Attitudes Toward Debt and Debt Behavior

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Abstract. We combine survey data on debt attitudes with registry data on household balance sheets in order to shed light on the determinants of household debt. We introduce a simple and novel survey measure of debt attitude, asking respondents if they are uncomfortable with debt. This measure helps explain observed household debt levels. Those who report being uncomfortable with debt have considerably lower debt levels, even when controlling for relevant socioeconomic variables. In addition, being uncomfortable with debt is strongly correlated between parents and children, suggesting intergenerational transmission of behavior and attitudes toward debt.

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1. Introduction

Household debt is becoming an important issue in many countries as levels of debt have increased over time and across the life cycle. Debt and excessive borrowing were one of the main determinants of the financial crisis in the United States and other countries, and attention is being paid to this topic with the goal of not repeating past errors. Moreover, debt is often associated with high interest rates or fees, which can lead to financial distress or financial struggles if not managed properly (Lusardi and Tufano, 2015).

In this paper, we use data from Sweden, a country where household debt as a share of disposable income has nearly doubled in two decades, rising from about 90 percent in 1995 to close to 170 percent in 2015 (Sveriges Riksbank, 2015). While economic fundamentals—in particular lower interest rates—are likely to explain a significant part of the increase in debt, the magnitude of the increase in a relatively short time, in a country where large loans to many households are a modern phenomenon, could also be indicative of a cultural shift, in particular with regard to attitudes to debt.

To shed more light on the determinants of household debt, we designed a new survey with the objective of obtaining information about attitudes toward debt, and we combined that information with registry data on household balance sheets. Specifically, one new feature of our survey is that we ask respondents if they are uncomfortable with debt, and we also ask about parents' attitudes toward debt. Following a large literature on the importance of social norms, we want to assess whether such norms can affect debt behavior. Registry data on household balance sheets allow us to test this simple but important hypothesis. Moreover, since both the survey and registry data contain information about parents, we are able to examine parental influence as a transmitter of norms and debt attitudes and, by extension, economic outcomes.

We report five new insights that may help further our understanding of debt behavior. Our first key finding is that the majority of respondents in our sample, 56 percent, report that they are uncomfortable with debt. This is a high percentage given how many people carry debt in Sweden. Our second key finding is that this simple attitude measure helps explain individual debt level. Individuals who report being uncomfortable with debt have considerably lower debt-to-income ratios: On average, the difference in debt-to-income is about three quarters of annual disposable income. In dollar terms the difference in means is about 20,000 of debt in US dollars. Our results suggest that being uncomfortable with debt acts as a self-imposed borrowing constraint. Our third key finding is a strong correlation between respondents' attitudes toward debt and parents' attitudes (correlation: 0.40), suggesting intergenerational transmission of attitudes toward debt. Our fourth key finding is that the fraction reporting being uncomfortable with debt appears to be declining over time: the percentage of parents reporting being uncomfortable with debt is considerably larger than the percentage of children reporting this feeling. Attitudes can be an important driver of behavior but are also prone to change over time. Hence, a change in attitudes toward debt is potentially relevant for understanding the sharp increase in debt observed in recent

decades. A fifth key finding is that financial literacy levels are lower among individuals who report being uncomfortable with debt. To the extent that low financial literacy is correlated with debt problems, this could reflect a rational response.

We interpret these findings as strong indications that individual debt choices are affected by social norms. By *norm* we mean an ideal about how to act in a certain context. For a norm to be *social*, as opposed to private, it needs to be shared by other people and there must be some enforcement of the norm through approval or disapproval from others (Elster, 1989).

Previous economic research has linked social norms to several other decision areas, including job search (see, for example, Lindbeck, 1997; Stutzer and Lalive, 2004), wage setting (Akerlof, 1980), the composition of consumption (Elster, 1989), price setting (Kahneman, Knetsch, and Thaler, 1986) or portfolio composition (Hong and Kacperczyk, 2009). We extend this analysis to household debt.

Our analysis can be viewed as an extension of the standard theory of consumption and saving. A plain vanilla model hinges on consumption smoothing to generate predictions about individual decisions to save or borrow, and adding uncertainty generates a richer model. Allowing preference heterogeneity (Gomes and Michaelides, 2005; Vestman, 2016) or variation in self-control across individuals (Schlafmann, 2016) gives rise to richer patterns of saving and borrowing than can be explained by the life-cycle model alone. In this paper, we are suggesting an additional determinant, namely that people may refrain from borrowing because they have been told to do so. Indeed, social norms that castigate credit or extol the virtue of saving may be an important form of such instruction.

The link between debt choices and social norms is not only plausible but potentially important. Many societies have, or have had, salient social norms regarding borrowing and saving and these social norms have frequently been institutionalized, i.e., represented and enforced by an institution such as a church. This history is reflected in language, religion, and culture through the ages: In many indo-European languages, the words for “debt” often also mean “sin” or “guilt,” and several religions, including Christianity and Islam, have condemned interest on loans (Graeber, 2013). Social norms encouraging saving have been propagated by governments or civil society through, for example, savings schemes or informational programs targeted at adults as well as children (Garon, 2013).

It also seems likely that culture matters for debt choices, given how comparable countries differ when it comes to credit arrangements (Badarinza et al., 2016). Differences in credit market development or tax rules are unlikely to fully explain large cross-country differences in the pervasiveness of mortgages, or why adjustable rate mortgages are standard in some countries while fixed rate mortgages are the dominant form elsewhere (Campbell, 2013), or why credit cards are the dominant means of making card payments in some countries while debit cards dominate in others.

Social norms are potentially closely linked to intergenerational transmission, since parents play an important role in the internalization of norms in children.[6] In a family setting, norms may be enforced through direct sanctions from parents or siblings. The norm is said to be internalized when an individual has acquired the ability to generate some form of internal sanction when the norm is violated. Guilt, shame, or embarrassment may be important mechanisms for the internalization of norms. A related interpretation is that the internalization of norms may give rise to cognitive dissonance (Festinger, 1957) in the case of tension between material incentives and a social norm (Lindbeck, Nyberg, and Weibull, 1999).

Our approach is related to a strand of consumer research that examines attitudes towards different forms of debt and debt choices, in particular credit card use (e.g., Godwin, 1997; Chien and Devaney, 2001). Our analysis extends the scope of this line of research in several ways. First, we introduce a novel and general measure of debt attitude and show that it has explanatory power. Second, we widen the scope of the analysis to incorporate intergenerational transmission. Third, we link survey responses with registry data to examine its empirical importance.

The results presented here contribute to a recent literature documenting intergenerational transmission of economic preferences, sometimes along gender lines.[7] Using parents' attitudes concerning "efficacy and planning" in the Panel Study of Income Dynamics (PSID) as attitudes toward the future, Knowles and Postlewaite (2005) show that parental attitudes predict children's savings beyond what is explained by demographics and income. They find that the attitude of the mother is more important than that of the father, suggesting cultural transmission. Dohmen et al. (2012) find a positive association between parents' and adult children's levels of risk aversion and trusting behavior. This transmission is shown to be enhanced also by positive assortative mating, whereby previous generations have formed families with partners with similar attitudes. Zumbuehl et al. (2013) find that parents who invest more in the upbringing of their children are more similar to them in risk and trust attitudes. In a field experiment, Alan et al. (2013) also find a positive correlation in risk preferences between mothers and children who are seven to eight years of age, yet the positive association is only significant between mothers and daughters. The more effort the mother exerted in raising the child, the stronger the transmission.[8]

Our findings also relate to the wider topic of intergenerational transmission of economic outcomes. A large body of research has documented intergenerational persistence of economic

[6] The transmission of social norms may depend on the sex of parent and child. Daughters may be more likely to view their mother, and sons their father, as a role model (Maccoby, 1992). Farré and Vella (2013) find that gender role attitudes are transmitted from mothers to children and affect daughters' labor force participation. Other studies that relate differential intergenerational transmission from mothers and fathers to labor market outcomes of sons and daughters include Fernandez et al. (2004), Morrill and Morrill (2013) and Hederos Eriksson and Stenberg (2015).

[7] A related line of research looks at how culture is transmitted between generations and shapes labor market outcomes. For instance, Antecol (2000) shows the importance of culture in explaining female labor force participation rates of immigrants in the US, using variation in the labor force participation across home country groups. One approach to modelling cultural transmission along family lines is offered by Bisin and Verdier (2001).

[8] A contrasting finding is provided by Cipriani et al. (2013) who find no transmission of prosocial values from parents to their young children (6–12 years of age) using standard public goods experiments.

outcomes across generations (see, e.g., Björklund and Jäntti, 2009; Black and Deveraux, 2011; Björklund and Salvanes, 2011; Ermisch et al., 2012). This literature suggests that family background explains from a fifth to half of the variance in long-run income (Corak, 2013).[9] Studies addressing the causal mechanisms that underlie sibling correlations show that both nature and nurture are important. Björklund, Jäntti, and Solon (2007), for example, use data on different types of siblings brought up in different types of environments to show that half of the correlation in income can be attributed to nurture or environment and the other half can be attributed to nature. Similar analyses have also been applied to siblings' choice of education (Holmlund et al., 2011) and to siblings being exposed to different neighborhoods (see, e.g., Bingley et al., 2016).

The transmission of debt norms may have implications for public policy. In many countries, household debt levels have risen rapidly over a long period. However, standard economic explanations may not be sufficient to fully account for the rise in debt levels. Comparing parents and children, our data suggest that the share in the Swedish population that is uncomfortable with debt may be declining at the same time that household debt is increasing. One interpretation of this development is that a social norm against debt that has inhibited household leverage—in effect, a self-imposed borrowing constraint—is gradually eroding.

Norms about debt may also matter for the distributive effects of economic policies. Favorable treatment of debt, for example through generous tax deductions for nominal interest payments, may have large redistributive effects. We show that in Sweden, where the tax revenue forgone through interest deductions is of the same order of magnitude as government expenditures on defense, a sizable share of the population is uncomfortable with debt. This group, on average, holds considerably less debt, suggesting that debt attitude can act as a self-imposed borrowing constraint, and those who are uncomfortable with debt may hence be less likely to benefit from favorable tax treatment of interest payments and consumption smoothing over the life cycle. Subsidies aimed at debt or at investments, such as homeownership that often entail taking on large amounts of debt, can turn debt into an important vehicle for wealth building. Inequality will then also reflect differences in debt norms, and intergenerational transmission of such norms may further contribute to intergenerational persistence in wealth inequality.

2. An Overview of Debt in Sweden[10]

Many Swedish households carry some form of debt. For example, many Swedes borrow to invest in human capital and to purchase a home, through publically provided student loans and privately provided mortgages. About half of the working age population has a mortgage, and the likelihood of having a mortgage increases with education and income. Consumer credit is a small part, 10–20 percent, of Swedish households' loans, and it is most common among individuals with only high school education.

[9] Studies addressing correlations of the permanent component of income between siblings suggest that correlations are typically between 0.35–0.5 in lifetime earnings for the US (Atkinson and Bourguignon, 2015), while for the Nordic countries this correlation is lower at 0.2–0.3.

[10] For historical sources, this section draws heavily on chapters 10 and 12 in Morell and Hedenborg (2006).

Swedish households have been paying off debt at a slow pace. Interest-only mortgages are common and even households that do pay off their loans do it slowly. Winstrand and Ölcer (2014) find an average mortgage repayment rate of 99 years in 2012–2013. Only one-quarter (26 percent) of mortgage holders in their very large sample was paying off mortgage debt at a rate of 30 years or less.

Widespread borrowing and slow repayment have caused a considerable increase in the indebtedness of Swedish households in recent decades. The aggregate debt-to-income ratio has risen from about 80 percent of disposable income in 1970 to close to 170 percent of disposable income in 2015, lower than in Norway or Denmark but higher than in most European countries.

High and rising indebtedness has been identified as a vulnerability of the Swedish economy by the IMF and the OECD as well as the Riksbank and the Swedish Financial Supervisory Agency (see, for example, Riksbank 2016). In response to increasing household debt, a loan-to-value cap of 85 percent for mortgages was introduced in 2010, and minimum repayment rates for mortgages have been introduced in 2016. In addition, capital requirements for banks have been increased and the floor for risk weights that banks apply to mortgages when calculating their risk weighted assets has been raised.

The high indebtedness of Swedish households is a modern phenomenon—well into the 20th century, households mainly used banks to make deposits, and not to get credit. The credit market was gradually formalized over the course of the 19th century. The first savings banks were created in the 1820s and the first commercial banks in the 1830s, expanding rapidly in the latter half of the century following deregulation.[11]

To the extent that loans were offered to households, it was typically for the acquisition or construction of a home. However, wages were low—food expenditure amounted to about half of disposable income at the beginning of the 20th century—and many households were credit constrained. Some entered risk-sharing arrangements with employers, whereby the employer would guarantee part of the loan. But this tied workers to employers. As a reaction, workers formed building societies that often involved elements of social control.

While outright consumer loans were uncommon at the outset of the 20th century, instalment plans became increasingly popular, triggering a regulatory response. The first consumer protection law, prohibiting exploitative contract terms in instalment plans, was launched in 1915. But it wasn't until 1977 that the first consumer *credit* law came into being.

Well into the 20th century, households continued to mainly play the role of depositors, and government intervention in credit markets sought to ensure that households' deposits were channelled into financing for agriculture and industry but also to encourage household thrift. Indeed, Sweden has a long history of public moralizing about consumption and saving decisions. In the 17th and 18th centuries, the state issued a number of edicts prohibiting excessive consumption, in part with a mercantilist motive to reduce imports. In the 19th century, an ideal of frugality was depicted as part of a Swedish identity in culture. Such reasoning continued in the 20th century with the growth of savings banks and the cooperative movement. The well-known cartoon "Spara och Slösa" ("Save and Squander"), pitting the virtuous character Spara against the wasteful Slösa, was launched in 1926 and published until 1963, and encouraged budgeting, saving and prudent consumption.

[11] Prior to this, both deposits and lending were mainly provided by the Riksbank, the Swedish central bank.

The postwar period saw an expansion of lending to households, in particular to purchase homes, and household balance sheets began to grow. The government took on an increasingly active role in providing this credit to households. Between 1930 and 1960, lending to Swedish households for the construction, improvement, or acquisition of homes increased tenfold. Meanwhile, the government share of such lending rose from about 2 percent in 1930 to almost 25 percent in 1960. Moreover, the government issued loans with the explicit purpose of providing cheaper credit to households with high loan-to-value (LTV) ratios: the *statsbostadslån* introduced in 1963 provided the part of a household's mortgage loan that exceeded 70 percent of the value of the home, up to a LTV ratio of 85 or sometimes 90 percent.

The government also took a more active role to provide households with loans for investment in human capital. Government-sponsored student loans, first introduced in 1919, expanded rapidly from the 1960s. The creation of the student loan agency CSN in 1964 coincided with a long upward trend in enrolment in tertiary education. In a revised form, the system is still in place, and provides easy and cheap access to student loans that are taken up by a majority of those enrolled in tertiary education. There are currently about 200,000 combined loan and grant recipients compared to about 80,000 who receive only the grant.[12]

The tight regulation of credit markets was gradually undermined in the 1980s. Banks increasingly used investment vehicles to circumvent credit market regulations. While this allowed for some increase in consumer loans, it was in particular to contribute to credit-fuelled speculative investments, especially on the stock exchange and in commercial real estate. Household savings, however, reached record lows in the 1980s, and the government response was initially to introduce subsidized saving products, such as the mutual funds called *Allemansfonder*, but also forced savings.

The erosion of credit market regulation prompted a rapid deregulation of credit markets in the second half of the 1980s. In 1985, the government removed interest rate ceilings and lending caps for banks. Rapid credit growth ensued, and household debt increased from 100 to 130 percent of disposable income in just four years. This came to a stop during the great banking crisis of the early 1990s, when several banks became insolvent.

In sum, government policies throughout the 20th century have contributed to the rising indebtedness of households, through the direct provision of generous loans and through rapid deregulation of credit markets in the 1980s, but also through a tax system that has provided incentives, at times very strong ones, to take on debt. While interest rate subsidies, at one time extensive, were gradually phased out in the 2000s, mortgage interest deductions remain generous. In the early 1990s, the deduction was reduced from 50 to 30 percent but it remains higher than the effective capital income tax rate for many forms of capital income, providing incentives for households to keep debt on their balance sheets and channel marginal savings into buying more assets instead of deleveraging.

[12] Current regulations entitle anybody under the age of 47 and enrolled in tertiary education to a transfer of about USD 300 per week (SEK 2,500), of which a loan constitutes slightly more than 70 percent and the rest is a grant. Repayment begins 6–12 months after the recipient stops receiving the transfer. The interest rate is a three-year moving average of the government cost of borrowing. The repayments are calculated according to an annuitization formula so that repayment takes no more than 25 years or the loan is repaid by the time the recipient turns 60, whichever occurs first.

Meanwhile, Swedish households, over the course of a century, have taken on a completely different role with regard to the banking system. At the beginning of the century, they were mainly engaging with banks in order to make deposits, and the deposits were converted into credit for productive investments. Today, lending to households is a core business for Swedish banks, and deposits from households make up only a small share of these banks' financing (Riksbank, 2016). Changing social norms regarding debt might reflect, but perhaps also help explain, this dramatic shift.

3. Data and Methods

In order to better understand debt, new cross-sectional data was collected in the fall of 2014 through a telephone survey of adults age 25–75. The survey was carried out by Statistics Sweden using a subcontractor (Mind Research AB).[13]The survey was targeted at individuals, rather than households, and participation was not conditional on being the main decision maker about household's finances. The sample is representative of the Swedish population age 25–75[14] and it consists of 390 men and 454 women (46 and 54 percent, respectively); the average age is 51. Table 1 in the Appendix provides means for the socioeconomic characteristics of the sample.

One of the advantages of this work is that we are able to match the survey data with registry data on age, gender, education, income wealth, and debt. The registry data, collected by Statistics Sweden, provides accurate measures of both wealth and debt.

Survey questions

The survey contains a set of questions about attitudes toward debt. Most importantly, we asked respondents a general and subjective question about whether or not they feel comfortable with debt.

- *Do you feel uncomfortable with having debt?*

We also asked the same question about survey participants' mothers and fathers:

- *Would your mother/father say that she/he feels uncomfortable with debt, or if she/he is deceased, would she/he have said that she/he felt uncomfortable with debt?*

Respondents were only asked about one parent; in other words, they were asked about either their mother or father. The gender was randomized. Asking about only one gender reduces sample size

[13] The survey was commissioned by the authors and paid for through research grants from the Swedish Science Council, the Swedish Financial Supervisory Agency, and the European Investment Bank.

[14] The sample was generated using the register for the total population, which contains 6.1 million individuals in the chosen age span. A total of 2,004 individuals were drawn from ten strata based on age and gender. Thirty-five of these individuals were excluded (due to incarceration, etc.), resulting in a sample of 1,969 individuals. For each of these individuals, at least twelve attempts to establish contact were made during eight weeks between September and November 2014. After this time period, 844 individuals had responded.

in each cell but may be important to reduce bias if the answer about one parent is anchored by the answer about the other parent.

Our survey contains a number of questions about intergenerational transmission of financial knowledge and attitudes, i.e., to what extent these may be passed on within a family.

To get a sense of the extent to which people discuss personal financial matters with their family members compared to other people in their lives, respondents were asked the following questions:

- *Do you often discuss personal financial matters with your family?*
- *Do you often discuss personal financial matters with friends and acquaintances?*
- *Do you often discuss personal financial matters with colleagues?*

Next, we asked survey participants whether they discuss personal financial matters with their parents and with their children. We asked about mothers and fathers separately and we also asked about daughter and sons separately:

- *Does your mother/father discuss personal financial matters with you, or if she/he is deceased, did she/he used to discuss personal financial matters with you?*
- *If you have one or more daughters/sons, do you discuss personal financial matters with them?*

For both of these questions, respondents were only asked about one gender. The gender was randomized and the randomizations for the two questions were independent. Asking about one gender reduces sample size in each cell but may be important to reduce bias if the answer about a parent or child of one gender is anchored by the answer about the other parent or child of the other gender.

As described above, our survey asked about being uncomfortable with debt in general. A related but separate issue is whether people consider it *appropriate* to borrow money. This is more of a moral statement and not so much a measure of a subjective disposition. Previous research indicates that people do hold such moral beliefs about debt and that it is contingent on what the debt is used for (Chien and Devaney, 2001). To shed more light on this, we asked five questions about whether survey participants considered it appropriate to borrow money for different purposes:[15]

[15] A similar set of questions was introduced in the 1998 Survey of Consumer Finances (see, for example, Chien and Devaney, 2001).The only difference is the first question, which in the 1998 SCF was stated in terms of a buying a fur coat or jewelry. The objects are merely intended as a proxy for luxury goods in general, and since fur coats are subject to a heated ideological debate, we used a slightly different phrasing.

- *Do you think it is OK to take on debt to buy expensive clothes or jewelry?*
- *Do you think it is OK to take on debt to buy a vacation trip?*
- *Do you think it is OK to take on debt to cover running household expenses?*
- *Do you think it is OK to take on debt to buy a car?*
- *Do you think it is OK to take on debt to get an education?*

Recent research in Sweden has documented that many mortgage holders do not pay down the principal on their mortgages (Finansinspektionen, 2015), thus carrying mortgage debt for a long period, potentially indefinitely. This again is related to norms about carrying debt that may have existed but are eroding. To shed some light on this, we also included a question about the importance of paying down the principal, which is related de facto to debt and having debt:

- *Which one of the following statements do you think best describes how a person with a mortgage should handle their mortgage loan? "It's important to pay down the principal"/"It's important but not when you are young"/ "It's not important as long as you are saving in some way" /"It's not important"*

4. Summary Statistics

Table 1 shows that the majority of respondents in our sample (56 percent) reported being uncomfortable with debt. This is a high proportion, showing that norms and attitudes can play an important role. We also note a gender difference in feeling uncomfortable with having debt: Women are more likely than men to be uncomfortable with debt. When asked about the attitudes of their parents, a large proportion of respondents, 68.5 percent, reported that their parents are/were uncomfortable with debt. This is considerably higher than the fraction who reported themselves to be uncomfortable with debt, showing that this attitude toward debt is changing across generations. In the parents' generation as well, mothers were less comfortable with debt; both male and female children recognize that about their mothers. And like their mothers, female children continue to be more uncomfortable with debt than male children.

Table 1 about here

Parents' attitudes toward debt are important because the family plays a very important role when it comes to discussing personal financial matters; see Table 2. The large majority (70 percent) of respondents reported discussing personal financial matters with their family, while only 22 percent of respondents reported discussing personal financial matters with friends and acquaintances, and an even smaller proportion (13 percent) reported discussing personal financial matters with colleagues. Interestingly, women are less likely to discuss personal financial matters with colleagues; thus, family and the intergenerational transmission of attitudes toward debt can be quite influential for women.

Table 2 about here

Conditional on having children, the majority (about 58 percent) reported talking to them about personal financial matters. We do not observe any substantial differences in the treatment of sons and daughters in this regard, regardless of the sex of the respondent.

Table 2 also shows that many respondents (40 percent) reported discussing personal financial matters with their parents. Both men and women are more likely to discuss their personal finances with their mothers rather than with their fathers. However, women are much more likely to talk to their mothers (48 percent) than men (39 percent). This may explain some of the gender differences in both financial literacy and behavior. For example, if women are less financially knowledgeable than men, they may transmit that lower knowledge to their daughter(s) as well. Similarly, if mothers are more concerned about having debt, they may transmit that attitude to their daughter(s).

Consistent with the notion of intergenerational transmission of financial attitudes, we observe a strong correlation between the respondent and parents being uncomfortable with debt (correlation = 0.401, p-value <0.0001). The correlation is stronger for those who reported that they discuss, or discussed, personal financial matters with their parents (0.491, compared to 0.344 for those who do not, or did not discuss with parents). This lends further support to the idea that financial attitudes may be transmitted intergenerationally from parents to children.[16] Consistent with what was discussed above about gender differences, the correlation with parents is much stronger for women (0.495, p-value <0.0001) than for men (0.293, p-value <0.0001).

Table 3 about here

We have shown above that many respondents are uncomfortable with debt. A related issue concerns when people consider it appropriate to borrow money. Table 3 shows that many respondents view the appropriateness of taking on debt depending on the purposes the debt is used for. For example, debt is considered OK for buying a car or for educational purposes, but very few (6%) consider it OK to cover running household expenses. Thus, the norm perceived by respondents seems to be that people should spend within their current resources. Thus, not everyone thinks consumption smoothing is a good rationale for saving or borrowing. As far as mortgage loans are concerned, the large majority of respondents (84 percent) consider it appropriate to pay down the principal.

Table 3 also shows that respondents who are uncomfortable with debt are less likely to consider it OK to take on debt for various purposes. The exception is taking on debt to cover running household expenses, where those who report being uncomfortable with debt are slightly more likely to consider it OK. Interestingly, respondents who are uncomfortable with debt are also

[16] Dividing this by gender of the respondent, we find that the correlation between females that report that they discuss, or discussed, personal financial matters with their parents is 0.552, and 0.541 if they report that they do not, or did not, discuss with their parent. The equivalent correlations among males are 0.412 and 0.229.

more likely to consider it appropriate to pay down the principal on a mortgage (87 percent compared to 79 percent of those who are not uncomfortable; Pearson chi-squared $p<0.022$).

Table 4 about here

As shown in Table 4, women and people age 65–75 are more likely to report being uncomfortable with debt. Respondents who are uncomfortable with debt have less education and lower disposable income but the differences are small. They report being less willing to take risk, and have slightly lower levels of financial literacy (measured using standard questions, see Table 2 of the Appendix) compared to those who do not feel uncomfortable with debt. They also have slightly higher net wealth and their portfolios contain less housing wealth and more financial assets.

Table 4 also contains summary statistics regarding debt and other registry-based information. As in Calvet, Campbell, and Sodini (2007, 2009), for example, and more recently Flodén et al. (2016), we have information about the entire balance sheet of each individual. Our main measure of indebtedness is *debt to income*, defined as the ratio between the nominal amount of debt and the value of the disposable income. The debt-to-income ratio is considerably lower for those who report being uncomfortable with debt: 1.2 compared with 1.9 among those who do not feel uncomfortable with having debt.[17] All registry-based variables are dated 2007, which is the last year in which Statistics Sweden collected comprehensive information about household balance sheets.[18]

We also look at the *debt value*, defined as the nominal amount of debt in SEK. Those who feel uncomfortable with having debt have considerably less debt: On average, 270 000 SEK among those who are uncomfortable and 490 000 SEK among those who are not uncomfortable. The difference is equivalent to about USD 25,000.

Part of these results may be driven by mortgage debt. Those who are uncomfortable with debt are less likely to have a mortgage and, as Table 3 reports, those who have a mortgage think that it is important to pay down the principal.

In sum, both measures of debt display a significant difference in indebtedness between those who feel uncomfortable with having debt and those who do not.[19]

[17] Debt to income is also a central measure in Flodén et al. (2016), who group Swedish households into five categories according to their debt to income and report detailed statistics on each group.

[18] Information about an individual's assets and liabilities were collected by the Swedish tax agency in order to calculate the tax base for the wealth tax. The wealth tax was abolished in 2007, and as a result this information is no longer available. Notice that our registry data is dated prior to the survey, which makes our data format similar to Thustrup Kreiner et al. (2016).

[19] As a robustness check, we also look at the share within each group that have no debt, defined as having debt below 10,000 SEK, which corresponds to about USD 1,200. About 32 percent of those reporting being uncomfortable with debt have debt below this level compared to merely 17 percent among those reporting not being uncomfortable with debt.

5. Regression Results

Main model specification

In the previous section, we reported summary statistics showing three important findings. Specifically, (i) many respondents are uncomfortable with debt, (ii) this debt attitude is negatively correlated with indebtedness, and (iii) debt attitudes are correlated with parents' debt attitudes.

In this section, we merge data from our survey with registry data to better investigate whether being uncomfortable with debt helps explain observed debt levels. A limitation of the summary statistics is that they report differences in means looking at one variable at a time. If being uncomfortable with debt is correlated with socioeconomic variables that have a direct effect on debt choice, a simple difference in means comparison may overstate the impact of being uncomfortable with debt. We address this issue in a multivariate regression framework.

Our main model is an OLS regression with debt as the dependent variable, controlling for socioeconomic variables that are a priori relevant for debt choice. We can write this as:

$$D_i = \beta_0 + \beta_1 U_i + \beta_2 X_i + \varepsilon_i \quad (1)$$

where D_i denotes our outcome variable for debt, U_i is a dummy variable that indicates whether the respondent is uncomfortable with debt, X_i is a set of covariates that determine debt holdings, and ε_i is an error term. If being uncomfortable with debt has no effect on debt choice once we control for socioeconomic variables, we should find that $\beta_1 = 0$.

Our main debt measure is debt to income. This variable is left censored at 0, which can result in downward bias on the estimated coefficients. To address this issue, we also use a Tobit regression specification. We also exclude outliers.

OLS estimates

Table 5 reports the estimates from the OLS regressions.

Table 5 about here

The results reported in Table 5 show that being uncomfortable with debt continues to be linked to debt levels. Even after controlling for many socioeconomic variables, including education, income, and wealth, those who are uncomfortable with debt still have considerably lower debt to income ratios, as shown in column 3 of Table 5. On average the difference is about 0.6 times annual disposable income (column 1 of Table 5), similar in magnitude to the 0.75 times annual disposable income difference in means without controlling for covariates (Table 4). In the last two columns of Table 5, the estimates are displayed separately based on having a parent who is comfortable or uncomfortable having debt. Results show that being uncomfortable with debt is

associated with lower values of indebtedness only among those with a parent who feels uncomfortable having debt.

Aside from debt attitude, age appears to be a strong driver of debt to income. Our estimates suggest a hump-shaped pattern, consistent with life-cycle smoothing.

In sum, we find a strong association between debt choice and our measure of debt attitude. Adjusting for controls reduces the magnitude of the association somewhat, but the order of magnitude is still large.[20]

As a robustness check, we also estimate this relationship using a Tobit model specification. This addresses left censoring of the debt-to-income ratio at 0. The results are in line with those reported above (see Table 3 of the Appendix for more details).

Table 6 about here

We also divide the degree of indebtedness into two groups, i.e., those having a loan-to-income ratio below the median and those having a loan-to-income ratio above the median. Table 6 shows that the percentage of respondents who are uncomfortable with debt is 67 percent among those with a below-median level of indebtedness, while the percentage is 46 percent among those with an above-median level of indebtedness (a t-test yields a p-value of 0.00). Among those who have a below-median level of indebtedness, 71 percent also have a parent who is uncomfortable with being in debt, compared to 66 percent among those with an above-median level of indebtedness (a t-test yields a p-value of 0.07).

Table 7 reports our estimates of an intergenerational transmission of debt attitudes, an hypothesis that is supported by our empirical results. The coefficient on the parent's attitude is positive and highly significant, taking on values in the 0.3–0.4 range with standard errors of about 0.05 or less. Controlling for socioeconomic characteristics has almost no effect on this coefficient, which remains closely similar in size and highly significant. Age, financial assets, and willingness to take risk are also statistically significant. Without controls, parental attitude explains approximately 16 percent of the variance in their children's attitudes toward debt. [21]

Table 7 about here

We also report estimates with the addition of an interaction effect between being female and the attitude of the parent. The coefficient for the interaction term is positive and highly significant, suggesting a stronger intergenerational transmission of debt attitudes between parents and

[20] We have also elaborated on estimating the correlation between the parents' level of indebtedness and the respondent reporting whether the parent is uncomfortable with debt, or not. We find that fathers and mothers who are characterized as being uncomfortable with debt also have statistically significantly lower levels of indebtedness.

[21] The intergenerational transmission effect is robust to controlling for household size and marital status (neither is significant), and parental education (respondents with a college-educated mother are more likely to be uncomfortable with debt compared to respondents with a less-educated mother—both elementary and high school educated— no effect on fathers education).

daughters, as compared to between parents and sons, consistent with what we had reported in the summary statistics.

The above analysis rests on the assumption that debt attitude is exogenous to debt. If exposure to debt, for example, through having a mortgage, makes individuals less uncomfortable with debt over time, there could also be causality in the reverse direction. Addressing this endogeneity is an interesting area for further research and is something we plan to explore in future work.

6. Discussion

The key finding of our work using new data is that many people report being uncomfortable with debt, and this attitude appears to affect debt choices. Moreover, being uncomfortable with debt is transmitted from parents to children, and we find that discomfort with debt is declining over time.

Our findings have implications for understanding patterns related to inequality, intergenerational transmission of economic outcomes, and gender differences in financial literacy and financial well-being.

Our results are related to an extensive literature on the determinants of household savings. In a survey of economic research on saving behavior, Browning and Lusardi (1996) list a number of motives for saving, all but one from a list drawn up by Keynes (1936): (i) precautionary savings, (ii) life-cycle consumption smoothing, (iii) intertemporal substitution, (iv) to enjoy improving standards of living, (v) financial independence, (vi) to self-finance entrepreneurial ventures, (vii) to leave a bequest, (viii) avarice, (ix) to meet a down-payment requirement. The list blends standard economic arguments related to consumption smoothing with motivations of a more psychological nature, such as greed.

Compiling a similar list for why people borrow would center on similar arguments. Clearly, many credit choices can be motivated by consumption smoothing, handling short-term shocks; or making productive investment (for example, in human capital). But here, too, psychology can be expected to play a part. One example is lack of self-control, i.e., some individuals may borrow because they are tempted to.

Our paper suggests adding an additional determinant: People may decide to save, or may refrain from borrowing, because they have been told that it is the right thing to do. Social norms that extol the virtue of saving and castigate or denigrate credit may be an important form of such instruction.

We wish to emphasize that social norms that discourage borrowing are not by definition good or bad. While social norms act as an additional constraint on behavior, driving individual decisions toward conformity (Burke and Young, 2011), the outcome is not necessarily negative. For example, norms against cheating or free-riding may mitigate moral hazard problems or time

inconsistency problems, resulting in more efficient outcomes (see, for example, Lindbeck and Nyberg, 2006). With regard to debt, people may underestimate the future debt burden associated with a loan, due to limited financial literacy or exponential growth bias, or succumb to temptation and incur debts in a time-inconsistent manner. In these cases, a social norm that causes them to take on little debt could be welfare improving. At the aggregate level, there might be negative externalities from high aggregate household debt, for example through increased financial and macroeconomic vulnerabilities (Mian and Sufi, 2014). Individual households cannot be expected to take these externalities into account, so a norm against debt might increase overall welfare.

But social norms can also generate outcomes that are clearly less efficient from an economic point of view. Roth (2007) provides examples of how social norms that characterize transactions of certain goods as repugnant can shut down markets entirely, in which case the constraint is "every bit as real as the constraints imposed by technology or by the requirements of incentives and efficiency" (Roth, 2007, p38). For example, a social norm against debt that deters talented people from investing in human capital reduces economic efficiency. And a social norm against debt may inhibit consumption smoothing in a way that is similar to a liquidity constraint, with comparable welfare losses.

Our analysis does not attempt to assess which of these views carries more weight, but rather just to establish some stylized facts that are consistent with the notion that there are social norms against debt and that these matter for individual debt choices.

While the key purpose of our analysis is an improved understanding of individual choices about debt, our results also have relevance for understanding aggregate outcomes, in particular how aggregate household debt ratios may respond to a change in economic fundamentals, such as improved access to credit. Social norms are likely to adjust to changes in economic fundamentals, but the adjustment may be slow, giving rise to tension between new economic incentives and social norms inherited from the past (Lindbeck, 1997).

If the decision to take on household debt is constrained by social norms against debt, the aggregate behavioral response to improved access to credit is likely to occur with time lags and in a non-linear way since social norms imply a feedback loop between individual behavior and group behavior. A benefit of individuals acting in conformity with others is a social multiplier effect through which behavioral response to a change in fundamentals can be either impeded or accelerated at the aggregate level (see, for example, Bernheim, 1994; for a broader discussion of modelling social interactions, see Blume and Durlauf, 2001). As a result, norm dynamics tend to be characterized by sudden shifts, "long periods of inertia punctuated by occasional large changes" (Burke and Young, 2011, p. 311).

Thinking about household debt mediated through social norms also has relevance for policy makers seeking to affect household debt levels. For example, policy makers may wish to stabilize aggregate household debt at a certain level in the face of technological or financial shocks that increase debt. In a model with social interactions, interventions that target economic fundamentals may fail to make a large impact on behavior. An alternative would be to target social norms directly (see Moffitt, 2001, for a discussion). This could be done, for example, through interventions to foster norms against (excessive) indebtedness. In this case, norm enforcement comes to rely increasingly on institutionalization, and less on internalization. This might be an effective way to affect economic outcomes. It should be noted, however, that the welfare effects are likely to be ambiguous.

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Table 1.
Descriptive Statistics of Survey Questions on Debt Attitudes

	All	Male	Female
Q: Do you feel uncomfortable with having debt?			
Yes	0.56	0.52	0.60
No	0.43	0.47	0.39
Do not know	0.01	0.01	0.01
Do not want to answer	0.005	0.003	0.007
Observations	834	388	446
Q: Would your mother say that she feels uncomfortable with debt, or if she is deceased, would she have said that she felt uncomfortable with debt?			
Yes	0.68	0.67	0.70
No	0.24	0.26	0.23
Do not know	0.07	0.07	0.07
Do not want to answer	0.005	0.005	0.005
Observations	427	210	217
Q: Would your father say that he feels uncomfortable with debt, or if he is deceased, would he have said that he felt uncomfortable with debt?			
Yes	0.56	0.52	0.60
No	0.33	0.47	0.39
Do not know	0.09	0.01	0.01
Do not want to answer	0.02	0.01	0.02
Observations	407	178	229

Table 2.
Descriptive Statistics of Survey Questions on Information Transmission on Personal Financial Matters

	All	Male	Female	Not uncomfortable with debt	Uncomfortable with debt
Q: Do you often discuss personal financial matters with your … ?: (n=844)					
family					
Yes	0.70	0.68	0.71	0.68	0.71
No	0.30	0.31	0.29	0.31	0.29
friends and acquaintances					
Yes	0.22	0.22	0.22	0.21	0.22
No	0.78	0.78	0.78	0.78	0.78
colleagues					
Yes	0.13	0.17	0.09	0.17	0.10
No	0.87	0.83	0.90	0.83	0.89
Q: If you have one or more daughters, do you discuss personal finances with them?(n=421)					
Yes	0.38	0.35	0.41	0.40	0.37
No	0.29	0.32	0.26	0.29	0.29
Do not have daughters	0.33	0.33	0.33	0.31	0.33
Q: If you have one or more sons, do you discuss personal finances with them?(n=423)					
Yes	0.38	0.40	0.37	0.41	0.38
No	0.27	0.28	0.27	0.23	0.29
Do not have sons	0.35	0.33	0.36	0.36	0.33
Q: Does you mother discuss personal finances with you, or if she is deceased, did she use to discuss personal financial matters with you?(n=421)					
Yes	0.44	0.39	0.48	0.43	0.54
No	0.54	0.59	0.50	0.44	0.55
Q: Does you father discuss personal finances with you, or if he is deceased, did he use to discuss personal financial matters with you? (n=422)					
Yes	0.34	0.36	0.33	0.31	0.66
No	0.63	0.61	0.65	0.35	0.63

Table 3.
Descriptive Statistics of Survey Questions on Debt Purpose

	Yes All	Yes, (uncomfortable with debt)	Yes, (not uncomfortable with debt)
Q: Do you consider it OK to take on debt in order to…			
…buy expensive clothes or jewelry?	1.1 %	0.9%	1.4%
…buy a vacation trip?	4.8 %	4.1%	5.6%
…cover running household expenditures?	6.0%	7.7%	3.7%
…buy a car?	85.1%	81.6%	89.9%
…get an education?	96.3%	95.9%	96.9%
Q: Which one of the following statements do you think best describes how a person with a mortgage should handle their mortgage loan?			
It's important to pay down the principal	84%	87%	79%
Important but not when young	4%	4%	4%
Not impt if saving in some way	7%	5%	9%
Not important to pay down the principal	3%	2%	5%
Don't know	2%	2%	2%
Don't want to answer	0.4%	0.2%	0.5%

Table 4.
Descriptive Statistics of Demographic, Income, Debt, and Wealth Characteristics

	Q: Do you feel uncomfortable with having debt?			
	No	No	Yes	Yes
	Mean	Median	Mean	Median
Female	0.40		0.60	
Male	0.48		0.52	
Age				
25–34	0.17		0.17	
35–44	0.17		0.19	
45–54	0.24		0.20	
55–64	0.24		0.17	
65–75	0.18		0.28	
Elementary School	0.10		0.13	
High School	0.44		0.48	
College	0.46		0.39	
Disposable Income (SEK), 2011	273 523	243 870	230 082	219 168
	(192 986)		(134 537)	
Subjective Risk (0–10)	4.66		3.75	
Nr of Basic financial literacy correct	2.11		1.93	
All correct Basic FL	0.42		0.38	
Nr of Advanced financial literacy correct	2.32		2.22	
All correct Adv FL	0.54		0.47	
Nr of DNK in Basic FL	0.13		0.21	
Nr of DNK in Adv FL	0.12		0.20	
Net Wealth (SEK), 2007	704 622	356 203	747 086	255 992
	(1 242 806)		(1 400 247)	
Financial Assets (SEK), 2007	217 137	69 176	274 367	70 806
	(427 646)		(724 047)	
Real Estate (SEK), 2007	980 156	618 163	739 495	350 777
	(1 492 529)		(1 202 063)	
Debt to Income Ratio, 2007	1.93	1.18	1.18	0.49
	(3.77)		(2.61)	
Debt (SEK), 2007	-492 671	-299 571	-266 777	-94 616
	(755 904)		(459 397)	
Have a mortgage	0.72		0.45	
No Debt, 2007	0.17		0.32	
	(0.37)		(0.47)	
Observations	322		416	

Notes: All mean differences are significant at p<0.010. SEK = Swedish Krona, 1 SEK = approx. 0.12 USD. *Disposable income* is comprised of the sum of labor income, social benefits, and transfers. *Financial assets and real estate assets* are the sum of the market value of the financial and real estate assets measured in 2007, respectively. S*ubjective Risk* (0–10) refers to responses to "Do you see yourself as a person who is fully prepared to take risks? Indicate your response on a scale from 0 to 10 where 0 means "not at all willing to take risks" and 10 means "very willing to take risks." *Basic* and *advanced financial literacy* is measured as the number of correct answers to each category of financial literacy, respectively; see Appendix Table 2 for further description.

Table 5.
OLS Regression Results of Indebtedness Using the Debt to Income Ratio as the Dependent Variable

	Debt to Income	*Debt to Income*	*Debt to Income*	*Debt to Income*	*Debt to Income*
	All	All	All	Parent not Uncomf	Parent Uncomf
Yes, Uncomfortable	-0.562		-0.392	0.127	-0.667
	(0.130)***		(0.113)***	(0.249)	(0.142)***
Female		0.125	0.141	0.148	0.143
		(0.118)	(0.117)	(0.225)	(0.138)
Elementary School		-0.094	-0.085	-0.324	0.142
		(0.200)	(0.198)	(0.401)	(0.226)
High School		-0.020	-0.008	0.370	-0.112
		(0.124)	(0.123)	(0.252)	(0.139)
Age 35–44		0.713	0.723	0.231	1.093
		(0.191)***	(0.189)***	(0.315)	(0.241)***
Age 45–54		0.414	0.412	-0.116	0.676
		(0.192)**	(0.190)**	(0.339)	(0.236)***
Age 55–64		0.311	0.275	-0.068	0.435
		(0.194)	(0.193)	(0.381)	(0.234)*
Age 65–75		-0.044	-0.013	-0.423	0.124
		(0.198)	(0.197)	(0.407)	(0.235)
Mean Disp. Income (2007-2011)		-0.010	-0.011	-0.010	-0.012
		(0.005)**	(0.005)**	(0.008)	(0.006)*
Financial Assets		-0.051	-0.049	-0.066	-0.044
		(0.010)***	(0.009)***	(0.026)**	(0.010)***
Real Estate Assets		0.077	0.076	0.090	0.073
		(0.005)***	(0.005)***	(0.010)***	(0.005)***
Subject. Risk (0-10)		0.025	0.013	0.011	0.019
		(0.024)	(0.024)	(0.046)	(0.028)
Basic Financial Literacy		-0.023	-0.029	0.028	-0.051
		(0.067)	(0.066)	(0.131)	(0.075)
Adv. Financial Literacy		0.023	0.020	0.198	-0.039
		(0.072)	(0.071)	(0.143)	(0.081)
Constant	1.633	0.607	0.903	0.285	1.147
	(0.098)***	(0.288)**	(0.298)***	(0.552)	(0.370)***
N	728	728	728	230	498
R^2	0.025	0.317	0.328	0.316	0.374
Adjusted R^2	0.029	0.094	0.115	0.104	0.121

Standard errors in parentheses. *Note:* The *debt-to-income ratio* is the ratio of the debt value and the yearly disposable income in 2007. Observations with a debt to income ratio above 20 are excluded. *Yes, Uncomfortable* is a 0/1 variable for the respondent being uncomfortable with debt where yes=1 and no=0. *Female* is a dummy variable for being female (1=female, 0=male). *Education* is measured by three dummy variables (elementary schooling, high school, university schooling [omitted category]). *Age* is divided into five dummy age categories (25–34 is the omitted category). *Mean disposable income* is the mean disposable income between 2007 and 2011 comprised of the sum of labor income, social benefits, and transfers. *Financial assets and real estate assets* are the sum of the market value of the financial and real estate assets, respectively, measured in 2007. S*ubjective Risk* (0-10) refers to responses to "Do you see yourself as a person who is fully prepared to take risks? Indicate your response on a scale from 0 to 10 where 0 means "not at all willing to take risks" and 10 means "very willing to take risks." *Basic* and *advanced financial literacy* is measured as the number of correct answers to each category of financial literacy, respectively; see Appendix Table 2 for further description. * p<0.10, ** p<0.05, *** p<0.01.

Table 6.
Mean Differences by Debt Attitudes and Indebtedness

Degree of indebtedness	Uncomfortable with Debt =yes	Parent Uncomfortable with Debt =yes	Debt to Income
Below median indebtedness	0.669***	0.711*	0.219***
Above median indebtedness	0.459	0.663	2.840

Standard errors in parentheses. Note that the median is a loan-to-income ratio at 0.920 and that respondents with a loan-to-income ratio above 20 are excluded.
* p<0.10, ** p<0.05, *** p<0.01 in within group t-test of mean difference.

Table 7.
OLS Regression Results for the Intergenerational Transmission of Debt Attitudes

	The dependent variable is equal to 1 if the respondent replies yes to the question "Do you feel uncomfortable with having debt?", and 0 if the respondent replies no.							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Yes, Parent Uncomfortable	0.423	0.349	0.312	0.295	0.431	0.384	0.336	0.319
	(0.036)***	(0.043)***	(0.052)***	(0.053)***	(0.036)***	(0.043)***	(0.051)***	(0.052)***
Daughter* UncomParent		0.133	0.206	0.225		0.085	0.183	0.202
		(0.041)***	(0.072)***	(0.073)***		(0.042)**	(0.071)**	(0.072)***
Female			-0.074	-0.022			-0.101	-0.051
			(0.060)	(0.066)			(0.059)*	(0.066)
Mother				0.100				0.088
				(0.050)**				(0.049)*
Mother*Daughter				-0.117				-0.117
				(0.068)*				(0.067)*
Elementary School					0.026	0.042	0.029	0.022
					(0.059)	(0.059)	(0.060)	(0.060)
High School					0.024	0.033	0.030	0.028
					(0.037)	(0.037)	(0.037)	(0.037)
Age 35–44					-0.007	-0.015	-0.017	-0.019
					(0.057)	(0.057)	(0.057)	(0.057)
Age 45–54					-0.063	-0.068	-0.065	-0.062
					(0.058)	(0.058)	(0.058)	(0.058)
Age 55–64					-0.200	-0.210	-0.208	-0.209
					(0.059)***	(0.059)***	(0.059)***	(0.059)***
Age 65–75					-0.048	-0.052	-0.052	-0.048
					(0.060)	(0.060)	(0.060)	(0.060)
Mean Disp. Income(2007–2011)					-0.002	-0.002	-0.002	-0.002
					(0.001)	(0.001)	(0.001)	(0.001)
Financial Assets					0.006	0.005	0.006	0.005
					(0.003)**	(0.003)*	(0.003)*	(0.003)*
Real Estate Assets					-0.002	-0.002	-0.002	-0.002
					(0.001)	(0.001)	(0.001)	(0.001)
Subjective Risk (0–10)					-0.029	-0.027	-0.027	-0.028
					(0.007)***	(0.007)***	(0.007)***	(0.007)***
Basic Financial Literacy					-0.019	-0.015	-0.017	-0.017
					(0.020)	(0.020)	(0.020)	(0.020)
Adv. Financial Literacy					-0.018	-0.014	-0.016	-0.017
					(0.022)	(0.022)	(0.022)	(0.022)
Constant	0.274	0.274	0.310	0.266	0.571	0.532	0.602	0.563
	(0.030)***	(0.030)***	(0.042)***	(0.047)***	(0.079)***	(0.081)***	(0.091)***	(0.093)***
N	728	728	728	728	728	728	728	728
R^2	0.157	0.169	0.171	0.176	0.220	0.224	0.228	0.231

Standard errors in parentheses. *Note*: *Yes, Parent Uncomfortable* is a 0/1 variable for the respondent answering that the parent is/was uncomfortable with debt where yes=1 and no=0. *Female* is a dummy variable for being female (1=female, 0=male). *Mother* refers to the question referring to the mother. *Mother*Daughter* refers to the interaction effect between a female respondent and the question referring to the mother. *Education* is measured by three dummy variables (elementary schooling, high school, university schooling [omitted category]). *Age* is divided into five dummy age categories (25–34 is the omitted category). *Mean disposable income* is the mean disposable income between 2007 and 2011 comprised of the sum of labor income, social benefits, and transfers. *Financial assets and real estate assets* are the sum of the market value of the financial and real estate assets respectively,, measured in 2007. S*ubjective Risk* (0–10) refers to responses to "Do you see yourself as a person who is fully prepared to take risks? Indicate your response on a scale from 0 to 10 where 0 means "not at all willing to take risks" and 10 means "very willing to take risks." *Basic* and *advanced financial literacy* is measured as the number of correct answers to each category of financial literacy, respectively; see Appendix Table 2 for further description. * p<0.10, ** p<0.05, *** p<0.01.

Appendix

Appendix Table 1.

	2014 Mean
Gender	
Female	0.54
Age	
Age 35 or below	0.17
Age 36–50	0.31
Age 51–65	0.31
Age 65+	0.22
Education	
Elementary School	0.11
High School	0.46
College	0.42
Nationality	
Sweden	0.88
*Mean Monthly Disposable Income**	
<=15 000 SEK	0.32
>15 000 SEK and <=20 000 SEK	0.24
>20 000 SEK and <=25 000 SEK	0.20
>25 000 SEK and <=30 000 SEK	0.11
>30 000 SEK and <=35 000 SEK	0.05
>35 000 SEK and <=40 000 SEK	0.03
>40 000 SEK	0.05
Do not know	0.11
*Financial Literacy**	
Total Number of three Advanced FL Question correct	1.99
Share with All three Advanced FL Questions correct	0.40
Share with Any DNK in three Advanced FL Questions	0.14
Correct Answer to Question on Interest rate Compounding (Q1)*	0.81
Corrrect Answer to Question on Inflation (Q2)	0.70
Correct Answer to Question on Diversification (Q3)	0.75
Observations	837

Appendix Table 2.
Questions Measuring Basic and Advanced Financial Literacy

Basic Financial Literacy					
Q1. If the chance of getting a disease is 10%, how many people of 1,000 would be expected to get the disease?	Correct Answer	Wrong Answer		Don't know	Don't want to answer
	83 %	9 %		7 %	1 %
Q2. A second hand car dealer is selling a car for 60,000 SEK. That is two thirds of what it cost new. How much did the car cost new?	Correct Answer	Wrong Answer		Don't know	Don't want to answer
	50 %	41%		7%	2%
Q3. If five people all have the winning numbers in the lottery and the price is 2 million SEK, how much will each of them get? (They divide the money equally)	Correct Answer	Wrong Answer		Don't know	Don't want to answer
	67%	22%		9%	2%
Advanced Financial Literacy	Reply Options				
Q1. Suppose you have 100 SEK in a savings account and the interest was 2 percent per year. After 5 years, how much do you think you would have in the account if you left the money to grow?	More than 102 SEK*	Exactly 102 SEK	Less than 102 SEK	Don't know	Don't want to answer
	81%	9%	5%	3%	2%
Q2. Imagine that the interest rate on your savings account was 1 percent per year and inflation was 2 percent per year. After 1 year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?	More than today	Exactly the same as today	Less than today*	Don't know	Don't want to answer
	11%	10%	70%	7%	2%
Q3. Do you think the following statement is true or false? "Buying a single company stock usually provides a safer return than a stock mutual fund.	True	False*		Don't know	Don't want to answer
	12%	75%		11%	2%

Notes: Financial literacy measures in survey 2014. * Correct answers.

Appendix Table 3.
Tobit Regression Results for the Choice of Indebtedness Measured by the Debt-to-Income Ratio in 2007

	Debt to Income ratio	*Debt to Income ratio*	*Debt to Income ratio*	*Debt to Income ratio*	*Debt to Income ratio*
	All	All	All	Parent not Uncomf	Parent Uncomf
Yes, uncomfortable	-0.769		-0.523	0.056	-0.797
	(0.156)***		(0.130)***	(0.289)	(0.159)***
Female		0.142	0.161	0.251	0.114
		(0.138)	(0.137)	(0.260)	(0.158)
Elementary School		-0.059	-0.049	-0.404	0.220
		(0.236)	(0.233)	(0.467)	(0.262)
High School		-0.010	0.007	0.394	-0.131
		(0.145)	(0.143)	(0.289)	(0.160)
Age 35-44		1.151	1.165	0.628	1.582
		(0.226)***	(0.224)***	(0.368)*	(0.282)***
Age 45-54		0.823	0.823	0.242	1.151
		(0.227)***	(0.225)***	(0.394)	(0.278)***
Age 55-64		0.815	0.769	0.332	0.983
		(0.230)***	(0.228)***	(0.440)	(0.277)***
Age 65-75		0.237	0.274	-0.204	0.484
		(0.238)	(0.236)	(0.479)	(0.281)*
Mean Disp. Income(2007-2011)		-0.045	-0.056	-0.048	-0.088
		(0.056)	(0.055)	(0.086)	(0.074)
Financial Assets		-0.119	-0.117	-0.092	-0.129
		(0.016)***	(0.016)***	(0.030)***	(0.020)***
Real Estate Assets		0.084	0.083	0.094	0.081
		(0.005)***	(0.005)***	(0.011)***	(0.006)***
Subjective Risk (0-10)		0.038	0.021	0.020	0.024
		(0.028)	(0.028)	(0.053)	(0.032)
Basic Financial Literacy		0.010	0.001	0.055	-0.016
		(0.078)	(0.078)	(0.152)	(0.087)
Adv. Financial Literacy		0.101	0.097	0.211	0.052
		(0.085)	(0.084)	(0.166)	(0.095)
Constant	1.496	-0.324	0.072	-0.476	0.364
	(0.116)***	(0.346)	(0.355)	(0.652)	(0.433)
Sigma	2.031	1.658	1.640	1.780	1.522
	(0.061)***	(0.049)***	(0.049)***	(0.094)***	(0.055)***
Left-censored	139	139	139	43	96
N	728	728	728	230	498

Standard errors in parentheses. *Note*: *Yes, Uncomfortable* is a 0/1 variable for the respondent answering that he or she is uncomfortable with debt where yes=1 and no=0. *Female* is a dummy variable for being female (1=female, 0=male). *Education* is measured by three dummy variables (elementary schooling, high school, university schooling [omitted category]). *Age* is divided into five dummy age categories (25–34 is the omitted category). *Mean disposable income* is the mean disposable income between 2007 and 2011 comprised of the sum of labor income, social benefits, and transfers. *Financial assets and real estate assets* are the sum of the market value of the financial and real estate assets, respectively, measured in 2007. S*ubjective Risk* (0–10) refers to responses to "Do you see yourself as a person who is fully prepared to take risks? Indicate your response on a scale from 0 to 10 where 0 means "not at all willing to take risks" and 10 means "very willing to take risks." *Basic* and *advanced financial literacy* is measured as the number of correct answers to each category of financial literacy, respectively; see Appendix Table 2 for further description. * p<0.10, ** p<0.05, *** p<0.01.