

# Trust, Consumer Debt, and Household Finance\*

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## Abstract

Using a representative sample of U.S. individuals, we provide evidence that trust is an important determinant of an array of household financial decisions and outcomes including debt management. Individuals more trusting of others 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 determined by an individual's cultural background or early life experiences, and also by purging out the component of trust correlated with prior economic success. The effect of trust is more pronounced 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.

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# Trust, Consumer Debt, and Household Finance

## Abstract

Using a representative sample of U.S. individuals, we provide evidence that trust is an important determinant of an array of household financial decisions and outcomes including debt management. Individuals more trusting of others 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 determined by an individual's cultural background or early life experiences, and also by purging out the component of trust correlated with prior economic success. The effect of trust is more pronounced 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 is widespread concern about the adequacy of household savings and borrowing. Recent statistics show that one-third of American adults in their 50s have no retirement saving plans and more than half of households do not directly or indirectly own any stock. 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%. Over the period 2000–2010, 1.3 million households filed bankruptcy annually, which account for 97% of the total bankruptcy filings.<sup>1</sup>

An individual’s saving and borrowing decisions affect not only her household, but also the overall economy. For instance, household overindebtedness is widely believed to have played a prominent role leading up to the recent 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. Our key contribution is to demonstrate the effect of individual trust on an array of measures of household finance, and do so by using a large sample of representative individuals from the U.S. that is unexplored by the prior literature. Further, by employing the rich set of longitudinal information in our dataset, we identify a causal impact of trust on financial outcomes through the influences of an individual’s cultural backgrounds and early life experiences on her trust.

Specifically, we obtain individual-level measures of trust and various household finance variables from the 1979 National Longitudinal Survey of Youth (NLSY79). In this dataset, a cohort of nationally representative American individuals who were born between 1957 and 1964 were interviewed annually between 1979 and 1994, and biennially afterwards. In 2008, they were asked to

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<sup>1</sup>See Lusardi (2003) on retirement savings, Mankiw and Zeldes (1991) and Campbell, Jiang, and Korni-otis (2011) on limited stock market participation, Dynan and Kohn (2007), Dickerson (2008), and Cyna- mon and Fazzari (2008) on household leverage, personal saving rates from the Bureau of Economic Analysis (<http://research.stlouisfed.org/fred2/series/PSAVERT>), and national bankruptcy statistics from American Bankruptcy Institute (<http://www.abiworld.org>).

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 debt management, financial and real asset investments, retirement savings, and net worth.

All else equal, we posit that a trusting individual is more likely to make investments, as her belief that she will get a fair return in an investment contract encourages her to enter into such a contract (e.g., Guiso, Sapienza, and Zingales (2008)). Thus, trust should promote investments. We also hypothesize that trust promotes responsible borrowing since being trusting is highly correlated with being trustworthy (e.g., Glaeser, Laibson, Scheinkman, and Soutter (2000), Butler, Giuliano, and Guiso (2009)) and is influenced by the social norms that discourage default (e.g., Agarwal, Chomsisengphet, and Liu (2011)). In sum, we expect trusting individuals to make more financial and real investments, be more likely to comply with financial contracts they enter into, and ex ante, avoid taking on excessive debt. As a result, they will save more, manage debt better, and accumulate greater net worth.

Consistent with the idea that trusting individuals 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 compared to those with below-average trust levels. These high-trust individuals are also more likely to comply with the terms of financial contracts as they have a 30% lower probability of missing a payment or being late in paying bills. More broadly, they manage their debt better—they are 45% less likely to be in debt (have negative net worth), 21% less likely to declare bankruptcy, 47% less likely to go through foreclosure, and have 35% lower financial leverage 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 compared to the low-trust ones. The effect of trust on household finances remains statistically significant with controls for various economic, psychological, and cognitive factors, and also state fixed effects.

The marginal effect of trust is also significant. Our regression estimates with a comprehensive set of controls indicate that a one standard deviation increase in trust on average leads to a 9%

reduction in the probability of being in debt, a 11% reduction in the probability of missing or being late for a payment, a 14% reduction in the probability of filing bankruptcy, and a 41% reduction in the probability of foreclosure, relative 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, \$87K in total assets, and \$34K in net worth, again controlling for a host of other factors. Overall, our evidence suggests that trusting individuals on average benefit significantly from greater investments and better debt management.

To address the concern of reverse causality that financial outcomes can affect one’s trust level, we take advantage the detailed longitudinal information in our dataset that captures different aspects of individual trust. While economic success can breed trust, we view trust having distinct dimensions that stem from cultural influences, life experiences, and the characteristics of her community. The extent to which an individual trusts others embodies the core values that she inherits from her family, religion, ethnic and cultural background (Guiso, Sapienza, and Zingales 2006), and is influenced by her life experience and the characteristics of the community members whom she has interacted with during her life (Alesina and La Ferrara 2002; Barr 2003). We call these factors the “non-economic” aspects of trust. To address reverse causality, we take two approaches that utilize the economic and life history of the individuals.

In the first approach, we distill the component of trust that is correlated with cultural background and past life experiences of an individual, which are unlikely to be shaped by her current financial status. Specifically, we use the religious and ethnic backgrounds, adverse early life experiences (experienced marital trauma in the past or discrimination on the basis of race or age when young), and the characteristics (racial, education, and family structure) of the community where the individual currently resides and used to reside during adolescence as instruments to capture the non-economic aspects of trust.<sup>2</sup> Using the instrumental variable approach, we show that the instrumented trust continues to explain a majority of household financial decisions and outcomes.

In the second approach, we examine the effect of trust on household financial outcomes after purging out the component of trust that is correlated with past economic success. Using the income history of an individual, we construct three measures of economic success: the average

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<sup>2</sup>Religious and ethnic backgrounds have been used as instruments in the literature (e.g., Guiso, Sapienza, and Zingales (2006)).

income growth, the income trend over time, and the percentage of positive income changes. We regress trust on each of the three economic success measures and use the residual trust to explain the household finance variables. Again, we observe a significant relation between the residual trust and all of our household financial measures. Thus, our evidence suggests that the main effect of trust is not fully explained by prior economic success and it is at least in part attributed to the effect of cultural backgrounds and early life experiences.

Finally, we examine how the effect of trust on household finance varies in the cross-section and across different levels of trust. We find that the effect of trust is most visible among individuals who are less educated, have low incomes, or are female. These results are consistent with the argument that trust helps individuals overcome the concern of not fully understanding complex financial contracts (e.g. Guiso, Sapienza, and Zingales (2004)). In addition, we show that trust has a hump-shaped effect on asset-related measures and an U-shaped effect on debt-related measures. Specifically, the effect of trust on all financial outcome measures peaks 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 are consistent with the non-linear effect of trust on household income documented by Butler, Giuliano, and Guiso (2009), who argue that extremely low levels of trust lead to overly conservative priors and missing valuable investment opportunities while extremely high levels of trust lead to overly optimistic priors and a higher probability of being cheated. 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 (2011)), 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.

More importantly, our findings contribute to a fast growing body of research that considers the role of trust, or more generally, that of culture in economics and finance. Recent empirical studies show that culture is a significant determinant of creditor rights (Stulz and Williamson 2003) and several economic outcomes such as national savings and preferences for redistribution

(Guiso, Sapienza, and Zingales 2006), trades between countries (Guiso, Sapienza, and Zingales 2009), and the volume, gains, and terms of cross-border mergers (Ahern, Daminelli, and Fracassi 2012).<sup>3</sup> Trust is an important dimension of culture in these studies, 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 and 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, greater 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 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 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, Agnew, Szykman, Utkus, and Young (2007) show that less trusting individuals are more likely to opt out from 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 non-linear effect of trust on individuals' income.<sup>4</sup>

Although these existing studies suggest that trust has a positive effect on the economic and

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<sup>3</sup>Further evidence shows that culture influences the returns of momentum strategies (Chui, Titman, and Wei 2010), capital structure (Li, Griffin, Yue, and Zhao 2011), venture capital investments (Bottazzi, Da Rin, and Hellmann 2010), and the terms of syndicated bank loans (Giannetti and Yafeh 2012).

<sup>4</sup>These 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.

financial well-being of an individual, they do not offer a comprehensive picture of the effect of trust on household finances. Furthermore, with an exception of Karlan (2005), none of these studies examine how trust affects debt management. Our goal is to study the effect of trust on individual household finances using several measures of both asset and debt management and using a representative sample of U.S. households that have not been examined by prior research.

## 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 trusting individuals will have higher levels of savings and asset holdings, as a result of taking advantage of valuable saving and investment opportunities.

We also conjecture that trusting individuals 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) argue that people tend to extrapolate their own trustworthiness to form the expected trustworthiness of others. A trustworthy individual is more likely to comply with the debt contract he enters into 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.<sup>5</sup>

Second, a trusting individual likely has built her trust toward others based on the social capital she possesses, where social capital encompasses social networks, norms, and cooperation in a community (Putnam 1995). High-social-capital communities encourage members to keep their

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<sup>5</sup>This 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 cost of a loan in a peer-to-peer lending site. Thus, trusting individuals should have less borrow constraints.



promises and attach social stigma to deviants through imprinting moral attitudes in the community (e.g., Guiso, Sapienza, and Zingales (2004)). Such social norms are likely to reduce the rates of bankruptcy filings and consumer defaults (Buckley and Brinig 1998; Agarwal, Chomsisengphet, and Liu 2011). Thus, due to the ethical or social norms reflected in personal trust, we expect trusting individuals to have a lower probability of missing payments, declaring bankruptcy, or going through foreclosure. Furthermore, to avoid these negative outcomes, we expect trusting individuals to make conservative borrowing choices like having lower leverage and a lower probability of being in debt (having negative net worth).<sup>6</sup>

Taken together, we hypothesize that

**H1:** Trusting individuals invest more, manage debt better, and have higher net worth.

**H1a:** Trusting individuals have higher values of savings, assets, and net worth.

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

To address the concern of reverse causality that better financial outcomes may increase one's trust level, we study the non-economic determinants of trust that are unlikely to be caused by an individual's current financial outcomes. Prior literature suggests that the non-economic aspects of trust can be built through at least three different channels. First, trust can be transmitted from parents to children in their prior beliefs and values, and such a cultural component of trust 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 higher percentages of population belonging to a hierarchical religion 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

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<sup>6</sup>While trust promotes the use of investment contracts, we expect trust to have very different effects on individuals' use of debt contracts. A fundamental difference between investment and debt contracts is who is entrusting money to whom. When an individual makes financial investments, she is entrusting her money to financial institutions. On the other hand, when she borrows money, she is being entrusted with money from a financial institution. Thus, the effect of trust as a subjective probability of fair returns on the use of debt contracts is not as clear as that on the use of investment contracts, and we expect that trust affects debt management mainly through its association with trustworthiness and social capital.

networks of cooperation among people.<sup>7</sup>

Second, trust can be shaped by personal life experience. Alesina and La Ferrara (2002) show that individuals have low levels of trust if they have a history of traumatic experiences such as divorce or belong to groups that traditionally claim to have been discriminated against. Butler, Giuliano, and Guiso (2009) point out that those who have been cheated are more likely to revise their trust beliefs downward.

Third, trust can be fostered by the characteristics of the community to which one used to belong and currently belongs. Communities with high levels of social capital characterized by close relationships and cooperation among individuals can promote general trust toward others. Also, to the extent that an individual's trust is influenced by her expectation of trustworthiness of the people she deals with (Barr 2003), community attributes correlated with community members' trustworthiness can affect one's trust level. Knack and Keefer (1999) and Alesina and La Ferrara (2002) find trust is stronger in nations or communities with better-educated and ethnically homogeneous populations. Since an individual's trust is likely to be shaped by life experiences, we expect not only the attributes the community where she currently resides, but also those of the community she used to reside, to affect her trust. Joining the above arguments, we hypothesize that

**H2:** Cultural background, personal life experience, and community attributes where an individual resides and used to reside affect the level of an individual's trust.

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, being trusting can help them overcome the concern of being cheated in a complex financial contract, and thus, encouraging them to invest through financial vehicles. Therefore, we conjecture that trust is likely to have a bigger impact on those who are more prone to poor financial decisions.

**H3:** The effect of trust is most pronounced among individuals who are prone to poor financial decisions.

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<sup>7</sup>However, recent studies (including ours) do not find lower trust among Catholics. Guiso, Sapienza, and Zingales (2006) conjecture that it is due to the change in Catholic doctrine and teaching around 1960.

Finally, the effect of trust may not be linear. Butler, Giuliano, and Guiso (2009) show that the relation between one’s level of trust and his/her income is hump-shaped. They argue that highly trusting individuals underperform those with intermediate 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 the effect of extreme levels of trust on the measures of financial decision quality and financial outcomes. We state our conjecture in the following hypothesis.

**H4:** Trust has a non-linear 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 sources, 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, which mitigates the self-selection issue faced by many other studies.

Our key variable on trust is based on the following question in the 2008 survey, which is the most recent round of survey with available data: “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.<sup>8</sup>

We relate the trust measure to measures of household finance in 2008. The values of the following asset items were collected for the 2008 survey: CDs, bonds, business assets, vehicles,

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<sup>8</sup>The 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). Thus, our measure of trust is similar to the one used in the previous studies, but it has an advantage that it allows us to measure the effect of different levels of trust.

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. Although NLSY79 collected information on assets and liabilities in earlier rounds of survey starting from 1985, they did not ask questions about some of asset items, especially important debt items such as credit card debt and student loans, and used coarser categories until 2000.

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, 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 (e.g. Agarwal and Mazumder (2011)) as measures of cognitive ability.

In addition, we use American Community Survey 2008 and U.S. census 1980 to construct measures of community characteristics such as the racial fragmentation index, the percentage of residents who have completed high school, and the percentage of households that are married-couple households with own children under 18. We provide the definition of each variable used in our paper in the Appendix and descriptive statistics in Table 1.

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 trusting 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) Miss Pmt (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).<sup>9</sup>

We measure the quality of asset management by two variables: (1) Log Retire (the logarithm of retirement savings) and (2) Log Asset (the logarithm of total asset). To capture the net effect of trust on both debt and assets, we use Log Net Worth (the logarithm of net worth), which is defined as  $\log(1+\text{Net Worth})$  for net worth greater than or equal to zero, 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.

To gain a first glance at the effect of trust on personal finance, we first sort individuals into a high and 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.

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 \$319K net worth, in contrast to a much lower \$32K, \$564K, and \$144K of the three variables for the low trust groups. In other words, individuals in the high trust group accumulate 2-3 times more retirement savings, total assets, and net worth compared to the low trust group. Therefore, Figure 1 clearly shows that high-trust individuals enjoy significantly better financial outcomes than low-trust individuals.

Next, we confirm the relationship between trust and various financial outcome variables using

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<sup>9</sup>The leverage ratio used includes all debt over all assets. 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.

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. In contrast, 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.

In Panel B, 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, measures of 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 2011). These control variables are likely to capture the heterogeneity in financial and cognitive abilities and preferences for risk and saving, which are 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.<sup>10</sup>

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-deviation change (about 1) in trust leads to a reduction of 9.4% ( $0.011 \times 1.02 / 0.12$ ) in the likelihood of being in debt, 10.7% in the likelihood of missing a payment, 14.3% in the likelihood of filing bankruptcy, 40.9% in the likelihood of going through foreclosure, and 14.2% 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, \$87K in total assets, and nearly \$34K in net worth, incremental to the effect of a host of economic, preference, and cognitive factors and state fixed effects.<sup>11</sup>

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

<sup>11</sup>It is possible that one misses a payment or file 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.

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, 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 is probably 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.

Interestingly, trust is the only variable that remains statistically and economically significant for all regressions. Overall, our regression estimates in Table 2 provide strong support that trust has the strongest and most consistent effects on the quality and outcomes of household financial decisions.

## 4.2 Non-Economic Determinants of Trust

Next, we turn to Hypothesis H2 to explore the aspects of trust that are built upon culture and life experiences. Hypothesis H2 relates the level of an individual’s trust to the cultural background and personal life experience, as well as to the attributes of the community where the individual used to reside and those of the community where she currently resides. These variables capture several major, albeit not all, aspects of trust that are not directly caused by personal economic success. We hereafter refer to these variables as the ‘non-economic’ factors of trust to distinguish them from the direct economic causes of trust.

Following Guiso, Sapienza, and Zingales (2006), we use ethnicity and religion in which one is raised to proxy for cultural background. Motivated by Alesina and La Ferrara (2002), we use `trauma_past` (whether the respondent experienced divorce, separation, or loss of spouse in the past) and `discrimination` (whether the respondent indicated in 1982 survey her perceived discrimination on the basis of race or age) as proxies of adverse life experiences that lead to lower levels of trust. In particular, the perceived discrimination is measured in adolescence or early adulthood before an individual has accumulated meaningful amounts of debt or assets.<sup>12</sup>

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<sup>12</sup>The respondents were between 16 and 25 years old in 1982 when they answered the question about discrimination.

We also use several measures of community attributes that are likely to be related to the level of one’s trust level, motivated by Knack and Keefer (1999) and Alesina and La Ferrara (2002): the racial fragmentation index, the percentage of population that are married with own children under age 18, and the percentage of population above age 25 that have high school diploma. All of the community attribute variables are measured at the county level and taken from the American Community Survey for 2008 community attributes, and from the U.S. census for 1980 attributes. Some of the variables such as `trauma_past`, `discrimination`, and community attributes are not endowed at birth, and may shape individual’s trust subsequently. Based on prior studies, we expect trust to have a negative relation with `trauma_past`, `discrimination`, and the racial fragmentation index, and a positive relation with the percentage of people married with own children and the percentage of high-school graduates. We use OLS regressions test these predictions and report the coefficients and the  $t$ -statistics based on robust standard errors adjusted for clustering at the county level.

We present the regression results using six specifications in Table 3. In the first five, we regress trust on each of the five sets of determinants, from cultural background (religion-raised and ethnicity) to life experiences and community attributes. In the last one, we regress trust on all of the factors to study the incremental effect of these determinants. In regression (1), trust is regressed on both religion and ethnicity dummies with the ‘others’ category for both variables set as the benchmark. We find a significant positive coefficient for five out of nine religion variables. Among the ethnicity dummies, we find significant negative coefficients on African American, Puerto Rican, and Mexican, Hispanic, and Cuban, consistent with the findings by Alesina and La Ferrara (2002) who suggest that those who belong to racial groups that are perceived to have been discriminated against tend to lower levels of trust.

In regressions (2) and (3), we use `trauma_past` and `discrimination` to predict trust. We again find strong support to our Hypothesis H2: both `trauma_past` and `discrimination` have significant negative coefficients ( $-0.191$ ,  $t = -7.53$  for `trauma_past`,  $-0.158$ ,  $t = 7.19$  for `discrimination`), suggesting adverse life experiences such as marital trauma and discrimination lower one’s trust level. Furthermore, it also matters where the individual lived in adolescence and where she currently lives. Our regressions (4) and (5) estimates show that those living (or have lived) in communities with good social capital, characterized by a lower level of racial fragmentation, more stable family



structure, and higher education, have high levels of trust. Finally, when all of the determinants are used together in regression (6), we continue to see similar statistical significance in most of the variables with a slight reduction in the size of many coefficients. Overall, the regression estimates suggest that the five sets of variables appear to capture distinct aspects of trust. That is, trust can be inherited through culture, shaped by life experiences, and fostered by community social capital.

### 4.3 Non-Economic Determinants to Instrument Trust

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 main results is based on reverse causality. It is possible that higher trust levels are caused by better financial outcomes, i.e., success breeds trust. Thus, the relation between trust and financial outcomes we document may simply indicate that financial outcomes influence the level of trust. This is a valid and important concern.

We have shown that trust contains components that are unaffected by an individual's current financial status. Some of these components remain relatively stable over one's life time, such as religion and ethnicity, while others are shaped by life experiences and community characteristics. In this subsection, we distill the non-economic aspects of trust using the instrumental variable approach to address reverse causality. Specifically, we use each set of the non-economic determinants of trust in Table 3 to extract the 'exogenous' components of trust. Our premise is that these determinants are not affected by one's current financial status. Thus, a significant relation between the predicted trust using these determinants and our financial outcome measures can address the reverse causality.

The non-economic determinants of trust we have considered are likely to be exogenous to the household's current financial status. First, the religion in which one is raised and the individual's ethnicity affect trust, but one's financial status does not determine her family religion or ethnicity. Second, traumatic life experiences such as divorce, separation, or loss of spouse can shape trust, but the current financial status cannot cause prior life experience when we control for the current marital status. Similarly, one is likely to have a lower level of trust after experiencing discrimination when young, but such an experience of discrimination, especially discrimination based on (being young) age, is unlikely to directly affect financial decisions 26 years later. Finally, community attributes

can influence one's trust, but an individual's financial status is unlikely to cause a change in the community characteristics. Of course, it is possible that a better financial status prompts relocation to a community with higher levels of social capital. However, relocation to a different community occurs relatively infrequently in our sample.<sup>13</sup> To address the concern of self-selected communities, we also use the community attributes from the residing county in 1980, when most individuals were in their adolescence and first interviewed by NLSY. Most of the respondents had not cumulated significant financial assets or debts in 1980. Thus, the community attributes in 1980 should be free from the influence of the current financial status. Therefore, they are relatively ideal instruments for studying the causal impact of trust on financial decisions and outcomes.

To show the separate effect of the five sets of instrumental variables, we use each of them in separate regressions. We report the regression estimates in the five panels of Table 4 that differ in the set of instrumental variables used. We focus on the economic and statistical significance of the instrumented trust measure.

When we use culture-based instrumental variables (religion-raised and ethnicity) in Panel A, we find the instrumented trust remains statistically significant and has the expected sign for all but the bankruptcy and leverage regressions.<sup>14</sup> Compared to the results in Panel B of Table 2, the size of the coefficient on the instrumented trust, however, is usually 5-10 times larger than that of the original trust variable. The greater coefficients are partly caused by smaller standard deviations of the predicted trust measure. For example, in the OLS regressions, the standard deviations of the instrumented trust range from 0.411 to 0.418, smaller than 1.02 of the original trust variable. However, even after we account for the differences in the standard deviations, the results indicate that the economic impacts are larger using the instrumental variable approach. This phenomenon is also observed by Guiso, Sapienza, and Zingales (2006) when they use ethnicity and religion as instruments.

In Panel B, we use `trauma_past` as the instrumental variable and `trauma_current` (whether the respondent is currently divorced, separated, or widowed) as an additional control so that we only

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<sup>13</sup>During the period 1998–2008, about 12% of the respondents moved across states, and 16% of the respondents moved across counties within the same state. These numbers suggest that a majority (more than 71%) of the respondents in our sample have been living in the same county of the same state during the most recent decade up to 2008.

<sup>14</sup>Sharia, or Islamic law, may discourage borrowing or investments using conventional financial instruments. We find the results are qualitatively the same when we drop respondents who chose 'others' in the religion question (there is no separate category for Muslim in NLSY79).

capture the effect of past marital trauma but not the effect of being currently divorced, separated, or widowed. We obtain statistically significant coefficients for all but the leverage and the log asset measure regressions, whose coefficients are marginally significant. In Panel C, we use the perceived discrimination based on race or age, measured in 1982, to instrument trust and find significant results for all but the leverage (marginally significant) and log asset measures. Again, the size of the coefficients on the instrumented trust tends to be larger than those on trust in Panel B of Table 2.

Finally in Panels D and E, we use the three county-level community attributes in 2008 and 1980 as instruments, respectively. For the 2008 instruments, we obtain five significant and two marginally significant coefficients on the instrumented trust among the eight dependent variables considered. The coefficient for bankruptcy remains in the expected direction but is statistically insignificant. For the 1980 instruments, we obtain five significant and one marginally significant coefficients.<sup>15</sup> Although not all financial outcome variables show a statistically significant relationship with the instrumented trust, the results overall suggest that trust that stems from the community social capital improves the quality of household financial decisions in most of the dimensions we consider.

To summarize, the results in Table 4 show that trust formed by culture, personal experiences, and community attributes encourages investments and more responsible debt management. In particular, the cultural variables we consider (religion-raised and ethnicity) are determined at birth therefore are not driven by financial outcomes, and the community attributes in 1980 and perceived discrimination reported in 1982 influence the respondents when they are young but cannot be influenced by an individual's financial status 26-28 years later. Thus, our findings suggest that the effect of trust on household finance is unlikely to be driven by reverse causality.

#### **4.4 Residual Trust Controlled for Past Economic Success**

As an alternative approach to addressing the concern of reverse causality, 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.

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<sup>15</sup>Although Table 3 shows that Married with Children variable in 1980 community characteristics is not significantly related to one's level of trust, we use it as an IV to maintain the same set of instrumental variables as Panel D. The results are similar when we drop it and use only 1980 Racial Fragmentation and High-School Population as instruments.

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.<sup>16</sup> 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 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  $5/8 = 0.625$ .

We regress the trust measure of a respondent on each measure of economic success and obtain the residual trust. Then we examine how the residual trust is associated with various measures of household debt and asset management in Table 5.

We find that the results using the residual trust are qualitatively the same as Table 2. A measure of trust that is not explained by past economic success (ResTrust) is 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 results thus provide additional evidence that the effect of trust on household finance is unlikely to be explained by reverse causality.

#### **4.5 Subsample Analyses Based on Proneness to Poor Financial Decisions**

In this subsection we turn to Hypothesis H3, which predicts that trust should have a more pronounced effect on those who are more susceptible to poor financial decisions. To identify such vulnerable individuals in household finance, we use three sorting variables: education, income, and

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<sup>16</sup>The 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.

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.

We report the results on the subsample analyses in Table 6. 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 bigger effects on those who are more susceptible to poor financial decisions. For example, among individuals with below college education, trust has a statistically significant effect in all debt and asset variables but leverage and log asset (marginally significant), while among individuals with college education or above, trust has a significant impact on only three variables.

Using the other two sorting variables, we observe statistically significant effects of trust on all dependent variables for those who have low income or are female. In contrast, trust has a statistically significant effect only for four dependent variables among high-income individuals and for three dependent variable among males – the group who are presumably more competent and financially sophisticated. Overall, we echo prior research by showing that the effect of trust is more pronounced among more vulnerable individuals in household finance.

#### **4.6 The Non-Linear Effect of Trust**

Finally, we test Hypothesis H4, which pertains to the non-linear effect of trust. We expect 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. Since 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.

The results shown in Table 7 provide strong support for our hypothesis H4. 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% ( $z = -2.22$ ), 3.6% ( $z = -2.60$ ), 4.7% ( $z = -3.20$ ), and 2.7% ( $z = -1.04$ ), 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 7 show that it is the right level of trust, not an extremely high level of trust, that leads to better household finances.

## 5. Conclusion

Using a representative sample of American individuals and a set of broad measures of household financial decisions and outcomes, we show that on average trusting individuals fare better in household finances. Trusting individuals have larger assets, greater retirement savings, and lower probabilities of missing payments, filing bankruptcy, or going through foreclosure. Further, these trusting 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 extracting the components of trust shaped by culture, early life experiences, and community social capital. Many of these components of trust are determined at birth or formed in an individual's adolescence, and therefore unlikely to be directly caused by her current financial outcomes. We show that these components have a strong impact on household finances. As an alternative approach to address reverse causality, we purge out the component of trust that is correlated with past economic success and find that the residual trust has a significantly effect on the household finance variables.

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 being trusting helps households better prepare for financial shocks by cumulating more assets and less debt. This is particularly valuable for individuals that are more prone to poor financial decisions, for whom trust has the most pronounced effect. The fact that personal life experiences and community environment 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 cultures 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.

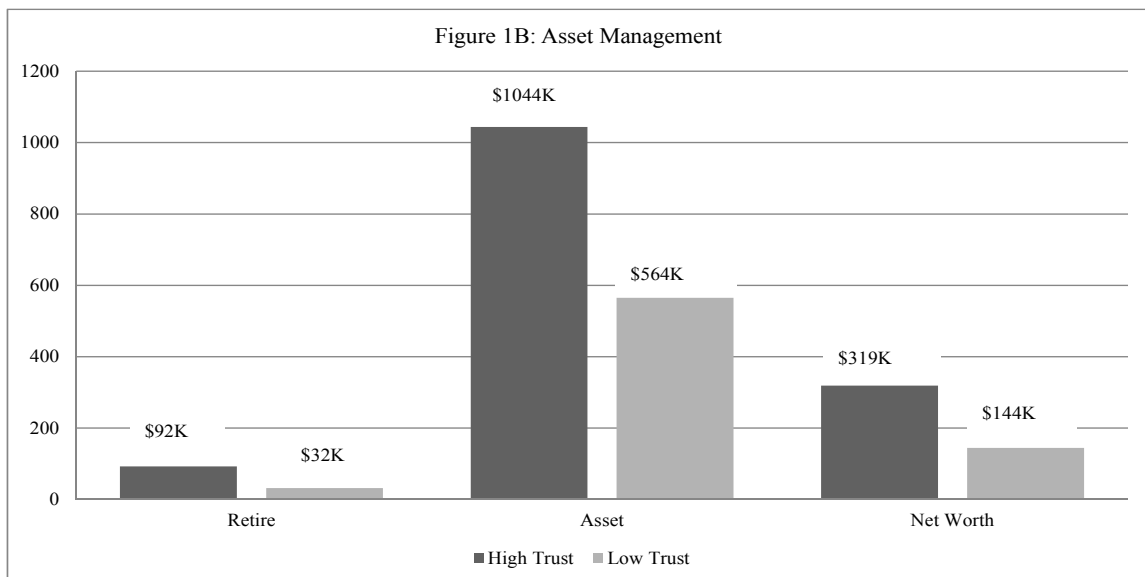
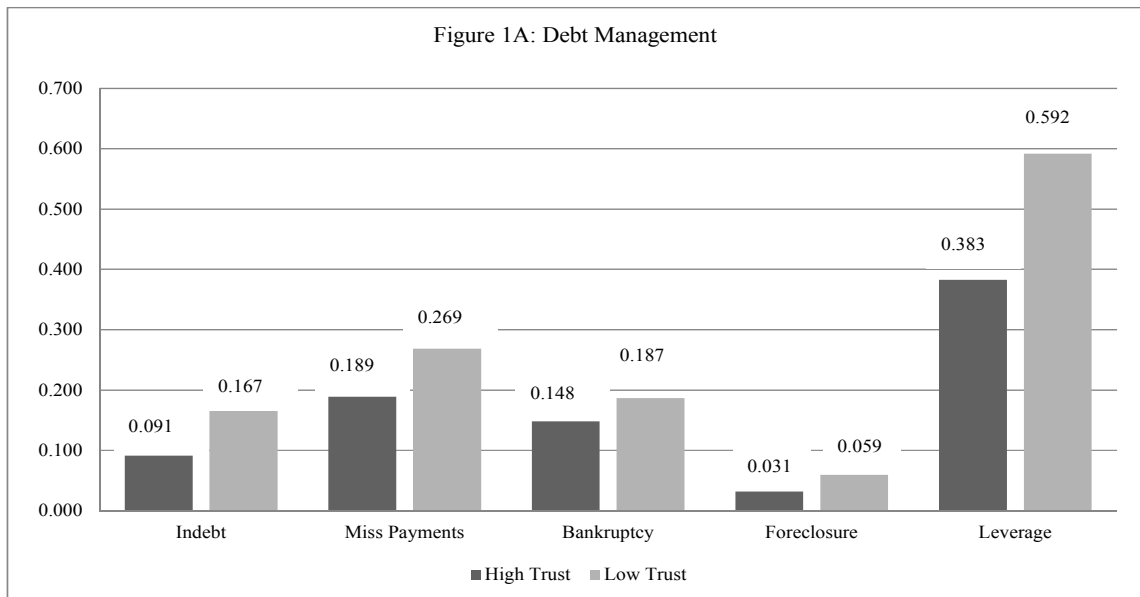


Table 1: **Sample Statistics**

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								
Indebt	7,539	0.12	0.32	0	0	0	0	1
Miss Pmt	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
Net worth (\$K)	7,433	263.95	548.16	0	6.20	86.00	282.01	640.00

Panel C: Control Variables								
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
Finance 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
Job_riskaver	7,115	3.06	1.19	1	2	4	4	4
Fin_riskaver (\$K)	7,176	0.53	0.36	0	0.3	0.5	0.8	1
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

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 (Miss Pmt), a dummy for ever filing for bankruptcy (Bankruptcy), a dummy for foreclosure (Foreclosure), Leverage, logarithm of retirement savings (Retire), logarithm of total asset (Asset), and logarithm of net worth (Net Worth). The logarithm of variables are defined as  $\log(1+\text{variable})$ . For negative net worth, Log Net Worth 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 italics. The  $z/t$ -statistics are based on robust 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)
		Indebt	Miss Pmt	Bankruptcy	Foreclosure	Leverage	Log Retire	Log Asset	Log Net Worth
Trust		-0.040***	-0.041***	-0.021***	-0.011***	-0.114***	0.582***	0.714***	0.711***
		<i>-11.71</i>	<i>-8.50</i>	<i>-4.92</i>	<i>-4.01</i>	<i>-6.93</i>	<i>22.74</i>	<i>22.58</i>	<i>22.52</i>
(Pseudo) $R^2$		2.4%	1.0%	0.4%	1.0%	0.8%	6.9%	8.4%	6.8%
Observations		7,456	7,548	7,560	4,814	6,934	7,587	7,588	7,352
		Panel B: Multivariate Regressions							
Trust		-0.011***	-0.023***	-0.023***	-0.016***	-0.062***	0.095***	0.093***	0.117***
		<i>-2.72</i>	<i>-3.64</i>	<i>-3.83</i>	<i>-3.76</i>	<i>-2.66</i>	<i>3.22</i>	<i>3.00</i>	<i>3.39</i>
log(1+Income)		-0.043***	-0.047***	-0.003	-0.015***	-0.195***	0.743***	1.069***	1.028***
		<i>-9.11</i>	<i>-6.87</i>	<i>-0.41</i>	<i>-2.89</i>	<i>-5.91</i>	<i>20.81</i>	<i>22.44</i>	<i>19.63</i>
Age		0.001	0.001	0.000	-0.001	0.000	0.001	-0.013	0.013
		<i>0.40</i>	<i>0.32</i>	<i>0.16</i>	<i>-0.59</i>	<i>0.06</i>	<i>0.07</i>	<i>-1.18</i>	<i>0.99</i>
Male		-0.001	-0.045***	-0.046***	0.000	-0.029	-0.118**	-0.009	0.087
		<i>-0.12</i>	<i>-3.80</i>	<i>-4.20</i>	<i>0.05</i>	<i>-0.87</i>	<i>-2.17</i>	<i>-0.19</i>	<i>1.40</i>
Married		-0.035***	-0.050***	-0.004	0.006	-0.143***	0.732***	0.840***	0.801***
		<i>-3.35</i>	<i>-3.34</i>	<i>-0.29</i>	<i>0.54</i>	<i>-2.68</i>	<i>10.00</i>	<i>10.91</i>	<i>7.95</i>
Famsize		0.000	0.003	-0.020**	0.004	0.016	-0.056	-0.232***	-0.111**
		<i>0.08</i>	<i>0.33</i>	<i>-2.30</i>	<i>0.53</i>	<i>0.44</i>	<i>-1.50</i>	<i>-5.22</i>	<i>-2.34</i>

Table 2: Trust and Financial Outcomes (Continued)

		Panel B: Multivariate Regressions (Continued)							
		Dependent Variables:							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
	Indebt	Miss Pmt	Bankruptcy	Foreclosure	Leverage	Retire	Log Asset	Log Net Worth	
Numchild	-0.003	0.017	0.023**	0.001	0.000	0.055	0.250***	0.141**	
Edu_high	-0.36	1.48	2.32	0.15	0.00	1.25	4.82	2.41	
	-0.013	-0.003	0.013	0.004	0.016	0.171*	0.455***	0.376***	
Edu_college	-1.02	-0.11	0.70	0.27	0.25	1.96	4.38	3.23	
	-0.002	-0.008	-0.022	-0.014	0.045	0.474***	0.666***	0.510***	
Edu_gradprof	-0.11	-0.33	-1.00	-0.84	0.54	4.43	5.64	3.79	
	0.008	-0.067**	-0.133***	-0.073**	0.159	0.506***	0.632***	0.397**	
Edu_other	0.33	-1.99	-3.82	-2.29	1.45	3.50	4.67	2.09	
	0.027	0.023	-0.011	-0.020	0.085	0.644***	0.541***	0.442**	
Finance Industry	1.10	0.53	-0.28	-0.70	0.70	3.43	3.01	1.97	
	-0.043*	-0.040	0.023	0.031**	-0.076**	0.235*	0.158	0.105	
AFQT_math	-1.83	-1.44	0.88	2.26	-2.34	1.73	1.45	0.72	
	-0.138***	-0.143***	-0.164***	-0.001	-0.148	1.769***	0.617***	0.712***	
AFQT_verbal	-3.75	-2.86	-3.24	-0.04	-1.09	6.73	3.06	2.84	
	0.020	0.142***	0.066	0.028	0.045	0.436**	0.617***	1.054***	
Job_riskaver	0.66	2.90	1.45	0.97	0.29	1.97	3.01	3.97	
	-0.003	-0.016***	0.002	-0.000	-0.033*	-0.004	0.063***	0.109***	
Fin_riskaver	-0.98	-3.37	0.33	-0.08	-1.67	-0.14	2.69	3.83	
	-0.002	0.053***	0.008	0.012	0.096*	-0.140	0.050	-0.115	
Save_pref	-0.15	2.78	0.48	1.08	1.82	-1.64	0.66	-1.14	
	-0.001***	-0.001***	-0.001***	-0.000*	-0.001***	0.002***	0.002***	0.004***	
Impatience	-5.42	-4.90	-4.07	-1.73	-2.77	3.06	3.49	5.45	
( $\times 10^{-2}$ )	0.109	0.044	-0.353*	-0.005	-0.192	0.988	-0.912	-0.798	
State dummies	0.73	0.21	-1.66	-0.07	-0.72	1.01	-1.24	-0.68	
Intercept	yes	yes	yes	yes	yes	yes	yes	yes	
(Pseudo) $R^2$	14.2%	6.3%	6.2%	10.4%	5.6%	35.6%	49.0%	37.3%	
Observations	4,607	4,658	4,668	3,013	4,479	4,680	4,680	4,614	

Table 3: **Non-Economic Determinants of Trust**

This table reports the OLS regression results of the determinants of trust. The dependent variable is the level of individual's trust (Trust). The independent variables include dummies for various religion in which the individual is raised, dummies for various ethnicity groups, a dummy for past life trauma, a dummy for perceived discrimination in 1982, the county-level racial fragmentation index, the percentage of household in the county that are married with own children, and the percentage of high school graduates in population of the county, where the county refers to the residing county of the individual in 2008 or 1980. All variables are defined in the Appendix. We report *t*-statistics in italics that are based on robust 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)
<i>Religion-Raised</i>						
No Religion	-0.045	-0.68				-0.075
Protestant	-0.038	-0.62				-0.118
Baptist	-0.081*	-1.75				-0.102*
Episcopalian	0.352***	4.28				0.225**
Lutheran	0.173***	2.78				0.087
Methodist	0.134**	2.35				0.155**
Presbyterian	0.091	1.19				0.122
Roman Catholic	0.100**	2.30				0.025
Jewish	0.322***	2.61				0.142
<i>Ethnicity</i>						
African American	-0.473***	-9.00				-0.453***
Puerto Rican	-0.629***	-8.92				-0.432***
Mexican, Hispanic, Cuban	-0.361***	-6.99				-0.173**
Hawaiian, Indian American	-0.137*	-1.83				0.006
Asian	-0.062	-0.52				0.073
European American	0.073	1.63				0.115**
	-0.049	-0.66				0.025
<i>Life Experience</i>						
Trauma_past			-0.191***	-7.53		-0.118***
Discrimination					-0.158***	-0.113***
						-3.96
						-4.73
<i>2008 Community attributes</i>						
Racial Fragmentation					-0.330***	1.94
Married with Children					1.783***	0.765***
High-School Population					1.742***	1.279***
						6.35
						-2.96
						6.20
						3.07
<i>1980 Community attributes</i>						
Racial Fragmentation					-0.602***	0.61
Married with Children					0.003	0.08
High-School Population					1.056***	0.267
						1.64
						0.075
						0.022
						0.267
Intercept						Yes
$R^2$	8.5%	0.9%	0.6%	2.6%	2.8%	11.3%
Obs	7,499	7,588	7,407	6,114	6,517	5,019

Table 4: **Trust and Financial Outcomes: Using Non-Economic Determinants to Instrument Trust**

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 (Miss Pmt), a dummy for ever filing for bankruptcy (Bankruptcy), a dummy for foreclosure (Foreclosure), Leverage, logarithm of retirement savings (Retire), logarithm of total asset (Asset), and logarithm of net worth (Net Worth). The logarithm of variables are defined as  $\log(1+\text{variable})$ . For negative net worth, Log Net Worth is defined as  $-\log(1-\text{Net Worth})$ . We instrument Trust with a set of instrumental variables together with all controls and report the coefficients on the instrumented trust (Trust\*). The control variables are identical to those in Table 2 except for Panel B where we include an additional control variable (Trauma\_current). We report the  $z$ -statistics below the coefficients in italics which are based on robust 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 Religion-Raised and Ethnicity as Instruments								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Indebt	Miss Pmt	Bankruptcy	Foreclosure	Leverage	Log Retire	Log Asset	Log Net Worth
Trust*	-0.203***	-0.239***	-0.093	-0.234***	-0.082	0.732**	1.015***	1.587***
	<i>-5.97</i>	<i>-6.51</i>	<i>-0.87</i>	<i>-15.01</i>	<i>-0.48</i>	<i>2.52</i>	<i>3.64</i>	<i>4.45</i>
Controls/Intercept	4,557	4,608	4,618	<i>Same as in Panel B of Table 2</i>		4,630	4,630	4,565
Obs				2,979	4,432			
Panel B: Using Trauma_past as Instrument								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Indebt	Miss Pmt	Bankruptcy	Foreclosure	Leverage	Log Retire	Log Asset	Log Net Worth
Trust*	-0.191***	-0.237***	-0.282***	-0.203***	-1.139*	3.402**	1.449*	4.560**
	<i>-3.15</i>	<i>-4.46</i>	<i>-22.61</i>	<i>-6.18</i>	<i>-1.74</i>	<i>2.33</i>	<i>1.81</i>	<i>2.36</i>
Controls/Intercept	4,607	4,658	4,668	<i>All controls in Panel B of Table 2 plus Trauma_current</i>		4,680	4,680	4,614
Obs				3,013	4,479			
Panel C: Using Discrimination as Instrument								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Indebt	Miss Pmt	Bankruptcy	Foreclosure	Leverage	Log Retire	Log Asset	Log Net Worth
Trust*	-0.161***	-0.259***	-0.173***	-0.219***	-0.643*	1.479**	0.363	1.864**
	<i>-3.64</i>	<i>-9.51</i>	<i>-2.87</i>	<i>-9.05</i>	<i>-1.75</i>	<i>2.33</i>	<i>0.75</i>	<i>2.41</i>
Controls/Intercept	4,566	4,617	4,628	<i>Same as in Panel B of Table 2</i>		4,639	4,639	4,573
Obs				2,989	4,444			

Table 4: Trust and Financial Outcomes: Using Non-Economic Determinants to Instrument Trust (Continued)

Panel D: Using 2008 Community Characteristics as Instruments								
	(1)	(2)	(3)	(4)	(5)	(6)	(8)	
	Indebt	Miss Pmt	Bankruptcy	Foreclosure	Leverage	Log Retire	Log Net Worth	
Trust*	-0.250*** <i>-13.26</i>	-0.264*** <i>-7.88</i>	-0.014 <i>-0.11</i>	-0.180** <i>-2.26</i>	-0.871* <i>-1.88</i>	1.172* <i>1.76</i>	2.797*** <i>2.81</i>	3.341*** <i>2.48</i>
Controls/Intercept			<i>Same as in Panel B of Table 2</i>					
Obs	3,700	3,733	3,739	2,398	3,590	3,748	3,748	3,696
Panel E: Using 1980 Community Characteristics as Instruments								
Trust*	-0.246*** <i>-3.34</i>	-0.295*** <i>-12.26</i>	-0.037 <i>-0.21</i>	-0.298*** <i>-63.96</i>	-1.348* <i>-1.93</i>	0.170 <i>0.22</i>	2.271** <i>2.12</i>	2.422*** <i>1.97</i>
Controls/Intercept			<i>Same as in Panel B of Table 2</i>					
Obs	4,018	4,057	4,066	2,638	3,903	4,076	4,076	4,016



Table 5: Trust and Financial Outcomes: 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 (Miss Pmt), a dummy for ever filing for bankruptcy (Bankruptcy), a dummy for foreclosure (Foreclosure), Leverage, logarithm of retirement savings (Retire), logarithm of total asset (Asset), and logarithm of net worth (Net Worth). The logarithm of variables are defined as  $\log(1+\text{variable})$ . For negative net worth, Log Net Worth is defined as  $-\log(1-\text{Net Worth})$ . We report the coefficients of the residual trust. The control variables are identical to those in Table 2. We report the  $z$ -statistics below the coefficients in italics which are based on robust 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: Residuals from the regression of Trust on Average Income Growth								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Indebt	Miss Pmt	Bankruptcy	Foreclosure	Leverage	Log Retire	Log Asset	Log Net Worth
ResTrust	-0.011***	-0.024***	-0.023***	-0.016***	-0.063***	0.105***	0.092***	0.121***
	<i>-2.86</i>	<i>-3.93</i>	<i>-4.00</i>	<i>-3.92</i>	<i>-2.73</i>	<i>3.61</i>	<i>3.01</i>	<i>3.52</i>
Controls/Intercept	4,607	4,658	4,668	3,013	4,479	4,680	4,680	4,614
Obs	14.2%	6.3%	6.3%	10.5%	5.6%	35.7%	49.0%	37.3%
(Pseudo) R-squared								
	<i>Same as in Panel B of Table 2</i>							
Panel B: Residuals from the regression of Trust on Income Trend								
ResTrust	-0.011***	-0.023***	-0.024***	-0.016***	-0.062***	0.095***	0.084***	0.113***
	<i>-2.72</i>	<i>-3.81</i>	<i>-4.15</i>	<i>-3.91</i>	<i>-2.71</i>	<i>3.26</i>	<i>2.73</i>	<i>3.27</i>
Controls/Intercept	4,607	4,658	4,668	3,013	4,479	4,680	4,680	4,614
Observations	14.2%	6.3%	6.3%	10.5%	5.6%	35.6%	49.0%	37.3%
(Pseudo) R-squared								
	<i>Same as in Panel B of Table 2</i>							
Panel C: Residuals from the regression of Trust on Percentage Positive Income Change								
ResTrust	-0.011***	-0.019***	-0.022***	-0.015***	-0.062***	0.063***	0.091***	0.109***
	<i>-2.61</i>	<i>-3.07</i>	<i>-3.74</i>	<i>-3.59</i>	<i>-2.65</i>	<i>2.13</i>	<i>2.95</i>	<i>3.11</i>
Controls/Intercept	4,607	4,658	4,668	3,013	4,479	4,680	4,680	4,614
Observations	14.2%	6.2%	6.2%	10.3%	5.6%	35.6%	49.0%	37.3%
(Pseudo) R-squared								
	<i>Same as in Panel B of Table 2</i>							

Table 6: **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 (Miss Pmt), a dummy for ever filing for bankruptcy (Bankruptcy), a dummy for foreclosure (Foreclosure), Leverage, logarithm of retirement savings (Retire), logarithm of total asset (Asset), and logarithm of net worth (Net Worth). The logarithm of variables are defined as  $\log(1+\text{variable})$ . For negative net worth, Log Net Worth 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 italics. The  $z/t$ -statistics are based on robust 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: Subsamples based on education

		Dependent Variables:							
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Indebt	Miss Pmt	Bankruptcy	Foreclosure	Leverage	Retire	Log Asset	Log Net Worth
Low	Trust	-0.011**	-0.026***	-0.023***	-0.017***	-0.041	0.090***	0.076*	0.100**
(Below college)		-2.14	-3.21	-2.94	-2.65	-1.45	2.62	1.96	2.40
High	Trust	-0.007	-0.011	-0.018*	-0.021***	-0.093**	0.079	0.087*	0.120**
(College or above)		-1.25	-1.18	-1.85	-3.10	-2.10	1.30	1.92	2.04

Panel B: Subsamples based on income

Low	Trust	-0.020**	-0.027***	-0.023**	-0.026***	-0.127***	0.111***	0.104**	0.179***
(Below median)		-2.55	-2.63	-2.47	-2.83	-2.76	3.65	2.13	3.13
High	Trust	-0.006	-0.018**	-0.021***	-0.018***	-0.006	0.068	0.077**	0.034
(median or above)		-1.36	-2.24	-2.91	-3.10	-0.34	1.33	2.51	0.87

Panel C: Subsamples based on gender

Female	Trust	-0.017***	-0.028***	-0.031***	-0.018***	-0.103***	0.130***	0.108**	0.170***
		-2.82	-2.92	-3.46	-3.05	-3.11	2.98	2.47	3.27
Male	Trust	-0.004	-0.018**	-0.017**	-0.019**	-0.020	0.068	0.066	0.066
		-0.72	-2.14	-2.08	-2.60	-0.60	1.62	1.59	1.37

Table 7: The Non-Linear Effect of Trust on Financial Outcomes

This table reports the regression results of household financial outcomes on 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 (Retire), logarithm of total asset (Asset), and logarithm of net worth (Net Worth). The logarithm of variables are defined as  $\log(1+\text{variable})$ . For negative net worth, Log Net Worth is defined as  $-\log(1-\text{Net Worth})$ . The key independent variable is the four higher levels of individual's trust (Trust=2, 3, 4, 5), which is compared to the lowest level of trust (Trust=1). The control variables are identical to those in Table 2. We report the  $z$ -statistics for probit regressions, (1)-(4), and  $t$ -statistics for OLS regressions, (5)-(8), below the coefficients in italics. The  $z/t$ -statistics are based on robust 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	Miss Pmt	Bankruptcy	Foreclosure	Leverage	Retire	Log Asset	Log Net Worth
	-0.032**	-0.010	0.013	-0.007	-0.175	0.023	0.277**	0.261*
	-2.22	-0.42	0.60	-0.48	-1.38	0.22	2.16	1.75
(Trust=3)	-0.036***	-0.040*	-0.024	-0.034**	-0.260**	0.153	0.245**	0.320**
	-2.60	-1.70	-1.12	-2.25	-2.17	1.46	1.97	2.24
(Trust=4)	-0.047***	-0.061**	-0.050**	-0.045***	-0.291**	0.258**	0.427***	0.473***
	-3.20	-2.48	-2.17	-2.80	-2.49	2.32	3.46	3.22
(Trust=5)	-0.027	-0.070	-0.031	-0.016	-0.070	0.174	0.203	0.303
	-1.04	-1.46	-0.72	-0.58	-0.32	0.82	0.84	1.02
Controls/Intercept	<i>Same as in Panel B of Table 2</i>							
(Pseudo) $R^2$	14.3%	6.3%	6.3%	10.8%	5.7%	35.7%	49.1%	37.3%
Obs	4,607	4,658	4,668	3,013	4,479	4,680	4,680	4,614

## Appendix: Variable Definition

All variables are from NLSY79 unless noted otherwise.

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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.
Asset	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.
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.
Discrimination	Equal to 1 if the respondent indicates that discrimination on the basis of race or age caused problems in getting a good job, from 1982 survey.
Education	Name of the highest degree ever received. It is in 9 categories: (1) None, (2) High school diploma (or equivalent), (3) Associate/Junior College (AA), (4) Bachelor of Arts Degree (BA), (5) Bachelor of Science (BS), (6) Master's Degree (MA, MBA, MS, MSW), (7) Doctoral Degree (PhD), (8) Professional Degree (MD, LLD, DDS), (9) Other, from 2008 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). It is in 29 categories, which are collapsed into 8 categories: (1) African American (Black), (2) Puerto Rican, (3) Mexican, Hispanic, and Cuban, (4) Hawaiian, Indian American, (5) Asian (including Asian Indian, Korean, Chinese, Filipino, Japanese, and Vietnamese), (6) European (including Portuguese, Greek, Russian, English, Italian, Scottish, Welsh, Polish, French, German, and Irish), (7) American; (8) Others, from 1979 survey.
Famsize	The number of family members, from 2008 survey.

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## Appendix: Variable Definition (Continued)

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Variable name / Description
<p><b>Fin_riskaver</b> The lowest price at which the respondent is willing to sell an item that is worth nothing or \$1,000 with equal probabilities. Scaled by 1,000, from 2006 survey.</p>
<p><b>Finance Industry</b> Equal to 1 if the respondent's primary employer is in finance or insurance industry, from 2008 survey.</p>
<p><b>Foreclosure</b> Equal to 1 if the respondent ever went through foreclosure on the house or other residential properties since January 2007, from 2010 survey.</p>
<p><b>High-School Population</b> The county-level percentage of people (25 years and over) who have completed high school (includes equivalency). The 2008 variable is based American Community Survey 2008 data. The 1980 variable is based on the U.S. census 1980 data.</p>
<p><b>Impatience</b> 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.</p>
<p><b>Income</b> Total net family income in the past calendar year. Scaled by 1,000, from 2008 survey.</p>
<p><b>Income Trend</b> 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.</p>
<p><b>Indebt</b> Equal to 1 if the answer is 'in debt' on the following question: "Suppose you were to sell all of your major possessions (including your home), 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.</p>
<p><b>Job_riskaver</b> 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.</p>
<p><b>Leverage</b> 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.</p>
<p><b>Male</b> Equal to 1 if the respondent is male, from 2008 survey.</p>
<p><b>Married</b> Equal to 1 if the respondent is married, from 2008 survey.</p>
<p><b>Married with Children</b> The county-level percentage of households that are married-couple families with own children under 18 years. The 2008 variable is based American Community Survey 2008 data. The 1980 variable is based on the U.S. census 1980 data.</p>

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## Appendix: Variable Definition (Continued)

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Variable name / Description	
Miss Pmt	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.
Net worth	Family net worth, created by summing all asset values and subtracting all debt. Scaled by 1,000, 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.
Racial Fragmentation	The racial fragmentation index defined following Alesina and Ferrara (2002 JPE, p.214) as $1 - \sum_k S_{ki}^2$ , where $i$ represents the state, $k$ represents the following races: (1) White (not Hispanic or Latino); (2) Hispanic or Latino; (3) Black or African American; (4) Asian; (5) American Indian and Alaska Native; (6) Native Hawaiian and other Pacific Islander; (7) Others. $S_{ki}$ represents the share of race $i$ in the total population of county $i$ . The 2008 variable is based on the county-level race data from American Community Survey 2008. The 1980 variable is based on the county-level race data from U.S. census 1980 that include only White, Black or African American, American Indian and Alaska Native, Asian or Pacific Islander, and others.
Religion	Religion the respondent was raised in and is in 9 categories: Protestant, Baptist, Episcopalian, Lutheran, Methodist, Presbyterian, Roman Catholic, Jewish, and Other, from 1979 survey.
Retire	Sum of the values of employer-sponsored retirement accounts and IRA/Keogh/other tax advantaged accounts. Scaled by 1,000, from 2008 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.
Trauma_current	Equal to 1 if the respondent is currently divorced, separated, or widowed, from 2008 survey.
Trauma_past	Equal to 1 if the respondent has ever experienced divorce, separation, or loss of spouse in the past, from 1979-2006 surveys.
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.

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