

Trust, Consumer Debt, and Household Finance*

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Abstract

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Abstract

Using a large sample of U.S. individuals, we show that trust is an important determinant of an array of household financial decisions and outcomes including debt management. Individuals with a higher level of trust are less likely to be in debt, miss payments, file bankruptcy, or go through foreclosure. Their households have lower financial leverage, higher retirement savings and assets, and greater net worth. We show a causal impact of trust on financial outcomes by extracting the component of trust correlated with an individual's early life experiences, and also by purging out the component of trust correlated with prior economic success. The effect of trust channels through the beliefs formed in response to the trustworthiness of people one deals with, as well as through personal values of trust and trustworthiness rooted in the family and cultural background. Trust has a more pronounced effect among females and those who have lower education or income. Our further evidence suggests that enhancing individuals' trust, and to the right amount, can improve household financial well-being.

1. Introduction

There are widespread concerns about the adequacy of household savings and borrowing of American households.¹ An individual's saving and borrowing decisions affect not only her household, but also the overall economy. For instance, household overindebtedness is believed by many to have played a prominent role leading up to the 2008 financial crisis and economic downturn (e.g., Cynamon and Fazzari (2008), Mian and Sufi (2010a, 2010b)). Thus, it is crucial to understand the determinants of household financial decisions, particularly the management of household debt. In this paper, we show that trust is an important factor that underlies major household financial decisions and outcomes, including debt management.

Following Guiso, Sapienza, and Zingales (2008), we define trust as the fundamental confidence an individual has toward others to return what is promised—simply, the confidence to have a fair return in any contract. The extent to which one trusts others reflects not only the level of trustworthiness of people she deals with, but also her personal values on trust and trustworthiness. Our key contribution is to demonstrate the effect of individual trust on an array of measures of household finance, especially the management of household debt which has received limited attention in past research. We do so by studying a large sample of U.S. individuals, which is unexplored in the prior literature on individual trust. Further, by employing the rich set of longitudinal information in our dataset, we identify a causal impact of trust on financial outcomes by extracting the component of trust correlated with an individual's early life experiences and also by purging out the component of trust correlated with prior economic success. We also demonstrate the distinct channels, from beliefs to personal values, through which trust affects household finance.

Our individual-level measure of trust is obtained from the 1979 National Longitudinal Survey of Youth (NLSY79). In this dataset, a representative sample of American individuals who were born between 1957 and 1964 were interviewed annually between 1979 and 1994, and biennially

¹Recent statistics show that one-third of American adults in their 50s have no retirement saving plans (Lusardi 2003). More than half of households do not directly or indirectly own any stock (Mankiw and Zeldes 1991; Campbell, Jiang, and Korniotis 2012). From 1981 to 2006, the personal saving rate dropped steadily from over 10% to 1-2%, and the average U.S. household reached a debt-to-income ratio of about 125% (Dickerson 2008; Cynamon and Fazzari 2008). Over the period 2000–2010, 1.3 million households filed bankruptcy annually, which account for 97% of the total bankruptcy filings, according to the American Bankruptcy Institute (<http://www.abiworld.org>).

afterwards. In 2008, they were asked to rate how much they trust others using the following question: “Generally speaking, how often can you trust other people?” Respondents chose one of five answers (always, most of the time, about half the time, once in a while, never), which we translate into a rating of 1 to 5, with 1 indicating the lowest level (never) and 5 the highest level of trust (always). We link this measure of trust to a broad set of each household’s financial outcomes such as being late in debt payment, personal bankruptcy, foreclosure, leverage, assets, retirement savings, and net worth, all obtained from the same dataset.

Our basic premise is that this measure of trust captures the extent to which one trusts others as well as the degree of one’s own trustworthiness (e.g., Glaeser, Laibson, Scheinkman, and Soutter (2000), Butler, Giuliano, and Guiso (2009)). Accordingly, our main conjectures exploit both aspects of the trust measure. On the one hand, we posit that an individual with a higher level of trust accumulates more assets since a more confident belief about fair returns encourages one from taking profitable investment opportunities (e.g., Guiso, Sapienza, and Zingales (2008)). On the other hand, we hypothesize that trust promotes responsible borrowing as a greater degree of trustworthiness discourages one from defaulting or taking excessive debt *ex ante* (e.g., Agarwal, Chomsisengphet, and Liu (2011)). Thus, we expect high-trust individuals to fare better in household finance as they are more likely to be asset-rich and less likely to run into debt problems.

Our empirical evidence provides strong support for these conjectures. Consistent with the idea that trusting individuals would save more and take advantage of valuable investment opportunities, we find that individuals with above-average trust levels have almost three times more retirement savings and 85% higher asset values as compared to those with below-average trust levels. Consistent with the idea that trustworthy individuals would strive to avoid default and excessive debt, we find that these high-trust individuals are 30% less likely to miss a payment or be late in paying bills, 45% less likely to be in debt (having negative net worth), 21% less likely to declare bankruptcy, 47% less likely to go through foreclosure, and have 35% lower financial leverage as compared to low-trust individuals. A combination of superior asset and debt management leads to a 121% higher value of household net worth for these high-trust individuals as compared to the low-trust ones.

The effect of trust on household finance remains statistically and economically significant when we control for various economic, demographic, psychological, and cognitive factors, as well as state fixed effects that account for geographic variations in institutional and social environments that may impact household finance.² The marginal effect of trust is also significant. With the comprehensive set of controls, our regression estimates indicate that a one standard deviation increase in trust on average reduces the probability of being in debt by 9.6%, the probability of missing or being late for a payment by 10.4%, the probability of filing bankruptcy by 13.9%, the probability of foreclosure by 38.3%, and leverage by 14.3%, relative to the unconditional mean probability of each type of event. Moreover, a one standard deviation increase in trust leads to a marginal increase of \$7K in retirement savings, \$91K in total assets, and \$35K in net worth with controls or a host of other factors. Overall, our evidence suggests that high-trust individuals on average benefit significantly from better asset and debt management.

As our trust measure and most of the household finance variables are surveyed at the same time, a natural concern is that greater trust is caused by greater economic success, in contrast to our hypothesis that greater trust leads to better household finance. To address the possible reverse causality, we utilize the detailed longitudinal information in our dataset to identify different origins of individual trust: one fostered by past economic success, and the other correlated with past life-experiences that occurred almost three decades before her current household finance status is measured.

In the first approach, we purge out the component of trust that is correlated with past economic success, which is proxied by various income growth measures based on an individual's income history over a course of three decades. We orthogonalize trust to the economic success measures and continue to observe a significant influence of residual trust on all household finance measures. In the second approach, we distill the component of trust that is correlated with past life experiences during an individual's teenage years or early adulthood. These experiences include perceived discrimination on the basis of age when searching for a job from the 1982 survey and being ever

²In particular, our controls include measures of cognitive ability, risk aversion, saving preference, impatience, all of which may be correlated with the level of individual trust.

charged for breaking a law from the 1980 survey.³ Using the instrumental variable regressions, we find that the instrumented trust continues to explain nearly all of household financial decisions and outcomes. In other words, our evidence suggests that the main effect of trust is not fully explained by prior economic success but can be explained by an instrumented trust based on early-life experiences. Thus, our main findings likely reflect a causal impact of trust on household finance and are unlikely to be driven by reverse causality.

Our next set of tests identifies the channels through which trust influences household finance. We consider the belief- versus value-based channels of trust. On the one hand, heterogeneity in trust levels can come from differences in trust beliefs formed in response to the trustworthiness of people one deals with. On the other hand, such heterogeneity can also stem from differences in trust values that are usually instilled by parents, especially mothers, and more generally acquired through cultural transmissions (e.g. Dohmen, Falk, and Huffman (2012)). To identify these channels, we decompose the trust measure into belief- and value-based components, with the former predicted by the average trust of people in the same community and the latter predicted by parents' trust and trust embedded in an individual's religion or ethnicity. We find that both trust components have significant impacts on a majority of the household finance variables, with trust value-based components exhibiting slightly more consistent influences across the board. In other words, both trust beliefs and trust values play important roles in the household finance decisions.

Finally, we examine how the effect of trust on household finance varies in the cross-section and across different levels of trust. We show that the effect of trust is most visible among individuals in a relatively weak position of managing household finance: those who are less educated, with lower incomes, or females. These results are consistent with the argument that trust helps individuals overcome the fear and anxiety of not fully understanding complex financial contracts (e.g. Guiso, Sapienza, and Zingales (2004)).

In addition, we document a novel non-monotonic effect of trust on household finance. Specifically, trust has a hump-shaped effect on asset-related measures and a U-shaped effect on debt-

³The two life experiences may adversely influence one's income. But our regressions control for income.

related measures, with the effect peaking at the trust rating of 4 and then declines substantially for the highest level of trust (rating of 5). In fact, there is no statistical difference between individuals with the highest and the lowest level of trust. Our findings echoes the hump-shaped effect of trust on household income documented by Butler, Giuliano, and Guiso (2009) for an intuitive reasoning: extremely low levels of trust lead to overly conservative priors to miss valuable investment opportunities and weaker disciplines to comply with debt contracts, while extremely high levels of trust lead to overly optimistic priors and a higher probability of being cheated in both investment and debt contracts. Thus, it is important to have the right amount of trust.

Prior literature has found that household financial decisions are significantly influenced by various non-economic factors, such as psychological factors (e.g., Benartzi and Thaler (2004)), genetics (e.g., Cronqvist and Siegel (2011)), cognitive abilities (e.g., Korniotis and Kumar (2010), Agarwal and Mazumder (2013)), financial literacy (e.g., Lusardi and Mitchell (2007), van Rooij, Lusardi, and Alessie (2011)), and individual social capital (Agarwal, Chomsisengphet, and Liu 2011). We add to this literature by showing that trust is another factor of such importance. Prior literature has linked trust to stock market participation (Guiso, Sapienza, and Zingales 2008), default and savings in a microcredit program (Karlan 2005), retirement savings behavior (Agnew, Szykman, Utkus, and Young 2007), and linked trustworthiness to peer-to-peer lending (Duarte, Siegel, and Young 2012). We add new and systematic evidence for the effect of trust on various aspects of household finance based on a large sample of U.S. individuals.

More generally, our findings contribute to a fast growing body of research that considers the role of culture in finance. For instance, Stulz and Williamson (2003) show that culture is a significant determinant of creditor rights and Ahern, Daminelli, and Fracassi (2012) find that culture can explain the volume, gains, and terms of cross-border mergers. These studies use trust as an important dimension of culture, thus our results can also be viewed as evidence showing the effect of culture on household finance.

2. Motivation and Hypotheses

2.1 Trust and economic/financial decisions: individual level evidence

A voluminous literature shows that trust has a positive effect on aggregate economic and political phenomena. By a rough estimate, the World Values Survey question on trust has been used by over 500 papers to study the economic effect of trust (Sapienza, Toldra, and Zingales 2010). Most of these papers have focused on the effect of trust at the aggregate level, showing that a higher level of average trust in a nation or region is correlated with greater aggregate economic growth and investments (Knack and Keefer 1999), greater judicial efficiency, less corruption, better bureaucratic quality, higher tax compliance (La Porta, Lopez-de-Silanes, Vishny, and Shleifer 1997), and better financial development (Guiso, Sapienza, and Zingales 2004).

In contrast, only a few papers have studied the effect of trust on the economic or financial outcomes at the individual level. Karlan (2005) finds that borrowers in a Peruvian microcredit program who answer positively to the General Social Survey trust question have a lower probability of default, but do not have significantly higher levels of savings. Guiso, Sapienza, and Zingales (2006) show that trust is positively associated with the probability of becoming an entrepreneur using the General Social Survey of the U.S.. Using data from three 401(k) plans in a company, Agnew, Szykman, Utkus, and Young (2007) show that less trusting individuals are more likely to opt out of automatic enrollment plans. Guiso, Sapienza, and Zingales (2008) find that trusting individuals in the Netherlands are more likely to participate in stock markets and invest more conditional on participation. Using the European Social Survey, Butler, Giuliano, and Guiso (2009) uncover a hump-shaped effect of trust on individuals' income.⁴

Although these existing studies suggest that trust has a positive effect on the economic and financial well-being of an individual, they do not offer a comprehensive picture of the effect of trust on household finance. Furthermore, with an exception of Karlan (2005), none of these studies

⁴These studies all use survey responses to the question about how much one trusts others. On the other hand, the study of El-Attar and Poschke (2012) imputes the trust level of Spanish household based on personal and demographic information, and shows that individuals with lower levels of imputed trust invest more in housing and less in financial assets.

examine how trust affects debt management.⁵ Our goal is to demonstrate the effect of trust on household finances using measures of both asset and debt management and using a large sample of U.S. households that are previously unexamined.

2.2 Hypothesis development

Trust is likely to play an important role in economic activities where the transaction takes place over a period of time and individuals need to rely on the future and/or unobservable actions of others, such as investments and savings decisions (e.g., Guiso, Sapienza, and Zingales (2006)). Trusting individuals are more likely to invest because they believe they are going to get a fair return in the investment contract (Guiso, Sapienza, and Zingales 2008). Prior evidence shows that trusting individuals are more likely to participate in the stock market, invest more in risky assets, and less likely to opt out of defaulted 401(k) plans (Agnew, Szykman, Utkus, and Young 2007; Guiso, Sapienza, and Zingales 2008). Thus, we conjecture that these high-trust individuals will have higher levels of savings and asset holdings, as a result of taking advantage of valuable investment opportunities.

We also conjecture that individuals with higher levels of trust manage household debt better for several reasons. First, a trusting individual is usually trustworthy. Glaeser, Laibson, Scheinkman, and Soutter (2000) show that survey questions that solicit the degree of trust toward others also capture the degree of one's trustworthiness. Butler, Giuliano, and Guiso (2009) posit that people tend to extrapolate their own trustworthiness to form the expected trustworthiness of others. More generally, trust reflects not only the belief about the trustworthiness of the counterparty but also the internal values that drive one's trust toward others and trustworthy behavior. A trustworthy individual is more likely to comply with her debt contract and strive to keep her promises by making payments on time. Further, since a trustworthy individual is committed to pay back debt and interest, *ex ante*, she would avoid excessive borrowing.⁶ Taken together, we hypothesize that

⁵Another possible exception is the study of Duarte, Siegel, and Young (2012), who use appearance to measure perceived trustworthiness and show that more trustworthy borrowers enjoy a higher probability of obtaining a loan and lower cost of a loan in a peer-to-peer lending site. However, they do not use the standard measure of trust.

⁶This prediction is opposite to a prediction based on borrowing constraints. Duarte, Siegel, and Young (2012) show that borrowers with higher perceived trustworthiness have a higher probability of obtaining a loan and lower

H1: High-trust individuals better manage household assets and debt.

H1a: High-trust individuals have higher values of savings, assets, and net worth.

H1b: High-trust individuals are less likely to miss payments, be in debt, declare bankruptcy, or go through foreclosure, and have lower leverage.

Trust reflects both beliefs and values. A trusting individual likely has built her trust beliefs toward others based on the trustworthiness of people she deals with, such as those in her community. Communities with better law enforcement and legal environments likely have higher prevailing trust. Communities with strong social capital encourage members to keep their promises and attach social stigma to deviants by imprinting moral attitudes in the community (e.g., Guiso, Sapienza, and Zingales (2004)). Such social norms are internalized by community members and enhance the average trustworthiness and trust in the community. Thus, the average trust level of individuals in a community captures this trust belief resulting from external factors.

Trust also has a component that is invariant across environments but vary across individuals due to internal values. We refer to this component as trust values, which determine not only the extent to which one trusts others but also the degree of one's own trustworthiness. Such values can be transmitted from parents to children (Dohmen, Falk, and Huffman 2012) and include a cultural component that is often correlated with ethnic and religious backgrounds (Guiso, Sapienza, and Zingales 2004). La Porta, Lopez-de-Silanes, Vishny, and Shleifer (1997) find that trust is lower in countries with a higher percentage of population belonging to hierarchical religions such as Catholic, Eastern Orthodox, or Muslim. Their finding is consistent with the argument by Putnam (1993) that hierarchical religions discourage the formation of trust since trust is likely to be formed through horizontal networks of cooperation among people. We hypothesize that both the belief and value components of trust play a role in determining the status of household finance:

H2: Both trust beliefs and trust values have distinct impacts on the management of

cost of a loan in a peer-to-peer lending site. Thus, their evidence suggests that trusting individuals should have less borrow constraints.

household finance.

Further, the effect of trust may differ across groups. Guiso, Sapienza, and Zingales (2008) find that trust has a stronger effect on stock market participation among less educated individuals. Since financial contracts are complex and difficult to comprehend for less-educated individuals, trust can help them overcome the concern of being cheated, and thus encourage them to invest through financial vehicles. By the same token, trustworthiness can encourage an individual to comply with financial contracts even when she does not fully understand the consequence of default and overindebtedness. In general, individuals on a relatively weak position in managing household finance should benefit more from having a higher level of trust. Therefore, we conjecture that:

H3: The effect of trust is most pronounced among individuals who are in a relatively weak position in managing household finance.

Finally, the effect of trust may not be monotonic. Butler, Giuliano, and Guiso (2009) show that the relation between the level of trust and an individual's income is hump-shaped. They argue that extremely trusting individuals underperform those with moderately high levels of trust because they tend to form beliefs that are too optimistic, and as a result they take too much social risk and get cheated more often. Similar arguments can be made regarding debt management. Individuals with extremely high levels of trust can credulously take debt contracts with bad terms, which result in a higher likelihood of default. We state our conjecture in the following hypothesis.

H4: Trust has a non-monotonic effect on household financial outcomes; those with extremely high levels of trust perform worse than those with moderate levels of trust.

In the sections that follow, we introduce our data source, describe the measures of household financial decisions and outcomes, and test each of the hypotheses.

3. Data

The primary data source of our analysis is the 1979 National Longitudinal Survey of Youth (NLSY79). The NLSY79 is a nationally representative sample of 12,686 young men and women

who were 14 to 22 years of age when first surveyed in 1979. The respondents were interviewed annually through 1994, after which they were interviewed every other year. The NLSY79 is known for its exceptional retention rate among all longitudinal studies. For example, in 2008, 82% of eligible respondents who were not known to be deceased participated in the survey. Such a high response rate mitigates the self-selection issue faced by many other surveys.

Our key variable on trust is based on the following question in the 2008 survey, which is the most recent round of survey with comprehensive data on household finance: “Generally speaking, how often can you trust other people?” (Always, Most of the time, About half the time, Once in a while, Never). We assign 1 to ‘Never’ and 5 to ‘Always’, so that a higher number corresponds to a higher level of trust. Our measure of trust is similar to the one used in many previous studies based on the World Values Survey and the General Social Survey, but it has an advantage to capture the intensity of trust.⁷

We relate the trust measure to measures of household finance in 2008 or in 2010, depending on availability. The values of the following asset items were collected for the 2008 survey: CDs, bonds, business assets, vehicles, saving/checking/money market accounts, mutual funds, employer-sponsored retirement accounts, saving bonds, stock, IRA/Keogh/other tax-advantaged accounts, residential properties, collections, cash-value insurance, items each worth \$1,000 or more, and personal or mortgage loans made to others. For liabilities, the values of credit card debt, car loans, business debt, student loans, mortgages and back taxes, other debt on residential properties, debt to other businesses, and personal loans were collected also from the 2008 survey. The foreclosure information is from the 2010 survey.⁸

NLSY79 has also gathered information on demographic characteristics, income, risk aversion, cognitive ability, and impatience. Some of the variables are collected in every round, while others are collected in certain years. For example, the Armed Forces Qualifying Test (AFQT) scores,

⁷The wording of this question is similar to that in the widely used World Values Survey and the General Social Survey: “Generally speaking would you say that most people can be trusted or that you can’t be too careful in dealing with people?” (Possible answers: Most people can be trusted, can’t be too careful, don’t know).

⁸NLSY79 asked questions about various assets and liabilities every four years starting from the 2000 survey. Thus, the 2010 survey does not have information about most of assets and liabilities. Prior to 2000, they collected information on very limited set of assets using coarser categories.

which we use as measures of cognitive ability, are taken from the 1981 survey. The AFQT scores are based on four areas (Arithmetic Reasoning, Mathematical Knowledge, Word Knowledge, and Paragraph Comprehension) of the Armed Services Vocational Aptitude Battery (ASVAB), and are widely used in the literature as measures of cognitive ability (e.g. Agarwal and Mazumder (2013)). We provide the definition of each variable used in our paper in the Appendix and descriptive statistics in Table 1.

[—————INSERT TABLE 1 HERE—————]

Panel A of Table 1 shows that the mean trust level is 2.95, with a standard deviation of 1.02. About 9% individuals have the lowest trust level of 1, and 2% have the highest level of 5, and with the other three (2, 3, 4) levels each accounting for 25%–35% of the sample.

4. Empirical Results

4.1 Trust and financial decision/outcomes

We first test Hypothesis H1, which predicts that high-trust individuals manage debt better and have higher values of assets and net worth. We measure the quality of debt management by the following five variables: (1) *Indebt* (whether the respondent has a negative net worth); (2) *MissPmt* (whether the respondent has completely missed a payment or been at least 2 months late in paying any of the bills in the last 5 years); (3) *Bankruptcy* (whether the respondent has ever declared bankruptcy); (4) *Foreclosure* (whether the respondent ever went through foreclosure between 2007 and 2010), and (5) *Leverage* (the ratio of debt over assets).⁹

We measure the quality of asset management by two variables: (1) *LogRetire* (the logarithm of retirement savings) and (2) *LogAsset* (the logarithm of total asset). To capture the net effect of trust on both debt and assets, we use *LogNetWorth* (the logarithm of net worth), which is defined as $\log(1+\text{net worth})$ for non-negative net worth, and $-\log(1-\text{net worth})$ for negative net worth. Hypothesis H1 predicts that trust should have a negative relation with all five debt-related variables, but have a positive relation with assets and net worth.

⁹The leverage ratio includes all debt and asset items. In unreported robustness checks, we define leverage by excluding mortgage debt/assets, student loan, or business debt/asset, and continue to find qualitatively similar and statistically significant results.

4.1.1 Sorts based on trust

To gain a first glance at the effect of trust on personal finance, we sort individuals into a high or a low trust group, where high trust refers to the above-mean level of trust (rating of 3 or above) and low trust refers to below-mean level of trust (rating of 1 or 2). We report the means of the debt and asset variables of the two groups in Figure 1.

[—————INSERT FIGURE 1 HERE—————]

Figure 1A plots the variables on debt management. The high trust group has a probability of 9.1% of being in debt, 18.9% of missing payments, 14.8% of declaring bankruptcy, 3.1% of going through foreclosure, and a leverage ratio of 0.383. These numbers are uniformly and significantly lower than those of the low trust group: 16.7%, 26.9%, 18.7%, 5.9%, and 0.592. In other words, low-trusting individuals are about 30%-90% more likely to run into a problem associated with debt and are 50% more leveraged compared to the high trust group. When it comes to asset management, again the high trust group performs significantly better. Figure 1B shows that the high trust group on average has \$92K retirement savings, \$1,044K total assets, and \$325K net worth, in contrast to a much lower \$32K, \$564K, and \$147K of the three variables for the low trust groups. In other words, individuals in the high trust group accumulate two to three times more retirement savings, total assets, and net worth as compared to the low trust group. All differences between the two groups are highly statistically significant. Therefore, Figure 1 clearly shows that high-trust individuals enjoy significantly better financial outcomes than low-trust individuals.

4.1.2 Univariate and multivariate regressions

Next, we confirm the relationship between trust and various financial outcome variables using regressions. We report the univariate regression results in Table 2, Panel A. When the dependent variable is a dummy variable, we use probit regressions. Otherwise, we use OLS regressions. We adjust standard errors for clustering at the county level since the NLSY79 survey uses county as the primary geographic cluster for selecting respondents. The results in Panel A of Table 2 are consistent with Hypothesis H1: the debt-related variables are negatively related to trust, while

the asset-related variables and net worth are positively related to trust. In all regressions, the coefficient estimates on trust are statistically significant at the 1% level.

[—————INSERT FIGURE 1 and TABLE 2 HERE—————]

In Panel B of Table 2, we include a set of controls that are likely to affect household financial decisions: income, age, gender, marital status, family size, number of children, education, whether the respondent works in the finance industry, risk aversion, saving preference, and the level of impatience. In addition, we include two measures of cognitive ability: the math and verbal scores of the AFQT tests taken from the 1981 survey. Prior literature has emphasized the importance of cognitive ability in the understanding of financial literacy (e.g., Lusardi and Mitchell (2007)) and the quality of financial decisions (Korniotis and Kumar 2010; Korniotis and Kumar 2011; Agarwal and Mazumder 2013). These control variables are likely to capture the heterogeneity in financial and cognitive abilities, as well as that in preferences for risk and savings, which are likely important determinants of financial decisions based on prior research. We also control for state fixed effects to account for unobserved differences in financial constraints, legal enforcement, or social capital across states.¹⁰ We do not control for religion and ethnicity although our main findings remain significant with these additional controls. Instead, following prior literature on individual trust (e.g., Guiso, Sapienza, and Zingales (2004)), we use them as proxies for cultural background that determines trust. See Section 5.1 for details of those tests.¹¹

In other words, our controls capture not only economic and demographic factors, but also psychology, cognitive, and geographic factors. This is by far one of the most comprehensive set of controls used in the literature of household finance, owing to the rich longitudinal information in our dataset. The large set of controls can at least partially alleviate, although cannot completely rule out, the concerns of omitted variables.

After adding all of the above-mentioned control variables, however, trust remains statistically significant at the 1% level in all regressions. These regression estimates suggest that a one-standard-

¹⁰The state fixed-effects also absorb the differences in trust across states. Not surprisingly, our results are stronger without controls for the state fixed effect.

¹¹Table 6 shows that other components uncorrelated with religion and ethnicity are also significantly related to household finance, which reinforces the robustness of our main findings with controls for religion and ethnicity.

deviation change (1.02) in trust leads to a reduction of 9.6% ($= 0.011 \cdot 1.02 / 0.117$) in the likelihood of being in debt, 10.4% in the likelihood of missing a payment, 13.9% in the likelihood of filing bankruptcy, 38.3% in the likelihood of going through foreclosure,¹² and 14.3% in leverage, relative to the mean likelihood. For the asset-related variables and net worth, our regression estimates imply a change of trust by one standard deviation leads to a marginal increase of \$7K in retirement savings, \$91K in total assets, and nearly \$35K in net worth, incremental to the effect of a host of economic, preference, and cognitive factors, as well as state fixed effects.¹³

The regression estimates of control variables in Panel B are also generally consistent with prior findings. For example, individuals that are married, with higher income, higher cognitive abilities (especially math), and higher education tend to exhibit better financial outcomes (e.g. Lusardi and Mitchell (2007), Grinblatt, Keloharju, and Linnainmaa (2012)). However, unlike prior studies, age is insignificant in our regressions. This can be attributed to the fact that our respondents come from a cohort with similar ages (born between 1957 and 1964), therefore there is little dispersion in age for our sample of individuals. The preference for savings consistently has negative effects on debt-related measures and positive effects on assets and net worth. Measures of risk aversion and impatience, however, have only some or little influences.

Overall, our regression estimates in Table 2 provide a strong support for Hypothesis 1 that trust has the strongest and most consistent effects on the quality and outcomes of household financial decisions.

4.2 The causal impact of trust on household finance

So far we have demonstrated that trust has a significant correlation with an array of household financial outcome measures. A primary alternative explanation for our results is based on reverse causality. It is possible that higher trust levels are caused by better economic and financial out-

¹²We have also tried to identify foreclosures that are likely to have occurred after the measurement of trust in the 2008 survey. If the respondent reported owning a residential property in the 2008 survey and a foreclosure in the 2010 survey, the foreclosure is likely to have occurred since the 2008 survey. We find that the results are qualitatively the same when we use foreclosures after 2008.

¹³It is possible that one misses a payment or files for bankruptcy due to overindebtedness. However, our further robustness check shows that including a debt-to-income ratio has little impact on the relation between trust and the probability of missing payments, filing bankruptcy, or going through foreclosure.

comes, i.e., success breeds trust. Thus, the relationship between trust and financial outcomes we document may simply indicate that financial outcomes influence the level of trust. We address the concern about reverse causality using two distinct approaches. In the first approach, we purge out the component of trust that is correlated with measures of past economic success. In the second approach, we distill the component of trust that is correlated with early-life experiences.

4.2.1 Residual trust controlled for past economic success

In the first approach, we construct residual trust measures that are orthogonal to past economic success and examine how they are related to debt and asset management measures. We construct three measures of economic success based on net family income data from 1979 to 2008 surveys.

First, we compute the average income growth using 4-year average income. We take the average income over each of non-overlapping 4-year windows, compute annualized income growth rates between two adjacent 4-year periods, and calculate the average income growth rate for each respondent.¹⁴ We use 4-year average income because a large number of respondents have missing income data in some rounds of survey and the growth rates computed from year-to-year income changes often take extreme values which distort the average growth measure.

The second measure is Income Trend, which is the regression coefficient of the year variable in the regression of log income on the year of survey, separately estimated for each respondent. Since such a coefficient measures the average annual change in log income, it is an alternative measure of the average income growth.

Lastly, we compute changes in income over two consecutive surveys in which the respondent participated and reported income, and compute the ratio of the number of positive income changes to the total number of income changes available (Percentage Positive Income Change). For example, if a respondent has income data for nine rounds of survey, there are a total eight income changes available for her. If five of such changes are positive, her percentage positive income change measure is equal to $5/8 = 0.625$.

¹⁴The average is computed from available income data over the 4-year period. Each 4-year window has two rounds of surveys after 1994 except for the last window, which has only 2008 survey.

[—————INSERT TABLE 3 HERE—————]

We regress the trust measure of a respondent on each measure of economic success and obtain the residual trust (ResTrust). Then we examine how ResTrust is associated with various measures of household debt and asset management in Table 3. We find that the results using ResTrust are qualitatively similar to Panel B of Table 2. ResTrust is significantly negatively related to the probability of being in debt, missing payments, filing bankruptcy, or going through foreclosure, is negatively related to leverage, and is positively related to retirement savings, assets, and net worth. The coefficient estimates are similar in magnitude to those in the baseline regressions in Panel B of Table 2, suggesting past economic success has little influence on the effect of trust on household finance. The results thus provide additional evidence for Hypothesis 1 that the effect of trust on household finance is unlikely to be explained by reverse causality.

4.2.2 Instrumented trust based on early-life experiences

In the second approach, we address the concern of reverse causality by distilling components of trust that are correlated with an individual’s early-life experiences during her teenage years or early adulthood, decades before an individual has accumulated meaningful amounts of debt or assets.

We consider the following two early-life experiences. One is the experience that the individual felt being discriminated on the basis of age when she was searching for a job, obtained from the 1982 survey and denoted as `Discrim_age`. The other is the experience that the individual was ever charged or booked for breaking a law by the police or by someone connected with the courts, excluding minor traffic offenses. It is obtained from the 1980 survey and denoted as `BreakingLaw`.

We hypothesize both early-life experiences will be negatively related to trust. Alesina and La Ferrara (2002) show that traumatic life experience tends to adversely affect one’s trust. Accordingly, the experience of being discriminated is likely to reduce an individual’s trust, despite such age-based discrimination will surely diminish as the individual grows older. However, the adverse effect of such experience on trust is likely to persist into adulthood. The experience of breaking a law likely reflects a low level of trustworthiness of the individual. In addition, such an experience

likely dampens her trust towards others subsequently as (alleged) criminals are perceived as deviants and are usually granted less trust by people in her community. As these two variables help capture trust formed in the one's early adulthood, we use them as instruments to study the causal effect of trust on household finance.

[—————INSERT TABLE 4 HERE—————]

We regress trust on each or both of instrumental variables together with the controls in our baseline regressions of household finance variables, and report the estimates in Table 4. In each of the three columns we include each instrument or both together with the identical set of controls used in Panel B of Table 2, which are equivalent to the first-stage regression in the instrumental variable regressions.¹⁵

In all three regressions of Table 4, our estimates show that trust is significantly positively related to income, college and graduate/professional educations, and the math and verbal AFQT scores. We also find that trust is significantly negatively related to impatience, suggesting that high-trust individuals tend to be more patient in the tradeoff between payoffs today and those in the future. In Panel B of Table 2, we find that trust is significantly related to retirement savings, but impatience is not. Together with the evidence here, the results suggest that impatience affects retirement savings mostly through the channel of trust. We find no significant relationship between trust and the rest of the control variables.

In Column (1) of Table 4, we use `Discrim_age` as the instrument and find a significant negative coefficient, -0.093 ($t = -3.24$). This is consistent with our conjecture that experiencing discrimination early in life has a profound negative impact on an individual's trust. The F -statistic of `Discrim_age` is 10.53 ($p = 0.0012$), suggesting that `Discrim_age` is unlikely to be a weak instrument (Staiger and Stock 1997). In Column (2), we replace `Discrim_age` with `BreakingLaw` and again find a negative and significant coefficient, -0.189 ($t = -3.48$). This evidence confirms our conjecture that experiences of being charged for breaking a law reflects one's trustworthiness formed early in life and may have had a long-lasting adverse effect on an individual's trust subsequently. Finally,

¹⁵The actual first-stage regression may differ in the number of observations included based on the restriction in the second-stage regressions. But the estimates are qualitatively similar.

in Column (3) we add `Discrim_age` and `BreakingLaw` to the baseline regressions and both remain negative and significant. The F -statistic that tests the joint marginal power of the two variables is 10.27 ($p = 0.0000$). That is, both types of early-life experiences have distinct impacts on trust measured nearly three decades later. To summarize, our regression estimates in Table 4 provides strong support that trust is correlated with early-life experiences.

4.2.3 Instrumental variable regressions

Having established that `Discrim_age` and `BreakingLaw` are relevant instrumental variables to trust, we proceed to test whether the instrumented trust can explain variations in the status of household finance. Experiencing discrimination on the basis of age is unlikely to have a profound impact on long-term job prospects. Even it does, we have controlled for the effect of current income. The experience of being charged may have an effect on income. But again, income has been included as a control.

[—————INSERT TABLE 5 HERE—————]

To show the separate effect of the two instrumental variables, we first use each of them separately and then jointly as instruments. We report the coefficient estimates of the instrumented trust in Table 5. In Panel A, `Discrim_age` is used as the instrument. In Panel B, `BreakingLaw` is the instrument, and in Panel C, both variables are used as instruments. We focus on the economic and statistical significance of the instrumented trust measure.

When we use `Discrim_age` as the instrument in Panel A, we find the instrumented trust has the expected sign for all debt and asset variables. The coefficients are significant at the 5% level in four cases, at the 10% level in two cases, and insignificant in the two remaining cases. In Panel B when `BreakingLaw` is used as the instrument, again all coefficients are in the expected sign. Six out of eight coefficients are significant at the 5% level but insignificant in the other two cases. Finally, in Panel C when both variables are used as instruments, all coefficients are in the expected sign and statistically significant at the 5% level. These estimates show that the instrumented trust based on early-life experiences overall has a significant power to explain the variation in household debt and asset management.

Compared to the estimates in Panel B of Table 2, the size of the coefficient on the instrumented trust, however, is significantly larger than that of the original trust variable. The greater coefficients may be partly induced by smaller standard deviations of the predicted trust measure. For example, in the OLS regressions, the standard deviations of the instrumented trust range from 0.410 to 0.413, smaller than 1.02 of the original trust variable. However, even after we account for the differences in the standard deviations, the estimates indicate that the economic impacts are larger using the instrumental variable approach. Another possibility is that our instrument of trust is correlated with other unobserved aspects of culture. This phenomenon is also observed by Guiso, Sapienza, and Zingales (2006), among many other studies, when they use ethnicity and religion as instruments. Although the instrumental variable approach cannot completely rule out the effect of unobservable variables, the overall evidence at hand supports a causal impact of trust on household finance.

To summarize, the estimates in Table 5 show that trust shaped by early-life experiences encourages savings and asset accumulation and more responsible debt management. These life-experiences occur nearly three decades before the household finance variables are measured. Thus, our findings suggest that trust has a causal effect on the quality and outcome of household finance.

5. Additional Evidence for the Effect of Trust

In the next sets of analyses, we explore more unique aspects of the effect of trust. We provide further evidence on the channels through which such an effect to take place and on the cross-sectional variation in the trust effect.

5.1 Channels of the trust effect

We start with testing Hypothesis 2 by exploring the belief- versus value-based channels of trust to affect household finance. The belief channel refers to trust beliefs formed in response to external factors, such as the trustworthiness of people an individual deals with in her community. Following Butler, Giuliano, and Guiso (2009), we use the average trust level of all other individuals residing in the same county as a proxy of the trustworthiness of neighbors, and denote the trust component predicted by this measure as `Trust_neighbor*`. Butler et al. conjecture that the average level

of trust proxies for the average trustworthiness as people form their trust by extrapolating their own trustworthiness and this average trust level is shaped by the community’s legal and social environments.

The value-based channel refers to trust values that can be acquired through cultural transmission and instilled by parents. Ethnicity and religion are commonly used as proxies for cultural background in the literature (e.g. Guiso, Sapienza, and Zingales (2006)). Thus, we capture the component of cultural transmission by predicting trust using the average trust of all individuals with the same ethnicity and that of all individuals with the same religion in which one is raised, obtained from the 1979 survey. Our use of the religion one is raised in as opposed to the current religion is likely to capture the cultural background more precisely. We denote the component of trust predicted by the average trust of one’s religion and ethnicity as Trust_culture*. The second component of the value-based channel, Trust_family*, is measured by predicting trust using mother’s trust level, which is proxied by the average trust of all individuals residing in the birth state of an individual’s mother. Dohmen, Falk, and Huffman (2012) show that trust of mothers has a stronger impact on the trust of children than that of father.¹⁶

[—————INSERT TABLE 6 HERE—————]

Specifically, we decompose trust using the following regression estimates:

$$\begin{aligned} \text{Trust} = & -2.603 + 0.0926 \times \text{Trust_neighbor} + 0.5728 \times \text{Trust_religion} + 0.7940 \times \text{Trust_ethnic} \\ & \quad \quad \quad (t=-4.50) \quad (t=1.95) \quad \quad \quad (t=2.96) \quad \quad \quad (t=14.63) \\ & + 0.4320 \times \text{Trust_family} + \text{Trust_res} \\ & \quad \quad \quad (t=6.44) \\ & N = 5,185, \quad \text{Adjusted-}R^2 = 9.13\%, \end{aligned}$$

where Trust_neighbor is the average trust of other individuals in the same county, Trust_religion is the average trust of the individuals that were raised in the same religion, Trust_ethnic is the average trust of the individuals of the same ethnicity,¹⁷ and Trust_family is the average trust of the individuals in the birth state of one’s mother. We calculate the predicted trust for each component using the coefficient multiplied by the variable value for each individual:

¹⁶Adding fathers’ trust to the regression does not alter the results.

¹⁷See Appendix for the categories of religion and ethnicity.

$\text{Trust_neighbor}^* = 0.0926 \times \text{Trust_neighbor}$, $\text{Trust_culture}^* = 0.5728 \times \text{Trust_religion} + 0.7940 \times \text{Trust_ethnic}$, and $\text{Trust_family}^* = 0.4320 \times \text{Trust_family}$. The residual trust is trust minus the intercept and the three predicted components, and it is likely to capture trust beliefs and values shaped by individual-specific life experiences.

Next, we replace trust in the baseline regressions in Panel B of Table 2 with the four trust components and study their coefficients across the eight household finance variables. To facilitate the comparison across the four components, we standardize each trust component using its mean and standard deviation. Our regression estimates are reported in Table 6. We find that Trust_neighbor^* has a significant negative relationship with *Indebt* and *MissPmt*, and a significant positive relationship with *net worth*. The coefficient of Trust_neighbor^* is marginally significant in the regressions of *Bankruptcy* and *Foreclosure*, but the sign of the coefficient on *Foreclose* is positive, which is opposite to our prediction. In the remaining three cases, the coefficient is insignificant. In other words, half of the time, Trust_neighbor^* has a significant or marginally significant, expected relationship with the household finance measures.

As for the trust values measures, however, both Trust_culture^* and Trust_family^* yield coefficients in the expected sign across all eight household finance variables. The coefficient on Trust_culture^* is statistically significant in six out of eight cases and that of Trust_family^* is significant in five. Compared to the estimates on Trust_neighbor^* , the trust value variables based on family and cultural influences have somewhat stronger effects in terms of the magnitude of coefficients and statistical significance. Lastly, the coefficient on Trust_res is significant in four cases, suggesting the individual-specific trust also has a considerable effect on the household finance variables.

To sum up, the estimates in Table 6 show that trust beliefs and trust values have significant impacts on half or a majority of measures of household finance. The results suggest a slightly stronger effect of trust value-based variables. In other words, while beliefs about the trustworthiness of others induce better debt management, trust values inherited from culture and family play an important role in both household debt and asset management.

5.2 Subsample analyses

In this subsection we turn to Hypothesis 3, which predicts that trust should have a more pronounced effect on those who are more susceptible to poor financial decisions. To identify those individuals, we use three sorting variables: education, income, and gender. Prior studies show that those with low income or education and female are more likely to display low levels of financial knowledge (e.g., Lusardi and Mitchell (2011)). Guiso, Sapienza, and Zingales (2008) show that the effect of trust on stock market participation is stronger among less educated individuals.

[—————INSERT TABLE 7 HERE—————]

We report the results on the subsample analyses in Table 7. In Panels A, B, and C, the sample is split into two groups based on education, income, and gender, respectively. The results overall suggest that trust has a bigger effect on those who are in a relatively weak position of managing household finance. For example, among individuals with below college education, trust has a statistically significant effect on all debt and asset variables except for leverage, while among individuals with college education or above, trust has a significant negative impact on foreclosure and leverage, a marginally significant effect on three variables, and no significant effect on the remaining three variables.

Using the other two sorting variables, we observe statistically significant effects of trust on all dependent variables for low-income individuals or females. In contrast, trust has a statistically significant effect only for four dependent variables among high-income individuals and for three dependent variable among males. Overall, we echo prior research by showing that the effect of trust is more pronounced among more vulnerable groups in household finance.

5.3 The non-monotonic effect of trust

Finally, we test Hypothesis 4, which posits that the effect of trust on household finance is not uniformly positive. This is a prediction that further establishes the causal impacts of trust, as the alternative explanation based on reverse causality cannot explain a hump-shaped relationship between trust and assets, nor a U-shaped relationship between trust and debt. In this alternative

explanation, better financial outcomes should always enhance trust, suggesting a monotonic relationship between the two. In contrast, Hypothesis 4 predicts that individuals with extremely high levels of trust perform worse than those with moderately high levels of trust, as they may take others at their word and not perform due diligence before entering into a contract. As the level of trust ranges from 1 to 5, with 1 indicating the lowest level and 5 the highest level, we re-run all regressions in Table 2 with four trust dummies that indicate the trust level of 2, 3, 4, and 5. Thus, the coefficient of each dummy captures the incremental effect of that trust level relative the lowest trust level.

[—————INSERT TABLE 8 HERE—————]

The results shown in Table 8 provide strong support for our hypothesis 4. When each of the financial outcome measures is regressed on the four trust dummies with control variables, we find that the coefficients of various trust level variables are mostly in the expected direction within each regression. However, the size of the coefficient on trust all increases from the level of 2 to 3, peaks at 4, followed by a sharp decline at the level of 5. The statistical significance also follows this pattern. Using the regression of *Indebt* (having negative net worth) as an example, regression (1) shows that having a trust level of 2 to 5 reduces the likelihood of being in debt by 3.2% ($z = -2.17$), 3.6% ($z = -2.54$), 4.8% ($z = -3.23$), and 2.8% ($z = -1.05$), respectively, as compared to the lowest level of trust. In other words, the effect of trust in promoting healthier debt management increases up to the trust level of 4 and declines considerably at the trust level of 5. In fact, there is no significant relationship between the trust level of 5 and the dependent variable, suggesting having an extremely level of trust makes one no better off than having an extremely low level of trust.

This pattern applies to all other dependent variables. We observe a gradual increase in the effect of trust up the level 4 followed by a sharp decrease at the highest level of trust. To summarize, our regression results in Table 8 support Hypothesis 4 and show that it is the right level of trust, not an extremely high level of trust, that leads to better household finances.

6. Conclusion

Using a representative sample of a generation of American individuals and a broad set of measures of household financial decisions and outcomes, we show that on average individuals with higher trust levels fare better in household finances. High-trust individuals have more assets, greater retirement savings, and lower probabilities of missing payments, filing bankruptcy, or going through foreclosure. Further, these high-trust individuals have lower levels of leverage and higher net worth as a result of better asset and debt management. Our estimates show that trust is one of the strongest and most consistent determinants of household finance outcomes among a host of economic, psychological, cognitive, and preference variables we consider.

We address the concern of reverse causality by purging out the component correlated with past economic success and also by extracting the components of trust correlated with early life experiences. In either approach, our evidence provides strong support for the causal impact of trust. Further, we show that both trust beliefs and trust values play important roles in the effect of trust on household finance, with a slight tilt towards a stronger effect of trust values that are acquired through cultural transmission and parental influences.

There has been a growing interest in household finance, especially after the most recent financial crisis and economic recession in which excessive household borrowing is considered to be a major contributing factor. It is usually difficult to assess what is the optimal level of investments and borrowing for a given household. However, at the minimum, our evidence suggests that trust helps households better prepare for financial shocks by cumulating more assets and less debt. This is particularly valuable for individuals that are in a relatively weak position of managing household finance, for whom we find that trust has the most pronounced effect. The fact that community social capital and personal early-life experiences shape an individual's trust level and affect household financial outcomes suggests a venue to improve household finance. Our results suggest that building good community environments for children, teenager, and young adults and fostering the right amount of trust can benefit individual households as well as the aggregate economy.

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Figure 1: **Sorts of Debt and Asset Management Measures based on Trust**

Figure 1A plots the probability of being indebt, missing a payment, and filing bankruptcy and the mean leverage ratios of households in the high (H) and low (L) trust groups. Households of individuals with the trust level of 3 or above are assigned to the high trust group and those with the trust level of 1 or 2 are assigned to the low trust group. The means of the dummy variables of being indebt, missing a payment, filing bankruptcy, and going through foreclosure are reported as the probability. Figure 1B plots of mean retirement savings, total assets, and net worth in thousands of dollars for the high and low trust groups. Data points are shown at the top of each bar.

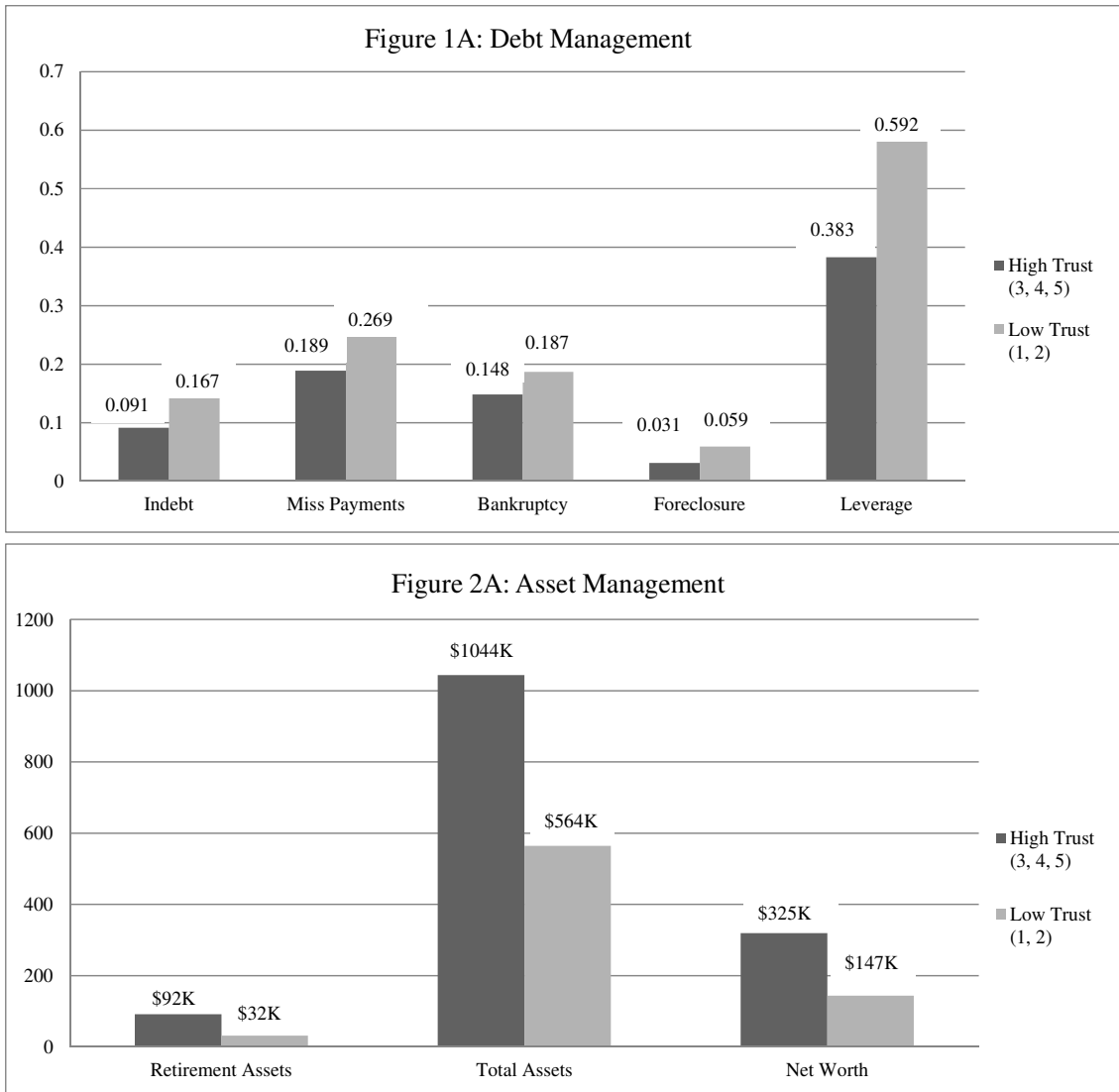


Table 1: **Sample Statistics**

This table reports the summary statistics for the variables used in our analyses. To avoid the influence of extreme values, Leverage, Retire, and Asset are winsorized at 99th percentiles. Income and Net worth are top coded at the 2% in the survey. All variables are defined in the Appendix.

Panel A: Trust Variables								
Variable	N	Mean	Stdev	10th	25th	50th	75th	90th
Trust	7,673	2.95	1.02	2	2	3	4	4
(Trust=1)	7,673	0.09	0.29	0	0	0	0	0
(Trust=2)	7,673	0.25	0.43	0	0	0	1	1
(Trust=3)	7,673	0.29	0.45	0	0	0	1	1
(Trust=4)	7,673	0.35	0.48	0	0	0	1	1
(Trust=5)	7,673	0.02	0.14	0	0	0	0	0
Panel B: Financial Outcome Variables								
Variable	N	Mean	Stdev	10th	25th	50th	75th	90th
Indebt	7,539	0.12	0.32	0	0	0	0	1
MissPmt	7,633	0.22	0.41	0	0	0	0	1
Bankruptcy	7,645	0.16	0.37	0	0	0	0	1
Foreclosure	5,058	0.04	0.20	0	0	0	0	0
Leverage	7,006	0.45	1.24	0	0.02	0.14	0.41	0.83
Retire (\$K)	7,672	71.41	245.46	0	0.00	0.40	59.00	200.00
Asset (\$K)	7,673	878.85	1,672.78	0.60	30.00	280.30	931.69	2265.00
NetWorth (\$K)	7,433	263.95	548.16	0	6.20	86.00	282.01	640.00
Panel C: Other Variables								
Variable	N	Mean	Stdev	10th	25th	50th	75th	90th
Income (\$K)	6,660	73.65	75.56	9.00	26.00	56.00	97.00	147.20
Age	7,673	46.67	2.24	44	45	47	48	50
Male	7,673	0.49	0.50	0	0	0	1	1
Married	7,673	0.56	0.50	0	0	1	1	1
Famsize	7,673	2.84	1.49	1	2	3	4	5
Numchild	7,673	1.05	1.16	0	0	1	2	3
Edu_high	7,584	0.54	0.50	0	0	1	1	1
Edu_college	7,584	0.24	0.43	0	0	0	0	1
Edu_gradprof	7,584	0.07	0.25	0	0	0	0	0
Edu_other	7,584	0.02	0.15	0	0	0	0	0
Fin_Industry	6,298	0.04	0.21	0	0	0	0	0
AFQT_math	7,340	93.67	18.53	73	78	89	108	123
AFQT_verbal	7,340	91.74	21.27	60	75	96	110	117
Riskaver	7,115	3.06	1.19	1	2	4	4	4
Save_pref (%)	7,257	35.26	40.00	0	0	10	70	100
Impatience (\$K)	6,914	1.37	24.98	0	0.10	0.25	1.00	1.20
Discrim_age	7,488	0.31	0.46	0	0	0	1	1
BreakingLaw	7,433	0.09	0.29	0	0	0	0	0

Table 2: Trust and Financial Outcomes

This table reports the regression results of household financial outcomes on the level of individual trust with a set of control variables. Regressions (1)-(4) are probit regressions and the average marginal effect (probability) is reported as the coefficient. Regressions (5)-(8) are OLS regressions. The dependent variables are a dummy for having negative net worth (Indebt), a dummy for missing a payment or being late in paying bills (MissPmt), a dummy for ever filing for bankruptcy (Bankruptcy), a dummy for foreclosure (Foreclosure), Leverage, logarithm of retirement savings (LogRetire), logarithm of total asset (LogAsset), and logarithm of net worth (LogNetWorth). The logarithm of variables are defined as $\log(1+\text{variable})$. For negative net worth, LogNetWorth is defined as $-\log(1-\text{net worth})$. The key independent variable is the level of individual's trust (Trust). All variables are defined in the Appendix. We report the z -statistics for probit regressions, (1)-(4), and t -statistics for OLS regressions, (5)-(8), below the coefficients in parentheses based on standard errors adjusted for clustering at the county level. The statistical significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***.

Panel A: Univariate Regressions

	Dependent Variables:							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Trust	-0.040*** (-11.71)	-0.041*** (-8.50)	-0.021*** (-4.92)	-0.011*** (-4.01)	-0.114*** (-6.93)	0.582*** (22.74)	0.714*** (22.58)	0.711*** (22.52)
(Pseudo/Adj.) R^2	2.40%	1.00%	0.40%	1.00%	0.008	0.069	0.084	0.068
Obs	7,456	7,548	7,560	4,814	6,934	7,587	7,588	7,352

Panel B: Multivariate Regressions

Trust	-0.011*** (-2.79)	-0.022*** (-3.51)	-0.022*** (-3.77)	-0.015*** (-3.70)	-0.063*** (-2.72)	0.095*** (3.24)	0.096*** (3.13)	0.121*** (3.52)
logIncome	-0.043*** (-9.20)	-0.049*** (-7.03)	-0.003 (-0.36)	-0.015*** (-2.88)	-0.197*** (-5.99)	0.746*** (20.95)	1.072*** (22.63)	1.033*** (19.86)
Age	0.000 (0.17)	0.001 (0.21)	0.001 (0.30)	-0.001 (-0.45)	0.000 (0.00)	0.002 (0.16)	-0.012 (-1.09)	0.016 (1.26)
Male	-0.002 (-0.23)	-0.042*** (-3.54)	-0.045*** (-4.22)	0.000 (0.02)	-0.030 (-0.90)	-0.116** (-2.16)	-0.017 (-0.38)	0.091 (1.48)
Married	-0.034*** (-3.23)	-0.051*** (-3.39)	-0.004 (-0.28)	0.006 (0.55)	-0.145*** (-2.72)	0.724*** (9.84)	0.842*** (11.03)	0.800*** (7.97)
Famsize	0.000 (0.08)	0.003 (0.30)	-0.021** (-2.39)	0.003 (0.46)	0.017 (0.46)	-0.056 (-1.49)	-0.233*** (-5.24)	-0.112** (-2.36)

Continued...

Table 2: Trust and Financial Outcomes (Continued)

	Dependent Variables:							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Indebt	MissPmt	Bankruptcy	Foreclosure	Leverage	LogRetire	LogAsset	LogNetWorth
Numchild	-0.002 (-0.34)	0.017 (1.47)	0.024** (2.40)	0.002 (0.23)	0.001 (0.02)	0.058 (1.30)	0.250*** (4.83)	0.143** (2.44)
Edu_high	-0.014 (-1.05)	-0.001 (-0.05)	0.015 (0.80)	0.004 (0.29)	0.017 (0.26)	0.169* (1.95)	0.441*** (4.26)	0.376*** (3.24)
Edu_college	-0.003 (-0.20)	-0.009 (-0.37)	-0.022 (-0.98)	-0.014 (-0.87)	0.043 (0.52)	0.481*** (4.47)	0.659*** (5.59)	0.515*** (3.81)
Edu_gradprof	0.006 (0.26)	-0.065* (-1.96)	-0.134*** (-3.84)	-0.074** (-2.32)	0.158 (1.46)	0.531*** (3.69)	0.623*** (4.62)	0.408** (2.16)
Edu_other	0.022 (0.89)	0.017 (0.41)	-0.005 (-0.12)	-0.022 (-0.77)	0.070 (0.59)	0.631*** (3.44)	0.535*** (3.02)	0.453** (2.06)
Fin_Industry	-0.044* (-1.89)	-0.040 (-1.45)	0.021 (0.82)	0.030** (2.23)	-0.075** (-2.33)	0.238* (1.75)	0.168 (1.55)	0.115 (0.80)
AFQT_math	-0.138*** (-3.75)	-0.141*** (-2.83)	-0.169*** (-3.36)	-0.001 (-0.04)	-0.158 (-1.18)	1.727*** (6.61)	0.616*** (3.08)	0.684*** (2.76)
AFQT_verbal	0.025 (0.81)	0.142*** (2.92)	0.070 (1.54)	0.030 (1.02)	0.075 (0.48)	0.449** (2.05)	0.608*** (2.99)	1.049*** (4.00)
Riskaver	-0.003 (-0.96)	-0.016*** (-3.35)	0.001 (0.28)	-0.000 (-0.07)	-0.032 (-1.63)	-0.004 (-0.17)	0.058** (2.54)	0.103*** (3.67)
Save_pref	-0.001*** (-5.60)	-0.001*** (-4.56)	-0.001*** (-4.02)	-0.000* (-1.76)	-0.001*** (-2.68)	0.002*** (2.92)	0.002*** (3.88)	0.004*** (5.57)
Impatience	0.109 (0.74)	0.090 (0.43)	-0.305 (-1.54)	-0.001 (-0.02)	-0.149 (-0.53)	0.910 (0.93)	-0.895 (-1.26)	-0.826 (-0.70)
State dummies	yes	yes	yes	yes	yes	yes	yes	yes
Intercept	yes	yes	yes	yes	yes	yes	yes	yes
(Pseudo/Adj.) R^2	14.20%	6.10%	6.30%	10.30%	5.50%	35.50%	49.10%	37.30%
Obs	4,650	4,703	4,713	3,041	4,522	4,725	4,725	4,657

Table 3: The Causal Effect of Trust: Using Residual Trust Controlled for Past Economic Success

This table reports the regression results of household financial outcomes on the residual trust (ResTrust) with a set of control variables, where the residual trust is residuals from the regression of trust on the Average Income Growth (Panel A), on Income Trend (Panel B), and Percentage Positive Income Change (Panel C). See the Appendix for the definition of Average Income Growth, Income Trend, and Percentage Positive Income Change. Regressions (1)-(4) are probit regressions and the average marginal effect (probability) is reported as the coefficient. Regressions (5)-(8) are OLS regressions. The dependent variables include a dummy for having negative net worth (Indebt), a dummy for missing a payment or being late in paying bills (MissPmt), a dummy for ever filing for bankruptcy (Bankruptcy), a dummy for foreclosure (Foreclosure), Leverage, logarithm of retirement savings (LogRetire), logarithm of total asset (LogAsset), and logarithm of net worth (LogNetWorth). The logarithm of variables are defined as $\log(1+\text{variable})$. For negative net worth, LogNetWorth is defined as $-\log(1-\text{net worth})$. We report the coefficients of the residual trust. The control variables are identical to those in Panel B of Table 2. We report the z -statistics for probit regressions, (1)-(4), and t -statistics for OLS regressions, (5)-(8), below the coefficients in parentheses based on standard errors adjusted for clustering at the county level. The statistical significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***.

		Dependent Variables:							
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Residuals from the regression of Trust on Average Income Growth		Indebt	MissPmt	Bankruptcy	Foreclosure	Leverage	LogRetire	LogAsset	LogNetWorth
ResTrust		-0.012*** (-2.93)	-0.023*** (-3.80)	-0.023*** (-3.94)	-0.016*** (-3.87)	-0.064*** (-2.79)	0.105*** (3.61)	0.095*** (3.14)	0.124*** (3.64)
Controls/Intercept					<i>Same as in Panel B of Table 2</i>				
(Pseudo/Adj.) R^2		14.20%	6.14%	6.31%	10.40%	4.06%	34.60%	48.30%	36.40%
Obs		4,650	4,703	4,713	3,041	4,522	4,725	4,725	4,657
Panel B: Residuals from the regression of Trust on Income Trend		ResTrust							
		-0.011*** (-2.78)	-0.022*** (-3.65)	-0.024*** (-4.07)	-0.016*** (-3.84)	-0.063*** (-2.76)	0.095*** (3.25)	0.086*** (2.82)	0.116*** (3.39)
Controls/Intercept					<i>Same as in Panel B of Table 2</i>				
(Pseudo/Adj.) R^2		14.20%	6.13%	6.33%	10.30%	4.05%	34.60%	48.30%	36.30%
Obs		4,650	4,703	4,713	3,041	4,522	4,725	4,725	4,657
Panel C: Residuals from the regression of Trust on Percentage Positive Income Change		ResTrust							
		-0.075*** (-2.67)	-0.067*** (-2.93)	-0.088*** (-3.64)	-0.179*** (-3.52)	-0.063*** (-2.71)	0.063*** (2.15)	0.094*** (3.07)	0.113*** (3.24)
Controls/Intercept					<i>Same as in Panel B of Table 2</i>				
(Pseudo/Adj.) R^2		14.20%	6.03%	6.26%	10.10%	4.06%	34.50%	48.30%	36.30%
Obs		4,650	4,703	4,713	3,041	4,522	4,725	4,725	4,657

Table 4: **Instrumented Trust Based on Early Life Experiences**

This table reports the OLS regression results of the determinants of trust. The dependent variable is the level of individual's trust (Trust). The key independent variables include the dummy for perceived discrimination based on age (Discrim_age, from the 1982 survey) and the dummy for ever been booked or charged for breaking law (BreakingLaw, from the 1980 survey). All variables are defined in the Appendix. Below the coefficients reported are the t -statistics in parentheses that are based on standard errors adjusted for clustering at the county level. The statistical significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***. F -statistic tests the hypothesis that the one or two of the key independent variables have zero incremental effect on trust. Below the F -statistics reported are the p -values in italics and parentheses.

	Dependent Variable: Trust		
	(1)	(2)	(3)
Discrim_age	-0.093*** (-3.24)		-0.077*** (-2.68)
BreakingLaw		-0.189*** (-3.48)	-0.175*** (-3.16)
logIncome	0.047*** (2.66)	0.042** (2.39)	0.047*** (2.68)
Age	-0.010* (-1.82)	-0.007 (-1.22)	-0.009 (-1.53)
Male	-0.008 (-0.28)	0.018 (0.63)	0.014 (0.52)
Married	0.118*** (3.19)	0.110*** (2.92)	0.111*** (2.96)
Famsize	0.027 (1.29)	0.027 (1.30)	0.025 (1.20)
Numchild	-0.010 (-0.42)	-0.014 (-0.59)	-0.011 (-0.44)
Edu_high	0.087 (1.50)	0.059 (1.03)	0.062 (1.05)
Edu_college	0.163*** (2.61)	0.137** (2.19)	0.132** (2.09)
Edu_gradprof	0.301*** (4.42)	0.272*** (3.94)	0.268*** (3.86)
Edu_other	0.070 (0.65)	0.052 (0.49)	0.036 (0.33)
Fin_Industry	-0.041 (-0.72)	-0.044 (-0.78)	-0.048 (-0.85)
AFQT_math	0.487*** (3.99)	0.479*** (3.88)	0.465*** (3.82)
AFQT_verbal	1.009*** (8.64)	1.028*** (8.51)	1.047*** (8.89)
Riskaver	0.010 (0.85)	0.011 (0.98)	0.010 (0.89)
Save_pref	-0.000 (-0.10)	-0.000 (-0.38)	-0.000 (-0.14)
Impatience	-1.437** (-2.57)	-1.451** (-2.56)	-1.453*** (-2.60)
State dummies	yes	yes	yes
Intercept	yes	yes	yes
Adj. R^2	16.20%	16.10%	16.40%
Obs	4,683	4,663	4,627
F -statistic	$F(1, 893) = 10.53$ <i>(0.0012)</i>	$F(1, 894) = 12.08$ <i>(0.0005)</i>	$F(2, 889) = 10.27$ <i>(0.0000)</i>

Table 5: The Causal Effect of Trust: Instrumental Variable Approach

This table reports the regression results of household financial outcomes on the level of individual trust with a set of control variables. Regressions (1)-(4) are probit regressions and the average marginal effect (probability) is reported as the coefficient. Regressions (5)-(8) are OLS regressions. The dependent variables include a dummy for having negative net worth (Indebt), a dummy for missing a payment or being late in paying bills (MissPmt), a dummy for ever filing for bankruptcy (Bankruptcy), a dummy for foreclosure (Foreclosure), Leverage, logarithm of retirement savings (LogRetire), logarithm of total asset (LogAsset), and logarithm of net worth (LogNetWorth). The logarithm of variables are defined as $\log(1+\text{variable})$. For negative net worth, LogNetWorth is defined as $-\log(1-\text{net worth})$. We instrument trust with one or more instrumental variables together with all controls and report the coefficients on the instrumented trust (Trust*). The control variables are identical to those in Panel B of Table 2. We report the z -statistics for probit regressions, (1)-(4), and t -statistics for OLS regressions, (5)-(8), below the coefficients in parentheses based on standard errors adjusted for clustering at the county level. The statistical significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***.

Panel A: Using Discrim.age as Instruments		Dependent Variables:							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Trust*	-0.130* (-1.96)	-0.257*** (-7.53)	-0.214*** (-4.00)	-0.227*** (-9.55)	-0.622 (-1.36)	1.494* (1.94)	0.170 (0.30)	1.960** (2.05)	
Controls/Intercept					<i>Same as in Panel B of Table 2</i>				
Obs	4,608	4,661	4,672	3,017	4,486	4,683	4,683	4,615	
Panel B: Using BreakingLaw as Instrument									
Trust*	-0.098 (-1.61)	-0.184*** (-2.83)	-0.163** (-2.14)	-0.225*** (-9.31)	-0.998 (-1.61)	2.485*** (2.96)	1.897** (2.53)	2.449** (2.52)	
Controls/Intercept				<i>All controls in Panel B of Table 2</i>					
Obs	4,589	4,642	4,651	3,008	4,473	4,663	4,663	4,595	
Panel C: Using Discrim.age and BreakingLaw as Instruments									
Trust*	-0.124*** (-2.65)	-0.238*** (-6.34)	-0.191*** (-3.93)	-0.234*** (-14.60)	-0.895** (-2.05)	2.172*** (3.29)	1.265** (2.43)	2.343*** (3.07)	
Controls/Intercept				<i>Same as in Panel B of Table 2</i>					
Obs	4,553	4,606	4,616	2,985	4,441	4,627	4,627	4,559	

Table 6: Channels of Trust Effects on Financial Outcomes

This table reports the regression estimates of household financial outcomes on different components of individual trust with a set of control variables: (1) trust predicted by neighbors' average trust (Trust_neighbor*), (2) trust predicted by the average trust of all individuals sharing one's religion and ethnicity (Trust_culture*), (3) trust predicted by the average trust of all individuals from mother's birth state (Trust_family*); (4) residual trust not explained by the above three components (Trust_res). Regressions (1)-(4) are probit regressions and the average marginal effect (probability) is reported as the coefficient. Regressions (5)-(8) are OLS regressions. The dependent variables include a dummy for having negative net worth (Indebt), a dummy for missing a payment or being late in paying bills (MissPmt), a dummy for ever filing for bankruptcy (Bankruptcy), a dummy for foreclosure (Foreclosure), Leverage, logarithm of retirement savings (LogRetire), logarithm of total asset (LogAsset), and logarithm of net worth (LogNetWorth). The logarithm of variables are defined as $\log(1+\text{variable})$. For negative net worth, LogNetWorth is defined as $-\log(1-\text{net worth})$. The control variables are identical to those in Panel B of Table 2. We report the z -statistics for probit regressions, (1)-(4), and t -statistics for OLS regressions, (5)-(8), below the coefficients in parentheses based on standard errors adjusted for clustering at the county level. The statistical significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Indebt	MissPmt	Bankruptcy	Foreclosure	Leverage	LogRetire	LogAsset	LogNetWorth
Trust_neighbor*	-0.012** (-2.08)	-0.022** (-2.32)	-0.014* (-1.73)	0.010* (1.71)	-0.012 (-0.49)	-0.023 (-0.52)	0.031 (0.83)	0.104** (2.12)
Trust_culture*	-0.009 (-1.49)	-0.025*** (-2.69)	-0.020** (-2.36)	-0.033*** (-5.05)	-0.029 (-0.98)	0.147*** (3.60)	0.175*** (4.54)	0.247*** (4.93)
Trust_family*	-0.022*** (-3.17)	-0.029*** (-2.95)	-0.006 (-0.75)	-0.003 (-0.46)	-0.097*** (-3.36)	0.088** (2.02)	0.057 (1.28)	0.177*** (3.28)
Trust_res	-0.003 (-0.53)	-0.023*** (-3.09)	-0.023*** (-3.32)	-0.017*** (-2.99)	-0.045 (-1.51)	0.094*** (2.69)	0.033 (0.87)	0.051 (1.26)
Controls/Intercept	<i>Same as in Panel B of Table 2</i>							
(Pseudo/Adj.) R^2	15.30%	6.85%	7.51%	13.30%	5.09%	35.60%	50.10%	40.20%
Obs	3,152	3,186	3,202	1,810	3,055	3,215	3,215	3,165

Table 7: Trust and Financial Outcomes: Subsample Analyses

This table reports the regression results of household financial outcomes on the level of individual trust with a set of control variables for subsamples split based on education (Panel A), income (Panel B), and gender (Panel C). Regressions (1)-(4) are probit regressions and the average marginal effect (probability) is reported as the coefficient. Regressions (5)-(8) are OLS regressions. The dependent variables are a dummy for having negative net worth (Indebt), a dummy for missing a payment or being late in paying bills (MissPmt), a dummy for ever filing for bankruptcy (Bankruptcy), a dummy for foreclosure (Foreclosure), Leverage, logarithm of retirement savings (LogRetire), logarithm of total asset (LogAsset), and logarithm of net worth (LogNetWorth). The logarithm of variables are defined as $\log(1+\text{variable})$. For negative net worth, LogNetWorth is defined as $-\log(1-\text{net worth})$. We report the coefficients of the key independent variable (Trust). The control variables are identical to those in Panel B of Table 2. In Panel A, individuals with other education are excluded. We report the z -statistics for probit regressions, (1)-(4), and t -statistics for OLS regressions, (5)-(8), below the coefficients in parentheses based on standard errors adjusted for clustering at the county level. The statistical significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***.

		Dependent Variables:							
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Indebt	MissPmt	Bankruptcy	Foreclosure	Leverage	LogRetire	LogAsset	LogNetWorth
Panel A: Subsamples based on education									
Low (Below college)	Trust	-0.012** (-2.30)	-0.025*** (-3.05)	-0.022*** (-2.90)	-0.016** (-2.57)	-0.044 (-1.56)	0.092*** (2.68)	0.082** (2.11)	0.109*** (2.65)
High (College or above)	Trust	-0.007 (-1.16)	-0.011 (-1.19)	-0.017* (-1.78)	-0.021*** (-3.08)	-0.092** (-2.07)	0.073 (1.19)	0.085* (1.88)	0.107* (1.80)
Panel B: Subsamples based on income									
Low (Below median)	Trust	-0.020** (-2.48)	-0.025** (-2.52)	-0.022** (-2.34)	-0.026*** (-2.87)	-0.127*** (-2.78)	0.106*** (3.53)	0.107** (2.19)	0.175*** (3.08)
High (median or above)	Trust	-0.007 (-1.64)	-0.017** (-2.11)	-0.022*** (-2.96)	-0.017*** (-3.03)	-0.009 (-0.53)	0.071 (1.41)	0.079** (2.55)	0.046 (1.17)
Panel C: Subsamples based on gender									
Female	Trust	-0.018*** (-2.96)	-0.027*** (-2.84)	-0.030*** (-3.35)	-0.017*** (-2.84)	-0.105*** (-3.21)	0.128*** (2.95)	0.113*** (2.64)	0.176*** (3.36)
Male	Trust	-0.004 (-0.66)	-0.016** (-1.98)	-0.017** (-2.03)	-0.019*** (-2.62)	-0.019 (-0.58)	0.069* (1.66)	0.068 (1.63)	0.067 (1.41)

Table 8: The Non-Monotonic Effect of Trust on Financial Outcomes

This table reports the regression results of household financial outcomes on dummies for different levels of individual trust with a set of control variables. Regressions (1)-(4) are probit regressions and the average marginal effect (probability) is reported as the coefficient. Regressions (5)-(8) are OLS regressions. The dependent variables include a dummy for having negative net worth (Indebt), a dummy for missing a payment or being late in paying bills (Miss Pmt), a dummy for ever filing for bankruptcy (Bankruptcy), a dummy for foreclosure (Foreclosure), Leverage, logarithm of retirement savings (LogRetire), logarithm of total asset (LogAsset), and logarithm of net worth (LogNetWorth). The logarithm of variables are defined as $\log(1+\text{variable})$. For negative net worth, LogNetWorth is defined as $-\log(1-\text{net worth})$. The key independent variables are identical to those in Panel B of Table 2. We report the z -statistics for probit regressions, (1)-(4), and t -statistics for OLS regressions, (5)-(8), below the coefficients in parentheses based on standard errors adjusted for clustering at the county level. The statistical significance at the 10%, 5%, and 1% levels are indicated by *, **, and ***.

	Dependent Variables:							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(Trust=2)	Indebt	MissPmt	Bankruptcy	Foreclosure	Leverage	LogRetire	LogAsset	LogNetWorth
	-0.032** (-2.17)	-0.006 (-0.26)	0.013 (0.60)	-0.007 (-0.50)	-0.183 (-1.45)	0.019 (0.18)	0.279** (2.20)	0.270* (1.81)
(Trust=3)								
	-0.036** (-2.54)	-0.034 (-1.45)	-0.022 (-1.04)	-0.033** (-2.24)	-0.265** (-2.23)	0.145 (1.38)	0.255** (2.08)	0.338** (2.30)
(Trust=4)								
	-0.048*** (-3.23)	-0.058** (-2.34)	-0.048** (-2.13)	-0.044*** (-2.77)	-0.297** (-2.56)	0.255** (2.30)	0.439*** (3.60)	0.489*** (3.34)
(Trust=5)								
	-0.028 (-1.05)	-0.058 (-1.22)	-0.031 (-0.73)	-0.016 (-0.56)	-0.073 (-0.34)	0.171 (0.82)	0.194 (0.82)	0.316 (1.07)
Controls/Intercept								
(Pseudo/Adj.) R^2	14.30%	6.13%	6.37%	10.60%	4.16%	34.60%	48.40%	36.30%
Obs	4,650	4,703	4,713	3,041	4,522	4,725	4,725	4,657

Same as in Panel B of Table 2

Appendix: Variable Definition

All variables are from NLSY79 unless noted otherwise.

Variable name / Description	
AFQT_math	Sum of standard scores on ASVAB section 2 (arithmetic reasoning) and section 8 (mathematics knowledge), scaled by 100, from 1981 survey.
AFQT_verbal	Sum of standard scores on ASVAB section 3 (word knowledge) and section 4 (paragraph comprehension), scaled by 100, from 1981 survey.
Age	Age at the interview date, from 2008 survey.
Average Income Growth	Average of annualized income growth rates computed from 4-year average income, from 1979-2008 surveys.
Bankruptcy	Equal to 1 if the respondent has ever declared bankruptcy, from 2008 survey.
BreakingLaw	Equal to 1 if the respondent has ever been booked or charged for breaking a law, either by the police or by someone connected with the courts, not counting minor traffic offenses, from 1980 survey.
Discrim_age	Equal to 1 if the respondent indicates that discrimination on the basis of age caused problems in getting a good job, from 1982 survey.
Edu_high	Equal to 1 if the respondent's highest degree received is High school diploma or equivalent (category 2), from 2008 survey.
Edu_college	Equal to 1 if the respondent's highest degree received is College (AA, BA, BS) (categories 3, 4, or 5), from 2008 survey.
Edu_gradprof	Equal to 1 if the respondent's highest degree received is Graduate/Professional (MA, MBA, MS, MSW, PhD, MD, LLD, DDS) (categories 6, 7, or 8), from 2008 survey.
Edu_other	Equal to 1 if the respondent's highest degree received is Others (category 9), from 2008 survey.
Ethnicity	The origin/descent of the respondent (For multiple origins: one the respondent feels closest to): (1) African American (Black), (2) Hispanic; (3) Others, from 1979 survey.
Famsize	The number of family members, from 2008 survey.
Fin_Ind	Equal to 1 if the respondent's primary employer is in finance or insurance industry, from 2008 survey.
Foreclosure	Equal to 1 if the respondent ever went through foreclosure on the house or other residential properties since January 2007, from 2010 survey.
Impatience	The smallest amount of additional money that the respondent would have to receive one month from now to convince him/her to wait one month rather than claim a \$1,000 prize now. Scaled by 1,000, from 2006 survey.
Income Trend	Time trend of log Income, measured by the estimated coefficient of the year variable in the regression of log Income on the year of survey, from 1979-2008 surveys.

Appendix: Variable Definition (Continued)

Variable name / Description	
Indebt	Equal to 1 if the answer is 'in debt' on the following question: "Suppose you were to sell all of your major possessions, turn all of your investments and other assets into cash, and pay all of your debts. Would you have something left over, break even, or be in debt?" from 2008 survey.
Leverage	Debt/Asset, where debt is the sum of credit card debt, car loans, business debt, student loans, mortgages/home equity loans/back taxes/home improvement loans, other debt on residential properties, debt to other businesses, and informal borrowing, from 2008 survey.
LogAsset	The log(1+asset), where asset is the sum of the values of CDs, bonds, business asset, vehicles, saving/checking/money market accounts, mutual funds, employer-sponsored retirement accounts, saving bond, stock, IRA/Keogh/other tax advantaged accounts, residential properties, collections, cash-value insurance, items, and personal loans made to others. Scaled by 1,000, from 2008 survey.
LogIncome	The log(1+income), where income is the total net family income in the past calendar year. Scaled by 1,000, from 2008 survey.
LogRetire	The log(1+retire), where retire is the sum of the values of employer-sponsored retirement accounts and IRA/Keogh/other tax advantaged accounts. Scaled by 1,000, from 2008 survey.
LogNetWorth	The log(1+net worth), where net worth is the family net worth, created by summing all asset values and subtracting all debt. Scaled by 1,000, from 2008 survey.
Male	Equal to 1 if the respondent is male, from 2008 survey.
Married	Equal to 1 if the respondent is married, from 2008 survey.
MissPmt	Equal to 1 if the respondent has completely missed a payment or been at least 2 months late in paying any of the bills in the last 5 years, from 2008 survey.
Numchild	Number of children in the household, from 2008 survey.
Percentage Positive Income Change	The number of positive income changes divided by the total number of income changes, where the income change for a given survey year is the income reported in that survey year minus the income reported in the most recent prior survey, from 1979-2008 surveys.
Religion	Religion the respondent was raised:(1) Protestant, (2) Catholic, (3) Jewish, and (4) Other, from 1979 survey.
Riskaver	1: the respondent is willing to take a new job that will either double the income or cut it in half with equal probabilities. 2: the respondent is willing to take a new job that will either double the income or cut it by a third with equal probabilities, but is not willing to take the job if it can cut the income in half. 3: the respondent is willing to take a new job that will either double the income or cut it by 20% with equal probabilities, but is not willing to take the job if it can cut the income by a third. 4: the respondent is not willing to take a new job that will either double the income or cut it by 20% with equal probabilities, from 2006 survey.
Saving_pref	How much (in percentage) the respondent would be willing to save rather than spend if he/she received an amount equal to Fin_riskaver, from 2006 survey.
Trust	Generally speaking, how often can you trust other people? (1: Never, 2: Once in a while, 3: About half the time, 4: Most of the time, 5: Always), from 2008 survey.