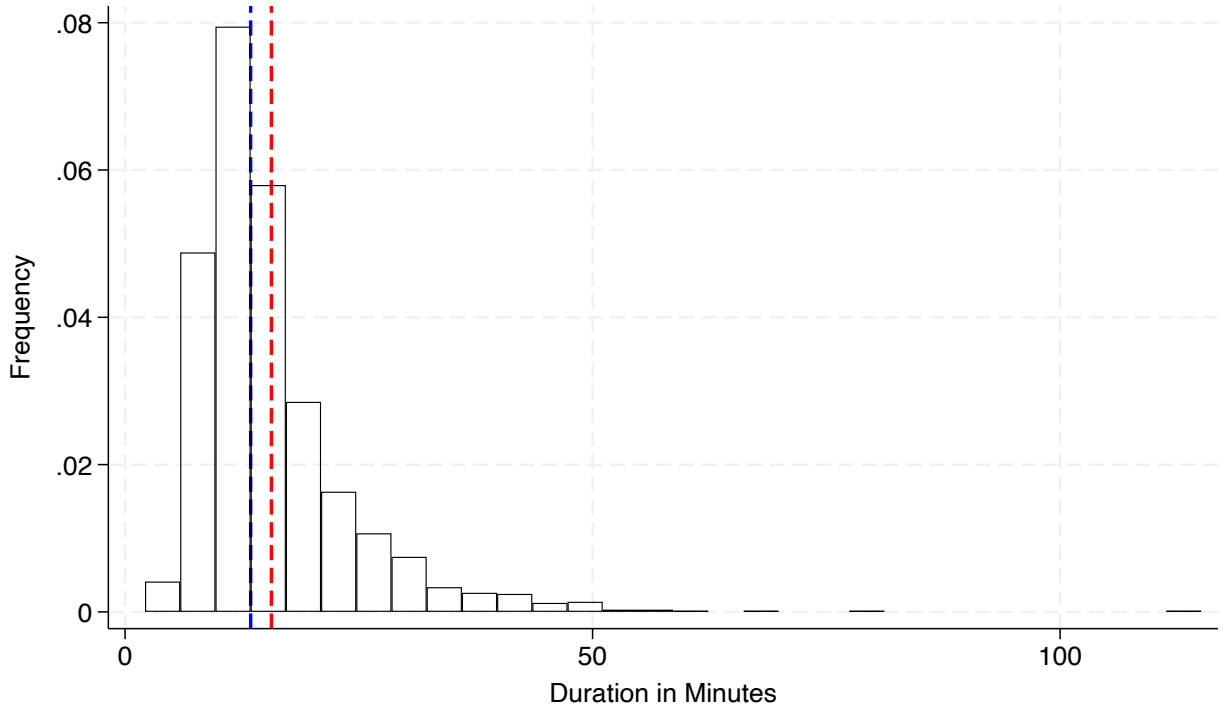
Note: Modalities of religious denomination. Source: Our survey.Go back to main text

Table A.3: Economic mental models and moral malues

	Loan pricing		Bankruptcy		Stricter collateral
	Equal rates would be unfair	Morally wrong to assign scores to ppl	People should be held accountable	People should face consequences of decisions	Certain aspects should not be in contracts
	(1)	(2)	(3)	(4)	(5)
Conservative values PC	.34***	-.3***	.28***	.34***	-.11***
	(15)	(-13)	(17)	(19)	(-6.8)
Above median fin. literacy	.29***	-.53***	.23***	.18***	.04
	(4.4)	(-8)	(4.8)	(3.4)	(.83)
Female	-.23***	.11*	.012	-.0034	-.03
	(-3.7)	(1.7)	(.25)	(-.068)	(-.67)
$30 \leq$ Age ≥ 50	-.034	-.18**	.034	.065	.03
	(-.5)	(-2.5)	(.66)	(1.2)	(.6)
Age > 50	.17*	-.48***	.12*	.2***	.16**
	(2)	(-5.2)	(1.9)	(2.8)	(2.4)
Log income	.074***	-.13***	.084***	.079***	-.048**
	(2.7)	(-4.4)	(4.1)	(3.6)	(-2.4)
Constant	3.2***	3.8***	3.4***	3.3***	4.5***
	(27)	(30)	(38)	(34)	(51)
Observations	1,613	1,623	1,610	1,611	1,579
R^2	0.17	0.19	0.20	0.23	0.03

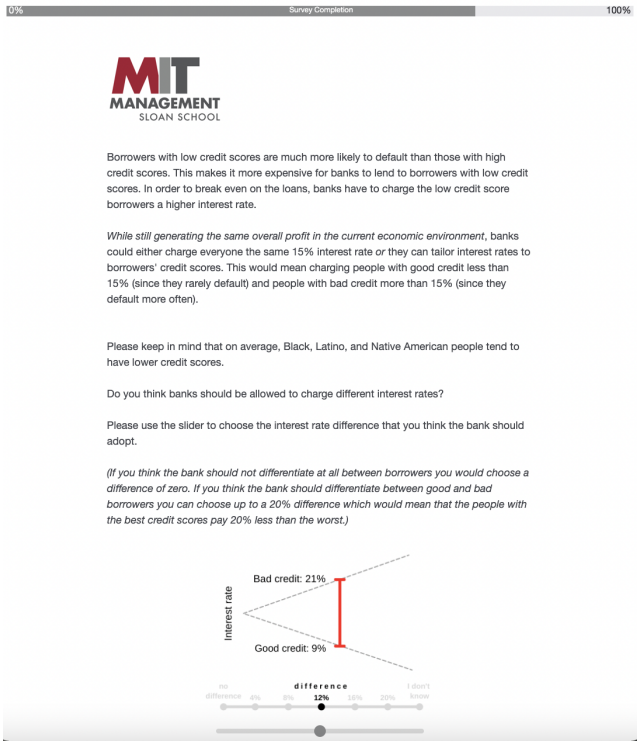
This table reports regression results where dependent variables are answers, on a scale from 1 to 5, to various justification questions to decisions made in each vignette. t-statistics are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively. Go back to main text

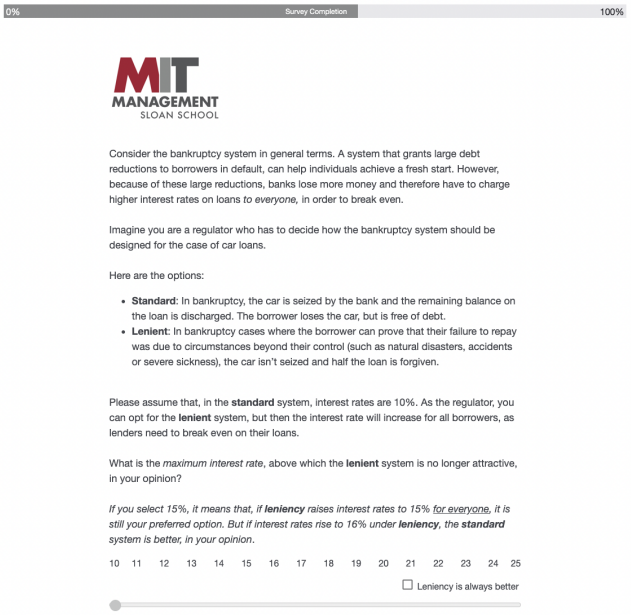
Figure A.1: Survey duration



Notes: This figure shows the distribution of the time (in minutes) spent by participants who did not fail attention checks to complete the survey. The median (13.4) is shown with a dashed blue line and the mean (15.6) with a dashed red line. Go back to main text

Figure A.2: Screenshots of the survey platform





Notes: Go back to main text

A Survey Questionnaire

A.1 Adverse Selection Vignette

[Order randomized with other two vignettes]

Borrowers with low credit scores are much more likely to default than those with high credit scores. This makes it more expensive for banks to lend to borrowers with low credit scores. In order to break even on the loans, banks have to charge the low credit score borrowers a higher interest rate.

While still generating the same overall profit in the current economic environment, banks could either charge everyone the same 15% interest rate or they can tailor interest rates to borrowers' credit scores. This would mean charging people with good credit less than 15% (since they rarely default) and people with bad credit more than 15% (since they default more often).

[Randomly show one of the following statements:]

- Please keep in mind that on average, Black, Latino, and Native American people tend to have lower credit scores.
- Please keep in mind that on average, younger people tend to have lower credit scores
- No treatment

Do you think banks should be allowed to charge different interest rates?

Please use the slider to choose the interest rate difference that you think the bank should adopt.

(If you think the bank should not differentiate at all between borrowers you would choose a difference of zero. If you think the bank should differentiate between good and bad borrowers you can choose up to a 20% difference which would mean that the people with the best credit scores pay 20% less than the worst.)

Slider

How much do you agree or disagree with the following statements?

[Order of statements is randomized]

1. Offering a similar interest rate to everyone makes borrowing more affordable to people with worse credit scores.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

2. Most borrowers with good credit scores earn it through their good behavior. It is important to keep the incentive of building a good credit score.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

3. It is morally wrong to assign ratings to people. Credit scores shouldn't be the basis for lending rates.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

4. It would be unfair to treat bad credit scores like good credit scores.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

5. A credit score may not accurately capture a person's riskiness.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

A.2 Bankruptcy Vignette

[Order randomized with other two vignettes]
[Individual Question- randomized within Bankruptcy vignette with System Question]

Melissa is a single mother who has one daughter and works as a sales clerk. She rents a small 2-bedroom house and owns a car.

[**Randomly show one of the following statements:**]

- In the last few years, Melissa has been spending more than usual. She started eating out at upscale restaurants and likes to buy shoes from designer stores.
- Recently, Melissa has experienced a series of adverse events. Her daughter broke her leg playing hockey which led to expensive surgery and rehabilitation, only partially covered by insurance. Besides, her boiler broke and had to be replaced.

As a result of these events, Melissa is struggling to pay her car loan payments. Following a friend's suggestion, she files for bankruptcy.

Imagine you are the bankruptcy judge. The law gives you some discretion in enforcing Melissa's financial obligations. Some judges grant large debt reductions to borrowers. Others make sure that lenders receive all the money they are owed.

[**Randomly show one of the following statements:**]

- In a bankruptcy system where all judges grant large debt reductions, defaulters benefit from a fresh start. However, this increases the interest rate for everyone, because banks lose more money when people default and have to break even on their loans.
- No treatment

As a bankruptcy judge how would you decide?

- Option 1: The bank can seize the car and sell it. As a result, Melissa loses the car but does not owe the bank anything anymore.
- Option 2: Melissa keeps the car and only repays half the loan.

Option 1; Option 2

[System Question - randomized within Bankruptcy vignette with Individual Question]

Consider the bankruptcy system in general terms. A system that grants large debt reductions to borrowers in default, can help individuals achieve a fresh start. However, because of these large reductions, banks lose more money and therefore have to charge higher interest rates on loans to everyone, in order to break even.

Imagine you are a regulator who has to decide how the bankruptcy system should be designed for the case of car loans.

Here are the options:

- Baseline: In bankruptcy, the car is seized by the bank and the remaining balance on the loan is discharged. The borrower loses the car, but is free of debt.
- **[Randomly show one of the following statements]**
  - Lenient: In all bankruptcy cases, the car isn't seized and half the loan is forgiven.
  - Lenient: In bankruptcy cases where the borrower can prove that their failure to repay was due to circumstances beyond their control (such as natural disasters, accidents or severe sickness), the car isn't seized and half the loan is forgiven.

Please assume that, in the baseline system, interest rates are 10%. As the regulator, you can opt for the lenient system, but then the interest rate will increase for all borrowers, as lenders need to break even on their loans.

What is the maximum interest rate, above which the lenient system is no longer attractive, in your opinion?

If you select 15%, it means that, if leniency raises interest rates to 15% for everyone, it is still your preferred option. But if interest rates rise to 16% under leniency, the standard system is better, in your opinion.

Slider from 10 to 25; Leniency is always better

How much do you agree or disagree with the following statements?

[Order of statements is randomized]

1. People should be held accountable. When they sign a contract, they should be expected to follow the terms of the agreement.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

2. A debt contract is constraining, an indebted person is limiting their freedom.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

3. If lenders don't recover most of the loans they make, then interest rates will rise for everyone and borrowing may become unaffordable for some people.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

4. Financial distress is hard. Lenders should be compassionate and generous to people who took on too much debt.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

5. Some people take on debt without understanding all the details of the commitment. Therefore leniency is only fair.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

6. Sometimes people have unforeseen shocks. It's fair to be lenient because people shouldn't be punished for events outside of their control.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

7. People should face the consequences of their decisions. Otherwise this may create bad borrowing habits.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

A.3 Alternative Collateral Vignette

[Order randomized with other two vignettes]
[Baseline - always shown before alternative collateral]
Meet Isabelle:

- She is a single mother with a steady job as an administrative assistant.
- She takes the bus to go to work, shop for groceries, or take her son to school.

- She is financially responsible and saves each month.
- She does not own a car but has a high enough income to pay for insurance and car maintenance.

Isabelle wants to buy a car because it would save her several hours on her commute each week. However, at present, she only has sufficient savings for a down payment, not the full cost of the car.

Isabelle is thinking about two options:

- Option 1: She could start saving to buy the car outright with cash, which would take one year, and she would have to continue taking the bus in the meantime.
- Option 2: She could take out a standard five year fixed rate car loan with a competitive interest rate. She can afford the monthly payments if she budgets well and doesn't lose her job. If she can't repay the loan, the bank will take the car from her.

What would you advise Isabelle to do?
She should save and wait one year; She should take the loan; Other _____ ; I don't know

---

How much do you agree or disagree with the following statements?
[One version of each statement is randomly shown.]
[Order of statements is randomized]

1. - *People should not take out loans since banks cannot be trusted.*
   - *It is okay to take out a loan since banks are trustworthy.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

2. - *Being tied down by a loan is too constraining for a borrower.*
   - *Taking out a loan reduces a borrower's constraints by allowing the borrower to get the car sooner.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

3. - *A loan involves commitment. There should be consequences for people who do not abide by the terms of the loan.*

- *A loan is a business agreement. It is the normal course of business to sometimes break agreements.*

1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

4. - *The terms of the loan are not attractive financially. It is better to wait and save.*
   - *The bank is offering financially attractive terms on the loan.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

5. - *Debt is risky. If the borrower cannot repay, they have to face the consequences, even when they are in financial difficulties.*
   - *The benefits of borrowing outweigh the risks of not being able to repay if a borrower has financial difficulties.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

6. - *It is not right to enjoy things before one can really afford to buy them.*
   - *Debt allows a person to enjoy things sooner, that they would not otherwise be able to afford.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

7. - *Borrowing is dangerous, as some borrowers might not fully realize what they are getting into when they borrow.*
   - *The terms of the loan are straight forward. All borrowers should be able to understand them.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

[Attention question]

In surveys like this, sometimes participants do not carefully read questions and quickly click through the survey. Their random answers can compromise the results of research studies. To show that you read this question carefully, please select both "Not bad at all" and "I don't know" as you answer the following question. This choice will help ensure that our results are as accurate as possible.

1. In your opinion, how bad is it that Isabelle has not studied math?

Not bad at all; A little bit bad; Kind of bad; Very bad; Extremely bad; I don't know

---

[One of the three following alternative collateral questions (A.3.1, A.3.2, A.3.3) is randomly shown:]

A.3.1 Social shaming as collateral

Suppose that Isabelle has decided to buy the car on credit.

At the local bank, her loan officer suggests that there is an alternative new loan she could get that has a lower interest rate. In exchange, she needs to provide the bank with a list of her phone contact numbers. If she misses a payment, an automated message will play at the beginning of the conversation each time someone calls her: "Isabelle is late on her bank debt payment, please encourage her to be in line with her debt obligations."

The loan officer explains that the threat of letting phone contacts know that a borrower is late on payments, makes borrowers more likely to repay their loans. Since the bank loses less money on average, it can offer a lower interest rate to borrowers who agree to this contract.

[Randomly show one of the following statements:]

- It is very unlikely that Isabelle loses her job. Therefore, she expects to be able to make her monthly payments on the loan.
- There is a reasonable chance that Isabelle loses her job before the end of her loan term. In this case, she would find it difficult to make the payments on the loan until she finds a new job.

Isabelle has a choice:

- Option 1: She can take a standard loan with the car as collateral with a 10% interest rate.
- Option 2: She can take the alternative loan where the bank can insert the automated message at the beginning of her phone calls if she misses a payment. This loan would have a lower interest rate.

In your view, how low would the interest rate have to be, for the alternative loan to be preferable to the standard one? (remember, the original loan has a 10% interest rate)

Slider from 10 to 0; She should never take the alternative loan

A.3.2 Electricity as collateral

Suppose that Isabelle has decided to buy the car on credit.

At the local bank, her loan officer suggests that there is an alternative loan she could get that has a lower interest rate. In exchange, she needs to sign a form allowing the bank to reach out to her electricity company and immediately shut off her electricity supply if she misses a loan payment. The arrangement is legal, and the utility company will comply.

The loan officer explains that being able to shut off a borrower's electricity makes borrowers more likely to repay their loans. Since the bank loses less money on average, it can offer a lower interest rate to borrowers who agree to this contract.

[**Randomly show one of the following statements**]

- It is very unlikely that Isabelle loses her job. Therefore, she expects to be able to make her monthly payments on the loan.
- There is a reasonable chance that Isabelle loses her job before the end of her loan term. In this case, she would find it difficult to make the payments on the loan until she finds a new job.

Isabelle has a choice

- Option 1: She can take a standard loan with the car as collateral with a 10% interest rate.
- Option 2: She can take the alternative loan where the bank can shut off her electricity if she misses a payment. This loan would have a lower interest rate.

In your view, how low would the interest rate have to be, for the alternative loan to be preferable to the standard one? (remember, the original loan has a 10% interest rate)
Slider from 10 to 0; She should never take the alternative loan

A.3.3 Car shut-off device as collateral

Suppose that Isabelle has decided to buy the car on credit.

At the local bank, her loan officer suggests that there is an alternative new loan she could get that has a lower interest rate. In exchange, she needs to allow the bank to install a device that shuts her car off overnight (not while she's driving it of course!) if she misses a loan payment.

The loan officer explains that this device makes borrowers more likely to repay their loans. As the car can be immediately shut off, borrowers have stronger incentives to repay. Since the bank loses less money on average, it can offer a lower interest rate to borrowers who agree to having the shutoff device installed.

[**Randomly show one of the following statements:**]

- It is very unlikely that Isabelle loses her job. Therefore, she expects to be able to make her monthly payments on the loan.
- There is a reasonable chance that Isabelle loses her job before the end of her loan term. In this case, she would find it difficult to make the payments on the loan until she finds a new job.

Isabelle has a choice:

- Option 1: She can take a standard loan with the car as collateral with a 10% interest rate.
- Option 2: She can take the alternative loan that would additionally have the car shutoff device installed. This loan would have a lower interest rate.

In your view, how low would the interest rate have to be, for the alternative loan to be preferable to the standard one? (remember, the original loan has a 10% interest rate)
Slider from 10 to 0; She should never take the alternative loan

---

How much do you agree or disagree with the following statements?

[**One version of each statement is randomly shown.**]
[**Order of statements is randomized**]

1.
   - *People should not take out loans since banks cannot be trusted.*
   - *It is okay to take out a loan since banks are trustworthy.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

2.
   - *Being tied down by a loan is too constraining for a borrower.*
   - *Taking out a loan reduces a borrower's constraints by allowing the borrower to get the car sooner.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

3.
   - *A loan involves commitment. There should be consequences for people who do not abide by the terms of the loan.*
   - *A loan is a business agreement. It is the normal course of business to sometimes break agreements.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

4.
   - *The terms of the loan are not attractive financially.*
   - *The terms of the loan are attractive financially.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

5.
   - *Debt is risky. If the borrower cannot repay, they have to face the consequences, even when they are in financial difficulties.*
   - *The benefits of borrowing outweigh the risks of not being able to repay if a borrower has financial difficulties.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

6.
   - *It is not right to enjoy things before one can really afford to buy them.*
   - *Debt allows a person to enjoy things sooner, that they would not otherwise be able to afford.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

7. - *Borrowing is dangerous, as some borrowers might not fully realize what they are getting into when they borrow.*
   - *The terms of the loan are straight forward. All borrowers should be able to understand them.*

   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

8. The alternative loan could make it harder for Isabelle to work and pay down her debts.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

9. There are certain aspects of a person's life which should not be part of financial contracts.
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

10. There is a chance Isabelle defaults, but the benefit of lower interest rates outweighs the extra costs of the alternative loan.
    1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

A.4 Moral Values Questionnaire

How much do you agree or disagree with the following statements?

[Order of statements is randomized]

1. Compassion for those who are suffering is the most crucial moral value
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

2. Respect for authority is something children need to learn
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

3. People should be loyal to their family members, even when they have done something wrong
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

4. I think it is morally wrong that rich children inherit a lot of money while poor children inherit nothing
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

5. I would call some acts wrong on the grounds that they are unnatural
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

6. I think everyone should be free to do as they choose, so long as they don't infringe upon equal freedom of other
   1-Disagree; 2; 3; 4; 5-Agree; I don't want to answer

A.5 Demographics and Financial Literacy Questions

1. What is your age?

2. What is your gender?
   Male; Female; Other _____

3. Which of these categories do you feel best describes you? Select all that apply
   White (includes Middle Eastern/Arab); Black/African-American; Hispano/Latino; Asian; American Indian/ Alaska Native; Native Hawaiian/Pacific Islander; Other _____

4. Which category best describes your highest level of education?
   Some high school or less; High school degree/GED; Some college; 2-year college degree; 4-year college degree; Post-graduate degree

5. In general, do you think it is a good idea or a bad idea for people to buy things by borrowing or on credit?
   Good idea; Bad idea; Good in some ways, bad in others

6. If you think about the role of religion in your life, would you say that you are
   Religious and attend religious services regularly; Religious but do not attend religious services regularly; Not religious; Agnostic; Atheist; Other; I don't know

7. Do you belong to a religion or religious denomination? If yes, which one?
   I do not belong to a denomination; Roman Catholic; Protestant; Orthodox (Russian, Greek, etc.); Jewish; Muslim; Hindu; Buddhist; Other; I don't know

8. Please indicate your marital status
   Single; Married; Legally separated or divorced; Widowed; Other _____

9. What was your TOTAL household income, before taxes, last year?
   $0-$9,999; $10,000-$14,999; $15,000-$19,999; $20,000-$29,999; $30,000-$39,999; $40,000-$49,999; $50,000-$69,999; $70,000-$89,999; $90,000-$109,999; $110,000-$149,999; $150,000-$199,999; $200,000+

10. Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?
    More than $102; Exactly $102; Less than $102; I don't know

11. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?
    More than today; Exactly the same; Less than today; I don't know

12. If interest rates rise, what will typically happen to bond prices?
    They will rise; They will fall; They will stay the same; There is no relationship between bond prices and the interest rate; I don't know

13. A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less.
    True; False; I don't know

14. Buying a single company's stock usually provides a safer return than a stock mutual fund.
    True; False; I don't know

15. Which of the following types of debt have you had?
    Credit Card Debt; Home Loan; Car Loan; Student Loan; Other Personal Loan; Medical Debt; I've never had debt

16. Which of the following ranges best describes your credit score?
    669 or less; 670 to 739; 740 to 799; 800 or greater; Unsure

17. Which label best describes your political views?
    Conservative; Moderate; Liberal; Other _____

Thank you for participating in this survey; we are looking for feedback, so any suggestion on how we can improve on this survey would be very helpful.