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ATTITUDES TOWARD DEBT AND DEBT BEHAVIOR

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ABSTRACT

We introduce a novel survey measure of attitude toward debt. Matching our survey results with panel data on Swedish household balance sheets from registry data, we show that our debt attitude measure helps explain individual variation in indebtedness as well as debt build-up and consumption behavior in the period 2004–2007. As an explanatory variable, debt attitude compares well to a number of other determinants of debt, including education, risk-taking, and financial literacy. We also provide evidence that debt attitude is passed down along family lines and has a cultural element.

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1. Introduction

The purpose of this study is to shed more light on the microfoundations of household debt behavior. Cross-country comparisons based on microdata indicate considerable heterogeneity in how households in different countries use debt. For example, Bover et al. (2016, p.71) report that "nearly half of all Dutch households hold secured debt, while only one in ten Italian households do. Debt-to-income ratios of Austrian debtholders are three times smaller than those of Dutch households." Moreover, the level of indebtedness of households has increased markedly in the past two decades. Understanding how households use debt is important for understanding macroeconomic dynamics. A standard starting point for economic analysis of household debt is a life-cycle/permanent income model in which debt is used to smooth consumption over the life cycle. However, this model and its extensions, which include other motives to save, have not been able to explain the many findings we observe in the data.

Our hypothesis is that, in addition to standard microfoundations, interpersonal differences in debt attitude may play a role in how households use debt. Specifically, debt behavior may also reflect a learned affective response that makes some individuals less inclined to take on debt.[6] By *affective* we mean a response to an object (debt) that reflects how the respondents feels about that object. To dislike or be uncomfortable with something are examples of negative affective responses. In other words, individuals may have different attitudes toward debt, with some having a more negative attitude. Keep in mind that in many languages, the words for "debt" are often synonymous with "sin" or "guilt," and several religions, including Christianity and Islam, have condemned interest on loans (Graeber, 2013).

[6] For an in-depth discussion of learned affective responses and other definitions of attitudes, see Fishbein and Ajzen (1975).

Our study makes three contributions to the understanding of debt behavior. Our first contribution consists of a novel survey measure of debt attitude. While a link between attitudes and debt has previously been explored using data from the US Survey of Consumer Finances (SCF), our study used a simpler and more general question that focuses on the subject's affective response. Compared to the question on the SCF, expressed in terms of whether it is a good idea to buy things on an installment plan, and a related set of more specific questions that link debt to a particular purpose, such as buying a car (see Chien and Devaney, 2001, for details), our measure avoids contract-specific terms such as "installment plan" that risk confounding attitudes toward debt and attitudes toward repayment. However, our survey also includes the SCF questions about using debt for specific purposes, and we show that our general measures align well with these questions, too. Another advantage of our work is that we collect data on a representative sample of Swedish individuals, rather than on a small pilot sample or students. We find there is a good deal of interpersonal variation in responses, and these differences in measured attitudes map to differences in debt behavior. Specifically, those who are uncomfortable with debt have considerably lower ratios of debt to income, 1.24 compared to 1.71. The difference is sizeable; on average, it is a bit more than half a year's disposable income. In addition, there are striking differences in debt attitudes across age groups and between men and women.

Our second contribution is that, by combining the survey results with information from registry data on household balance sheets, we are able to show that the variation in debt attitude help explain variation in debt behavior. Variation in debt attitude also sheds some light on heterogeneity in the evolution of households' indebtedness over time. We use registry-based panel data on Swedish household balance sheets covering the period 2004–2007, allowing us to accurately measure levels of and changes in debt, and to impute consumption expenses using the residual method (e.g., Browning and Leth-Petersen, 2003; Koijen, Van Nieuwerburgh, and Vestman, 2015).

Sweden represents a good laboratory to study debt because, as one of the Nordic countries, it has a relatively equal distribution of income. Notably, Swedish household debt as a share of disposable income has nearly doubled in two decades, rising from about 90 percent in 1995 to about 180 percent in 2018,[7] a debt build-up that may have macroeconomic implications (see, for example, Mian and Sufi, 2018). In terms of the estimated effect size, our debt attitude measure compares well with the effect of a number of important variables. For example, the coefficient estimate of the debt attitude measure is of the same magnitude as the difference between respondents with only an elementary education and those with a university education.

The third contribution of this paper is compelling evidence that the general debt attitude that we measure is, at least in part, a cultural factor that is passed down along family lines.[8][9] Specifically, we study the intergenerational transmission of debt attitudes by asking survey respondents about their parents' attitudes toward debt. Parents play an important role in fostering learned responses in their children, such as social norms (Maccoby, 1992). Parental attitudes have been found to predict children's savings beyond what is normally explained by demographics and income (Knowles and Postlewaite, 2005). Other studies that have found support for intergenerational – and

[7] A brief background on household debt in Sweden is provided in the online appendix.
[8] In many countries, governments or civil society have propagated social norms that encourage thrift (Garon, 2013).
[9] One way to think about such transmission is that debt attitudes may be similar to social norms, as opposed to the fast-moving effect of social interactions (the latter have been examined in relation to debt by, for example, Georgarakos et al., 2014). Intra-family correlations could also reflect genetic factors or correlated environmental factors other than culture. Recent research using data on adopted children and their biological and adoptive parents, to separate genetic from environmental effects, has found that environmental influences are important for financial saving behavior (Black et al., 2019). Our data do not allow us to disentangle these influences at the individual level.

cultural, as opposed to purely biological – transmission of economic preferences include Fernàndez et al. (2004), Dohmen et al. (2012), and Alan et al. (2017).

Recent research has addressed links between culture and debt in a household portfolio context based on cross-country comparisons (Breuer et al., 2012). This research aligns with ours in that it points to substantial cross-country variation in the composition of household portfolios, including the use of debt, when controlling for institutional differences (Bover et al., 2016) and when comparing individuals with similar characteristics (Christelis et al., 2013). A related strand of research examines the financial decision making of first- and second-generation immigrants. Early studies (e.g., Carroll et al., 1994) found little support for a link between immigrants' cultural origins and financial decision making but recognized that this may have reflected data limitations. Recent, data-rich work finds stronger links. For example, Haliassos et al. (2017) compare the financial behavior of non-immigrant Swedish households to that of immigrant households, grouped by cultural dimensions, and find differences in financial behavior between immigrant groups and Swedish households. Similarly, Fuchs-Schündeln et al. (2017) study the saving behavior of second-generation immigrants and how those behaviors relate to the attitudes and beliefs in the respective countries of origin. They find second-generation immigrants from countries that value thrift and wealth accumulation tend to save more in the host country. By linking parents to their children, they also show that these attitudes are related to the saving behavior of both parents and children. Guin (2017) examines the role of culture on household saving decisions by looking at historical language borders within Switzerland. He shows that households located in the German-speaking region are much more likely to save than similar households in the French-speaking region.

A motivation for relating personal finance to culture is the large observed differences between countries, for example in terms of credit arrangements (Badarinza et al., 2016). Differences in credit market development or tax rules are unlikely to fully explain large cross-country differences in, for example, credit card use, the pervasiveness of mortgages, or the dominance of adjustable or fixed rate mortgages (Campbell, 2013).

Our main results are as follows: A high percentage of respondents in our sample (56 percent) report that they are uncomfortable with debt; thus, this attitude is widespread and can play an important role. General debt attitude helps explain individual variation in debt levels, even after accounting for a rich set of observable characteristics from both survey and registry data. Individuals who report being uncomfortable with debt have lower debt-to-income ratios. On average, the difference in debt-to-income correlated with being uncomfortable with debt is about one half of annual disposable income. General debt attitude also helps explain individual variation in debt build-up and consumption in the period 2004–2007. Individuals who report being uncomfortable with debt consume less than other individuals. As further evidence of the importance of this attitude, we found there is a strong correlation between respondents' and parents' attitudes toward debt, suggesting a cultural component to debt attitude that is transmitted along family lines. The correlation is stronger for respondents that report discussing personal finances with their parents.

We also find that foreign-born respondents are considerably more likely to be uncomfortable with debt, controlling for socioeconomic variables. This lends further support to the view that there is a cultural component to debt attitude (see also Haliassos et al., 2017). Our analysis is not intended to be a rejection of the standard theory of consumption and saving but, rather, an extension. Allowing for preference heterogeneity (Gomes and Michaelides, 2005; Vestman, 2018) or varying levels of financial literacy (Lusardi, Michaud and Mitchell, 2017) gives rise to richer patterns of saving and borrowing than can be explained by the standard life-cycle model alone. Our results suggest that debt attitudes, in addition to reasons that include liquidity constraints and impatience, may help to explain why households do not always smooth consumption over the life cycle.

The paper proceeds as follows. Section 2 provides a short description of our survey, while the registry-based data that we used is described in section 3. Descriptive statistics are provided in section 4, and in section 5, we report the findings from our empirical analysis. In section 6, we perform a set of robustness checks. In section 7, we provide concluding remarks.

2. The survey

We collected our data in the fall of 2014 using a telephone survey carried out by Statistics Sweden.[10] The survey was targeted at individuals, rather than households, and participation was not conditional on being the household's main financial decision maker. The sample is representative of the Swedish population age 25–75[11] and it consists of 390 men and 454 women (46 and 54 percent, respectively); Table 1 in the online appendix reports mean values of the main variables in the sample.

Survey questions

The survey we designed contains a set of new questions not commonly present in national surveys, including questions about attitudes toward debt. To measure general debt attitude we first sought to elicit respondents' affective response to debt by using the following question:

[10] 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. The survey was carried out by Statistics Sweden through a subcontractor (Mind Research AB). One of the survey's objectives is to better understand household debt behavior.

[11] The sample was generated using the registry 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.

- *Do you feel uncomfortable with having debt?*

This is a simpler, more general debt attitude measure than the question that was, for a time, included in the SCF, which asks whether it is a good idea to buy things on an installment plan. Contract-specific terms such as "installment plan" risk confounding attitudes toward debt with preferences for repayment.

A related issue is whether people consider it appropriate to borrow money for specific purposes. Previous research indicates that attitudes toward debt depend in part on what the debt is used for (Chien and Devaney, 2001). We asked five questions, closely based on questions asked in the 1998 US Survey of Consumer Finances, about whether survey participants consider it appropriate to borrow money for different purposes (see Table 1a). [12]

At the policy level, there has been widespread concern that many Swedish mortgage holders do not pay down the principal on their mortgages, or do so very slowly (Finansinspektionen, 2015), thus carrying mortgage debt for a long period, possibly over their entire life cycle. We included a question about the importance of paying down the principal, which is related de facto to debt (see Table 1a for the full description of the list of possible answers):[13]

> *Which one of the following statements do you think best describes how a person with a mortgage should handle their mortgage loan?*

Our survey also 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. This

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[12] The only difference is in the first question, which in the 1998 SCF specified buying a fur coat or jewelry. We changed the wording slightly because, while the objects are intended as a proxy for luxury goods in general, responses could simply reflect opposition to fur coats. See Chien and Devaney (2001).

[13] If many respondents report that it is not important to pay off a mortgage, this provides further motivation for our approach to measuring general debt attitudes, which does not mention the terms of repayment.

information helps explains where attitudes toward debt may come from. First, we asked about the general debt attitude of survey participants' parents:

- *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 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.

Finally, to get a sense of the extent to which people discuss personal financial matters with their family members compared to colleagues and friends, 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?*

We also asked a number of questions related to personal finances, including measures of risk aversion, long-term savings, and financial literacy (see the survey questionnaire in the online appendix).

3. Registry data

We match individuals in the survey to registry-based data. Doing so allows us to shed more light on who is uncomfortable with debt. It also allows us to link our survey measure of general debt attitude to actual debt, consumption, and saving behavior.

Statistics Sweden provided detailed information on individuals' balance sheets for 2003 to 2007.[14] The debt value is observed per lender but contractual terms beyond the current value and the interest expense paid in the year are not available. Statistics Sweden also provides information on sociodemographic variables such as country of birth, gender, education, age, and disposable income (gross labor income and pension income plus transfers minus taxes), which are important control variables.

Based on this information, we constructed an imputed measure of consumption from the budget constraint for each individual (Browning and Leth-Petersen, 2003; see also Koijen, Van Nieuwerburgh, and Vestman, 2015). This enabled us to analyze the impact on consumption and savings of differential debt behavior. What we measure is as follows:

$$c_{it} + r_{it}^{d} d_{it-1} = y_{it} + a_{it-1}(1 + r_{t}^{a}) - a_{it} + h_{it-1}\left(1 + r_{it}^{h}\right) - h_{it} - d_{it-1} + d_{it} + y_{it}^{k} \quad (1)$$

where the left-hand side denotes consumption expenses on goods and services and interest expenses in year t, y_{it} denotes disposable income, $a_{it-1}(1 + r_{t}^{a}) - a_{it}$ denotes the savings flow in financial assets in year t, $h_{it-1}\left(1 + r_{t}^{h}\right) - h_{it}$ denotes the flow into housing (e.g., home improvements), $-d_{it-1} + d_{it}$ denotes the growth in debt, and y_{it}^{k} denotes additional sources of capital income.

Using data from 2003 to 2007, we impute consumption from 2004 to 2007. For practical reasons, we impose some sample restrictions. Transaction values of houses and apartments, returns on housing, and home improvements are not measured accurately in our data set so we exclude individuals in t if they change housing tenure status between t-1 and t or if a homeowner changes

[14] See Koijen, Van Nieuwerburgh, and Vestman (2015) and Vestman (2019) for basic information about the Swedish wealth data set.

primary address. With these restrictions in place, we choose to set $h_{it-1}(1 + r_{it}^h) - h_{it} = 0$.[15] In total, we impute consumption in at least one year for 704 individuals, which amounts to 2324 individual-year observations, covering the period 2004–2007. Our baseline sample on debt and other registry-based outcomes has 708 individuals and 2480 individual-year observations.[16]

4. Descriptive statistics

Our findings are striking: More than half of respondents in our sample (56 percent) report being uncomfortable with debt (Table 1a). This is a high proportion, showing that our debt attitude measure has the potential to play an important role. We also note a gender difference in comfort with debt: Women are more likely than men to be uncomfortable with debt.

Table 1a about here

Table 1a also shows that respondents' attitudes toward debt are dependent on the purpose of the debt. For example, most respondents consider debt to be OK for buying a car or for educational purposes, but very few (6%) consider it OK to cover household expenses. Thus, some respondents may not follow the dictate of the life cycle model, if consumption smoothing may involve taking on debt. Regarding management of mortgage loans, the large majority of respondents (84 percent) consider it appropriate to pay down the principal. Respondents who are uncomfortable with debt are less likely to consider it OK to take on debt for various purposes.[17] Respondents who are

[15] In addition, we follow Koijen, Van Nieuwerburgh, and Vestman (2015) and exclude, in each year, observations that belong in the top and bottom one percent of disposable income and observations that are in the top and bottom one percent of changes in net worth. We also exclude negative values of consumption. One difference to Koijen, Van Nieuwerburgh, and Vestman (2015) is that we impute consumption at the level of the individual rather than at the level of the household, which is likely to exacerbate the measurement error due, for instance, to intra-household transfers.

[16] This is after excluding a few outliers on the debt-to-income ratio (values above 20).

[17] The exception is taking on debt to cover household expenses, where those who report being uncomfortable with debt are slightly more likely to consider it OK.

uncomfortable with debt are also 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 1b about here

When asked about the attitudes of their parents, 62 percent of respondents reported that their parents are/were uncomfortable with debt, an even larger share than among the respondents themselves. Figure 1 illustrates the observed cohort pattern by showing the share of respondents reporting that they are uncomfortable with debt or that a parent was uncomfortable with debt (by birth cohort of the respondent and the respondent's parent, excluding those who responded "do not know" or "do not want to answer"; we also report the 95% confidence intervals). Younger cohorts are less likely to be uncomfortable with debt compared to older cohorts. While this suggests that the share of the population that is uncomfortable with debt could be declining over time, our survey data is cross-sectional and so does not allow us to distinguish between time and cohort effects. Similarly, if we were to look across age (of respondents and parents), we could not disentangle age from cohort effect.

Figure 1 about here

In the parents' generation as well, mothers were less comfortable with debt than fathers; both male and female respondents recognized that about their mothers (Table 1b). And like their mothers, female respondents continue to be more uncomfortable with debt than male respondents. The large majority (70 percent) of respondents in our sample 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 intergenerational transmission of attitudes toward debt can be quite influential for women. Conditional on having children, the majority (about 58 percent) of respondents 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.[18]

Consistent with the notion of intergenerational transmission of attitudes, we observe a strong correlation between the respondent being uncomfortable with debt and his/her parents' attitude toward 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.[19] The correlation with parents is much stronger for women (0.495, p-value <0.0001) than for men (0.293, p-value <0.0001).[20]

Table 2 about here

Table 2 reports summary statistics of survey and registry-based variables for individuals who report being comfortable with debt (columns 1 and 2) and uncomfortable with debt (columns 3 and 4).

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[18] Females are more likely to discuss financial matters with their daughters (41%) compared to fathers with daughters (35%), the difference is, however, not statistically significant (p-value=0.1076).

[19] Dividing this by gender of the respondent, we find that the correlation between females who 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.

[20] Some of these findings mirror some of the results in the literature that investigates the intergenerational transmission of risk preferences. For example, Alan et al. (2017) find that the risk preferences of mothers are correlated with the risk preferences of daughters but not of sons. This is why it is important to account for risk preferences in our empirical work.

Women and older respondents (people age 65–75) are more likely to report being uncomfortable with debt. Consistent with debt attitudes having a cultural component, we find that respondents that are foreign born or have at least one foreign-born parent are more likely to be uncomfortable with debt. Respondents who are uncomfortable with debt have less education and lower disposable income. They are less patient, have slightly lower levels of financial literacy (see Appendix Table 2, in the online appendix, for the measure of financial literacy used in our work), and report being less willing to take risk compared to those who do not feel uncomfortable with debt. They also have slightly lower disposable income, consumption, and real estate assets but the same amount of net wealth and financial assets, indicating that less real estate wealth on the asset side of the balance sheet is mirrored by less debt on the liability side.

Table 3 about here

Table 3 shows that debt attitude differences are related to differences in debt behavior. Seventy-two percent of respondents who report that they are uncomfortable with holding debt have debt, whereas 89 percent of respondents who report not being uncomfortable with debt have debt. Similarly, we find that 48 percent of individuals who report being uncomfortable with debt hold a mortgage whereas 72 percent of individuals who report not being uncomfortable hold a mortgage. The difference in total debt between the groups is approximately 110,000 SEK, of which 43,000 is non-mortgage debt.[21] There are also difference in these two groups regarding the number of creditors' contracts (2.03 versus 2.61) and debt-to-income ratio (1.24 versus 171). Interest expenses

[21] 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. (forthcoming).

are higher (13,700 vs 8,700) for those who are not uncomfortable with debt, even among those who do not have mortgages (5,900 vs. 3,500).

5. Regression results

To further investigate the impact and economic importance of our debt attitude measure, we also perform a regression analysis. The starting point is an OLS regression with debt as the dependent variable and a set of controls that are relevant to debt choice, as predicted by the life-cycle model. We can write this as:

$$D_{it} = \beta_0 + \beta_1 U_i + \beta_2 X_{it} + \pi_t + \varepsilon_{it} \qquad (2)$$

where D_{it} denotes our outcome variable for debt, U_i is a dummy variable that indicates whether the respondent is uncomfortable with debt, X_{it} is a set of covariates that determine debt holdings, π_t are year fixed effects, and ε_{it} is an error term. Our coefficient of interest is β_1. If being uncomfortable with debt has no effect on debt choice once we control for the socioeconomic variables normally included in intertemporal models, we should find that $\beta_1 = 0$.

Table 4 about here

Table 4 reports our main results on debt behavior. The estimates reported in the first column show a difference in the debt-to-income ratio of 0.62 between respondents that report being uncomfortable versus comfortable with debt. Adding control variables only slightly reduces the coefficient on being uncomfortable with debt, to 0.52.[22]

[22] The coefficient on being uncomfortable continues to be statistically significant (p-value=0.002) if we estimate a probit regression on the probability of having any debt using the same control variables as in column 2, Table 4. See Appendix Table 3 in the online appendix.

In other words, even after controlling for socioeconomic variables including age, education, and income, those who are uncomfortable with debt have considerably lower debt-to-income ratios. Thus, our measure has an effect above and beyond, for example, education and risk preferences. The difference is not trivial: on average, it represents a bit more than half a year's disposable income. The coefficient on our attitude measure is of the same magnitude as the difference between respondents with an elementary education and those with a university education (the latter have higher debt to income ratios), or equivalent to going from the lowest value to the highest value on our measure of risk-taking (scale 0–10). Aside from debt attitude, age appears to be a strong driver of debt to income ratios. Our estimates suggest a hump-shaped pattern, consistent with life-cycle smoothing.[23]

Some of the variables included in the regressions, for example financial literacy or disposable income, may be endogenous. We do not have good instruments to account for that endogeneity. However, the purpose of this descriptive analysis is to show that our measure is able to explain debt, even after accounting for an extended version of the life-cycle model and adding many controls to our regression analysis.

The years 2004–2007 marked a steady rise in housing prices and a build-up of household debt in Sweden. Column (3) of Table 4 indicates that individuals who are uncomfortable with debt increased their debt-to-income ratios by 0.12 less in each year. This corresponds to an increase of 8 log points per year (column (4)). It also amounts to a difference in debt growth of SEK 10,400

[23] We have also estimated the correlation between the parents' level of indebtedness and respondent reports of whether the parent is uncomfortable or not with debt. We find that fathers and mothers who are uncomfortable with debt also have statistically significantly lower levels of indebtedness. Findings are not reported in a table but available upon request.

per year (column (5)), or 7 log points per year (column (6)). Cumulatively, the difference amounts to SEK 43,000 (column (7)).

Table 5 about here

Table 5 explores how the differences in debt behavior impact consumption and saving behavior, using the decomposition in equation (1). Panel A reports estimates without any control variables. Individuals who report being uncomfortable with debt consume SEK 36,200 less per year (column (1)). Of this difference, SEK 6,200 can be attributed todifferences in interest expenses (column (2)). Slightly more than half of the difference in consumption, i.e., SEK 22,800, is due to differences in disposable income (column (3)). The remainder, SEK 12,000, is due to differences in growth in debt (column (4)). In contrast, there are no substantial differences in financial savings (column (5)) or capital income (column (6)) which indicates that our survey measure captures an attitude toward debt rather than prudence. Panel B adds many control variables. While the estimated effects of being uncomfortable with debt are smaller, the qualitative pattern is the same. [24]

Table 6 about here

Table 6 reports differential changes to individuals' balance sheets from 2004 to 2007. Individuals who report being uncomfortable with debt increase their debt by SEK 10,400 less per year, controlling for observable differences (including differences in disposable income). This lower rate of growth in debt is almost perfectly matched in magnitude by a lower rate of growth in housing wealth, though the difference is not statistically significant (column (3)). In contrast, there is no

[24] The patterns are also robust to controlling for disposable income (see Appendix Table 4 in the online appendix).

marked difference in accumulation of financial wealth (column (2)). Columns (4) to (6) report growth rates over the entire 2004–2007 period and the estimates are qualitatively similar.

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 be causality in the reverse direction. One possible way to address endogeneity is to use the attitude of an individual's parents as an instrument for the individual's own preferences. The attitude of parents is outside of the control of the individual and, as reported in Table 1a, there is a strong correlation between a respondent's attitudes and the attitudes of his/her parents. We use this instrument in the first three columns in Table 7. In addition, we consider other specifications for the instrument based on which parent is uncomfortable and an interaction term with gender in the remaining columns we also include a dummy for the respondent being foreign born. The F-values from the first stage regressions indicate that the instrument(s) have predictive power. The IV estimates indicate that the effect of the debt attitude continues to be negative (it is statistically significant at the 10% level in three cases) and is even larger in magnitude than indicated in the OLS regressions.

6. **Robustness checks**

We performed a number of robustness checks. Because we had to drop some observations in the empirical regressions, we compared the sample used in the regressions compare with the original sample and find that the composition is very similar (see Appendix Tables 5 and 6 in the online appendix). Moreover, because the question about parents' debt attitudes is asked of the respondent and not of the parent directly, one may worry that respondents' answers do not accurately reflect the attitude of his or her parents or conform to his or her view. Note, however, that a number of respondents who indicate that they themselves are not uncomfortable with debt indicate that their parents were uncomfortable with debt, and vice versa. Moreover and importantly, we are able to look at the debt of parents in addition to the debt of the respondent. In Appendix Table 7 in the online appendix, we show that the attitude of parents does explain some of the variation in the parents' debt behaviour. Thus, this variable has predictive power in the expected way.

To show that our measure is not capturing other respondent characteristics, such as preference for risk, we also perform a "placebo test" and an OLS regression, as in Table 4, but using stock market participation as the dependent variable (proxied by whether the respondent reports having directly held stocks). Appendix Table 8 in the online appendix shows that, as expected, being uncomfortable with debt is not related to stock market participation.

Finally, to further explore how debt attitude varies by culture, we look at foreign-born respondents. In Appendix Table 9 in the online appendix, we shows that foreign-born respondents are more likely to be uncomfortable with debt compared to non-foreign born respondents, even when we control for many of the demographic characteristics considered in the OLS regressions. Thus, our measure may be related to culture and thus may point to the importance of culture in explaining differences in financial behavior, as in Haliassos et al. (2017).

7. Conclusions

We introduce a simple and novel measure of general attitude toward debt. We find that many people report being uncomfortable with debt, and this attitude helps explain debt behavior. While our reduced form framework explains only some of the observed differences in debt behavior, the general debt measure has an impact similar to education or risk taking. In addition, we find a strong correlation between the debt attitudes of respondents and their parents, which suggests that there is a cultural component to debt attitudes that is transmitted from one generation to the next, along family lines. That foreign-born respondents are much more inclined to respond that they are uncomfortable with debt lends further support for there being a cultural element to debt attitudes.

Our results are related to an extensive literature on the determinants of household intertemporal behavior. In a survey of economic research on saving behavior, Browning and Lusardi (1996) identify nine different motives for saving. The list blends standard economic motivations related to consumption smoothing with motivations of a more psychological nature, such as greed. Many of these motives seem relevant for debt choices, too. Clearly, many debt choices can be motivated by the desire to smooth consumption, manage short-term shocks, or make productive investments (for example, in human capital). But here, too, psychology can be expected to play a part. For example, some individuals may borrow because they are tempted to; i.e., they lack self-control. Our findings suggest an additional determinant: that people may decide to save or may refrain from borrowing because they have a learned, affective response to debt that makes them less disposed to take it on.

Our line of enquiry is related to the question of whether individual debt choices may be affected by social norms. Previous economic research has linked social norms to decision areas such as consumption patterns (Elster, 1989) or work effort (Lindbeck and Nyberg, 2006). Our analysis takes a small step toward extending this analysis to household debt, but without testing the social norm hypothesis directly. Our line of enquiry is similar in spirit to the analysis by Thustrup Kreiner et al. (forthcoming), which has rich data on economic outcomes. Our analysis contributes to the literature with a novel and more direct measure of financial attitudes and their correlation across generations.

While certain social norms, such as those against cheating or free-riding, may mitigate moral hazard or time inconsistency problems, resulting in more efficient outcomes, social norms that discourage borrowing are not by definition good or bad. If not managed properly, debt can lead to financial distress, (Lusardi and Tufano 2015), so a social norm that causes individuals to take on less debt could be welfare improving. At the aggregate level, there might be negative externalities from high household debt, for example through increased financial and macroeconomic vulnerabilities (Mian and Sufi, 2018).

Our findings relate to the literature of the effect of culture on financial behavior (Haliassos et al., 2017; Fuchs-Schundeln et al., 2017; and Guin, 2017) by indicating that debt behaviour can be influenced by culture.

Our findings may have implications for research that aims to develop a better understanding of economic inequality and gender differences as drivers of financial behavior. If families play an important role in passing on social norms that shape debt attitudes, then families also contribute to intergenerational persistence in economic outcomes. A large body of research has documented such persistence (see, for example, Björklund and Jäntti, 2009), finding that family background explains from one-fifth to one-half of the variance in long-run income (Corak, 2013).

Household debt is an important issue in many countries, and it is important that we improve our understanding of its determinants. Our finding that debt attitudes may be one such determinant should not be interpreted as a rejection of the standard theory of consumption and saving, but as an indication that further research on debt attitudes might be a fruitful way to shed light on elements of debt choice that are not captured well by a simple consumption-savings model. We encourage further research in this area.

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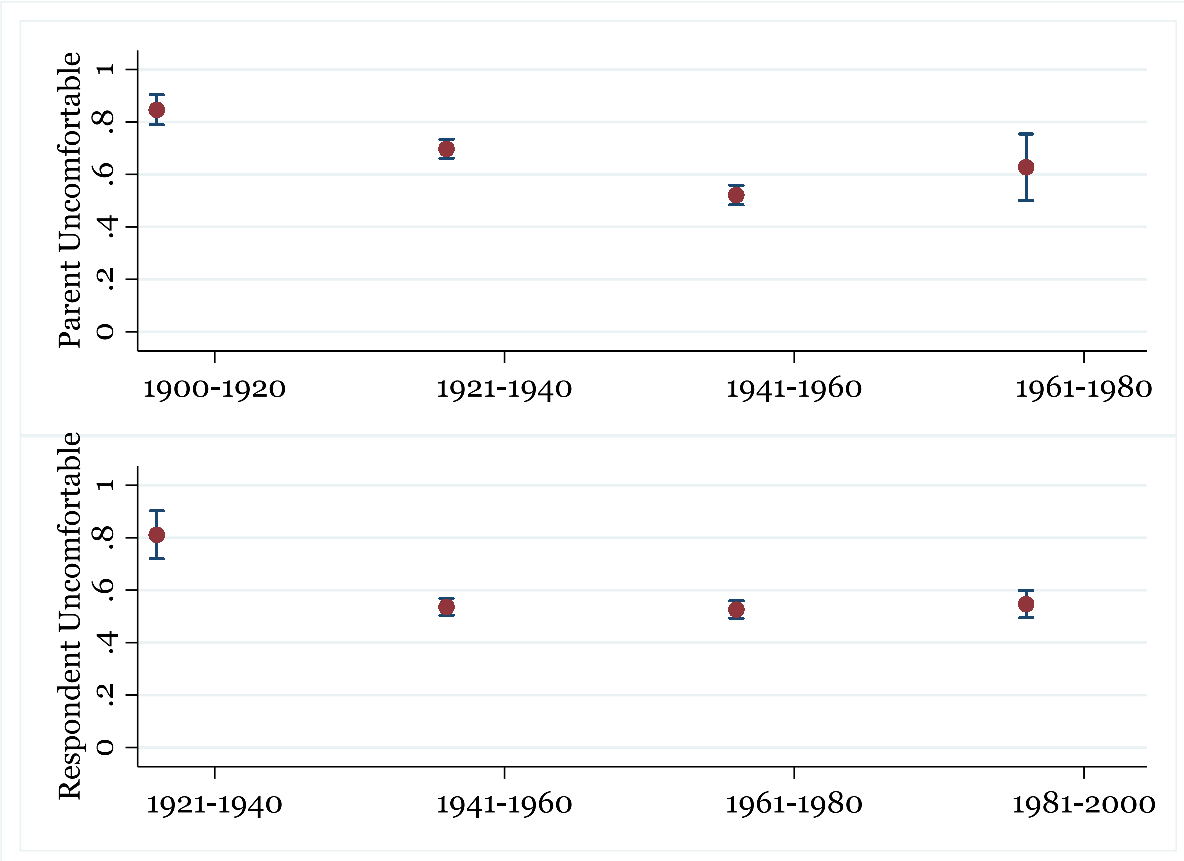

Figure 1. Debt attitudes over birth cohorts: top panel (parent uncomfortable) and bottom panel (respondent uncomfortable) with 95% confidence intervals

Tables

Table 1a.
Descriptive Statistics of Survey Questions on Debt Attitudes

	All	Male	Female
Q: Do you feel uncomfortable with having debt?			
Yes	0.560	0.520**	0.596
No	0.425	0.470	0.386
Do not know	0.010	0.007	0.011
Do not want to answer	0.005	0.003	0.007
Observations	834	388	446

	All	Uncomfortable with debt	Not uncomfortable with debt
Q: Do you consider it OK to take on debt in order to…			
	Answered Yes	Answered Yes	Answered Yes
…buy expensive clothes or jewelry?	1.1 %	0.9%	1.4%
…pay for a vacation?	4.8 %	4.1%	5.6%
…cover 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%

	All	Uncomfortable with debt	Not uncomfortable with debt
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 important 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%

*/**/*** indicates statistical significant differences in t-tests of group means at levels * p<0.10, ** p<0.05, *** p<0.01
Notes: The sample consists of all individuals that responded to the survey and who responded to the debt attitude question.

Table 1b.
Descriptive Statistics of Survey Questions on Information Transmission on Personal Financial Matters

				Q: Do you feel uncomfortable with having debt?	
	All	Male	Female	No	Yes
Qa: 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	0.684	0.667	0.700		
No	0.243	0.257	0.230		
Do not know	0.068	0.071	0.065		
Do not want to answer	0.005	0.005	0.005		
Observations	427	210	217		
Qb: 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	0.560	0.506*	0.603		
No	0.332	0.376	0.297		
Do not know	0.093	0.107	0.083		
Do not want to answer	0.015	0.011	0.017		
Observations	407	178	229		
Combined (Qa+Qb)					
Yes	0.623	0.591	0.649		
No	0.287	0.312	0.265		
Do not know	0.080	0.089	0.074		
Do not want to answer	0.010	0.008	0.012		
Observations	834	388	446		
Q: Do you often discuss personal financial matters with your … ?: (n=841 out of 844)					
family (n=841 out of 844) (reply option yes or no)					
Yes [a]	0.70	0.69	0.71	0.69	0.71
friends and acquaintances (n=841 out of 844) (reply option yes or no)					
Yes [a]	0.22	0.22	0.22	0.21	0.22
colleagues (n=840 out of 844) (reply option yes or no)					
Yes [a]	0.13	0.17***	0.09	0.17	0.10
Q: If you have one or more daughters, do you discuss personal finances with them?(n=417out of 421)					
Yes [a]	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 [a]	0.38	0.40	0.37	0.41	0.38
No	0.27	0.27	0.27	0.23	0.29
Do not have sons	0.35	0.33	0.36	0.36	0.33
Q: Does your mother discuss personal finances with you, or if she is deceased, did she use to discuss personal financial matters with you?(n=412 out of 421)					
Yes [a]	0.45	0.40*	0.49	0.44	0.44
No	0.55	0.60	0.51	0.56	0.56
Q: Does your father discuss personal finances with you, or if he is deceased, did he use to discuss personal financial matters with you? (n=411 out of 422)					
Yes [a]	0.35	0.37	0.34	0.32	0.36
No	0.65	0.63	0.66	0.68	0.64

*/**/*** indicates statistical significant differences in t-tests of group means by gender at levels * p<0.10, ** p<0.05, *** p<0.01.
Notes: [a] The shares are calculated excluding those who answered “do not want to reply” or ”do not know”.

Table 2
Descriptive Statistics of Demographic, Income, Financial literacy, Preferences and Wealth Characteristics

	Q: Do you feel uncomfortable with having debt?			
	No	No	Yes	Yes
	Mean	Median	Mean	Median
Gender				
Female	0.40**		0.60	
Male	0.49**		0.51	
Age groups				
25–34	0.16		0.17	
35–44	0.18		0.20	
45–54	0.25		0.20	
55–64	0.25***		0.17	
65–75	0.16***		0.26	
Foreign born				
Foreign born (not born in Sweden)	0.54***		0.73	
Any foreign born parent (not born in Sweden)	0.49***		0.66	
Education				
Elementary School	0.15*		0.20	
High School	0.47		0.48	
College	0.38*		0.32	
Preferences and Financial Literacy				
Subjective Risk (0–10)	4.61***		3.75	
Patience (Long term saving)	0.80***		0.71	
Nr of Basic financial literacy correct	2.16		1.97	
All correct Basic FL	0.44		0.39	
Nr of Advanced financial literacy correct	2.38*		2.24	
All correct Adv FL	0.57		0.48	
Nr of DNK in Basic FL	0.13		0.21	
Nr of DNK in Adv FL	0.13		0.21	
Income, Wealth and Consumption				
Disposable Income (net of capital income)	183 003***	180 117	158 275	156 805
	(94 897)		(90 175)	
Mean of Consumption, 2004–2007	215 103**	186 355	189 942	166 619
	(155 046)		(146 027)	
Mean of Net Wealth (SEK), 2004–2007	395 697	180 826	410 436	95 643
	(756 822)		(850 477)	
Mean of Financial Assets (SEK), 2004–2007	127 023	25 316	130 328	31 220
	(289 906)		(306 231)	
Mean of Real Estate Assets (SEK), 2004–2007	592 933*	407 000	490 989	130 655
	(728 431)		(874 922)	
Individuals	311		397	

*/**/*** indicates statistical significant differences t-tests of group means at levels * $p<0.10$, ** $p<0.05$, *** $p<0.01$.*Notes*: SEK = Swedish Krona, 1 SEK = approx. 0.12 USD. S*ubjective Risk* (0–10) refers to responses to "Do you see yourself as a person who is fully prepared to take risks?" indicates the 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* are measured as the number of correct answers to each category of financial literacy, respectively; see Appendix Table 2 for further description. *Patience* refers to a yes response to the question "As of today, do you have any personal long-term savings?" *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, respectively. *Any Foreign born Parent* is defined as having at least one foreign-born parent (not born in Sweden) in 1999 out of the parents for whom there is data. All register-based variables are reported at the mean value of the first year the individual has a non-missing value between 2004 and 2007.

Table 3.
Descriptive Statistics of Debt Measures Characteristics

	Q: Do you feel uncomfortable with having debt?					
	No	No	Obs	Yes	Yes	Obs
	Mean	Median				
Have Debt (0,1)	0.89***		311	0.72		397
Have a mortgage (0,1)	0.72***		311	0.48		395
Debt (SEK)	-328 072***	-216 003	311	-216 2711	-86 959	397
	(366 334)			(381 964)		
Debt (SEK) if no mortgage	-130 434**	-28 868	86	-86 683	-14 862	206
	(237 228)			(135 371)		
Number of creditors	2.61***	2	311	2.03	2	397
	(1.97)			(1.82)		
Number of creditors if no mortgage	1.80	1	86	1.56	1	208
	(1.96)			(1.70)		
Debt to Income Ratio	1.71***	1.18	311	1.24	0.64	397
	(1.94)			(1.75)		
Debt to Income Ratio if no mortgage	0.75	0.19	86	0.68	0.11	206
	(1.29)			(1.33)		
Debt to Income Ratio if no real estate	0.50	0.06	111	0.60	0.07	186
	(0.86)			(1.08)		
Interest expense	13 678***	9143	311	8 713	1437	397
	(15 591)			(16 294)		
Interest expense if no mortgage	5 869**	88.5	86	3 520	16.5	206
	(9 808)			(6 874)		
Interest expense if no real estate	2 913	1	111	2 072	0	186
	(7 706)			(5 467)		
Observations	311			397		

*/**/*** indicates statistically significant differences t-tests of group means at levels * $p<0.10$, ** $p<0.05$, *** $p<0.01$. *Notes:* SEK = Swedish Krona, 1 SEK = approx. 0.12 USD. Standard deviation in parentheses. All registryr-based variables are reported at the mean value of the first year the individual has a non-missing value between 2004 and 2007. *Debt* refers to registry-based data on tax records of the market value of debt. *Mortgage* refers to having answered "yes" to a survey question on having a mortgage or not. Number of creditors refers to the number of creditors that has reported that the individual owes debt. The *debt-to-income ratio* is the yearly ratio of the market value of debt value and the yearly disposable income. Interest expense refers to the individual's expenditure on interest payment for loans to creditors.

Table 4
OLS Regression Results of Indebtedness and Debt Attitude

	Debt to Income	*Debt to Income*	*Annual Change in Debt to Income*	*Annual Rate of Change in Debt to Income*	*Annual Change in Debt*	*Annual Rate of Change in Debt*	*Cumulative change in debt from 2004 to 2007*
	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007
Yes, Uncomfortable	-0.62	-0.52	-0.12	-0.08	-10377.27	-0.07	-43055.72
	(0.12)***	(0.12)***	(0.06)**	(0.05)*	(4918.01)**	(0.08)	(23669.51)*
Female		0.33	0.01	0.07	13001.25	0.03	54336.08
		(0.12)***	(0.05)	(0.05)	(4973.88)***	(0.09)	(22659.68)**
Elementary School		-0.49	0.07	0.06	2548.98	-0.27	27566.00
		(0.18)***	(0.07)	(0.08)	(7372.79)	(0.12)**	(33938.24)
High School		-0.42	0.12	-0.01	4680.60	0.29	14922.50
		(0.13)***	(0.07)*	(0.05)	(5744.16)	(0.09)***	(27101.55)
Age 35–44		1.62	-0.19	0.10	10407.66	-0.90	10697.89
		(0.20)***	(0.17)	(0.09)	(9080.52)	(0.19)***	(37448.81)
Age 45–54		1.21	-0.10	0.05	-16529.09	-1.11	-66135.85
		(0.18)***	(0.10)	(0.09)	(8702.63)*	(0.18)***	(39610.09)*
Age 55–64		1.14	-0.12	0.02	-20361.76	-0.97	-89917.67
		(0.18)***	(0.10)	(0.09)	(8773.42)**	(0.18)***	(32113.06)***
Age 65–75		0.80	-0.11	0.14	-23975.14	-1.19	-1.17e+05
		(0.17)***	(0.10)	(0.10)	(8118.50)***	(0.18)***	(40364.83)***
Disposable Income		-0.01	-0.00	-0.00	1326.05	0.00	7095.80
		(0.01)	(0.01)	(0.00)	(426.31)***	(0.01)	(2583.40)***
Subject. Risk (0–10)		0.04	-0.00	0.01	1446.81	0.01	326.33
		(0.02)*	(0.01)	(0.01)	(1006.05)	(0.02)	(5780.84)
Patience		0.22	-0.06	0.03	2716.95	0.02	3291.12
		(0.12)*	(0.06)	(0.06)	(4952.88)	(0.10)	(29496.69)
Basic Fin Literacy		0.06	-0.02	-0.02	465.53	0.02	4242.38
		(0.06)	(0.02)	(0.03)	(2339.64)	(0.05)	(10543.78)
Adv. Fin Literacy		0.20	-0.02	0.02	2165.25	0.00	-5345.21
		(0.07)***	(0.03)	(0.03)	(2869.08)	(0.05)	(13348.61)
Constant	1.66	0.00	0.35	-0.19	-12271.42	0.88	-26410.32
	(0.10)***	(0.33)	(0.16)**	(0.14)	(14345.85)	(0.27)***	(61248.44)
Observations	2480	2480	1703	1703	2480	2480	648
Individuals	708	708	672	672	708	708	648
R^2	0.032	0.165	0.017	0.004	0.020	0.030	0.064

Notes: Standard errors are clustered at the individual level and are given in parentheses. The regressions also include year fixed effects. p<0.10, ** p<0.05, *** p<0.01. The *debt-to-income ratio* is the yearly ratio of the market value of debt value and the yearly disposable income. 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). *Disposable Income* is the yearly disposable income divided by 10 000 SEK and is comprised of the sum of labor income, social benefits, and transfers. 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." *Patience* refers to a yes response to the question "As of today, do you have any personal long-term savings?." *Basic* and *advanced financial literacy* are 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 Consumption (excluding interest expenses) and Debt attitude

Panel A	*Consumption including Interest expenses (c+rd)*	*Interest expenses (rd)*	*Disposable Income (y)*	*Annual Change in debt*	*Annual Change in financial Assets*	*Capital Income*
	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007
Yes, Uncomfortable	-36235.87	-6241.60	-22757.01	-11992.36	1972.54	486.04
	(8486.42)***	(1134.23)***	(6664.94)***	(3810.90)***	(3739.35)	(550.62)
Constant	223361.85	14490.78	196626.07	22728.20	-2134.49	1873.10
	(6770.66)***	(944.26)***	(5015.64)***	(3274.59)***	(2911.05)	(310.04)***
Observations	2324	2324	2324	2324	2324	2324
Individuals	704	704	704	704	704	704
R-squared	0.015	0.040	0.015	0.005	0.000	0.000

Panel B	*Consumption*	*Interest expenses*	*Disposable Income*	*Annual Change in Debt*	*Annual Change in financial Assets*	*Capital Income*
	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007
Yes, Uncomfortable	-24542.23	-5012.18	-11727.23	-11404.79	2090.90	680.69
	(7307.22)***	(1142.86)***	(5362.30)**	(3843.85)***	(3957.57)	(596.74)
Female	-33393.95	-1344.48	-39958.82	5715.64	-2197.55	-1348.33
	(7195.96)***	(1080.09)	(5273.23)***	(3892.59)	(3630.87)	(678.75)**
Elementary School	-45804.52	-907.48	-46742.72	2473.79	580.81	-954.78
	(11470.91)***	(1442.14)	(7759.34)***	(6117.08)	(6111.32)	(668.10)
High School	-28123.08	-1204.30	-26927.62	-1995.32	-2099.66	-1299.80
	(8394.90)***	(1157.52)	(5864.35)***	(4384.96)	(4819.61)	(662.23)*
Age 35–44	96494.15	11038.90	79077.87	13651.91	-3954.47	-190.10
	(10374.51)***	(1238.59)***	(7447.64)***	(5857.87)**	(4560.65)	(326.06)
Age 45–54	133141.66	15341.00	123953.81	3246.61	-4565.17	1376.08
	(9320.25)***	(1232.27)***	(7327.23)***	(4673.31)	(3976.88)	(950.56)
Age 55–64	130703.65	13289.88	121911.70	4423.25	-2336.65	2032.05
	(10421.30)***	(1393.01)***	(7728.99)***	(4903.01)	(5210.57)	(627.48)***
Age 65–76	133856.78	11611.26	123830.39	2759.00	-4513.49	2753.90
	(10629.64)***	(1281.56)***	(8624.64)***	(4583.70)	(5955.90)	(530.51)***
Subj. Risk (0–10)	1590.76	502.65	2084.19	443.15	807.09	-129.48
	(1673.43)	(211.53)**	(1097.57)*	(865.29)	(1078.53)	(128.66)
Patience	22569.89	936.79	16080.87	799.84	-4931.34	757.83
	(7567.90)***	(1154.75)	(5817.39)***	(3655.85)	(4212.39)	(446.60)*
Basic FinLit	9547.35	628.76	6263.14	434.36	-2445.96	403.88
	(3742.38)**	(546.01)	(2658.24)**	(1839.96)	(2077.93)	(195.24)**
Adv. FinLit	11446.01	1596.48	6983.10	4103.62	179.46	538.76
	(4408.73)***	(565.42)***	(2993.30)**	(2111.10)*	(2385.70)	(297.29)*
Constant	73303.62	-3617.88	72406.00	-1127.24	-3040.49	-1015.63
	(21416.63)***	(2888.15)	(14533.36)***	(10532.13)	(11928.81)	(1252.67)
Observations	2324	2324	2324	2324	2324	2324
Individuals	704	704	704	704	704	704
R^2	0.194	0.181	0.432	0.014	0.016	0.029

Standard errors are clustered at the individual level and are given in parentheses. The regressions also include year fixed effects. p<0.10, ** p<0.05, *** p<0.01. *Notes*: Consumption is defined by equation (1) and includes interest expenses. Interest expenses is defined as the sum of expenditures on loans to creditors. Financial Assets are defined as the market value of financial assets given by individual tax records. Real Estate Assets are defined as the market value of real estate assets given by individual tax records. Disposable Income is the yearly disposable income and is comprised of the sum of labor income, social benefits, and transfers. 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). 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." *Patience* refers to a yes response to the question "As of today, do you have any personal long-term savings?" *Basic* and *advanced financial literacy* are measured as the number of correct answers to each category of financial literacy, respectively; see Appendix Table 2 for further description.

Table 6
OLS Regression Results of Balance Sheets and Debt Attitude

	Annual Change in Debt	*Annual Change in Financial Assets*	*Annual Change in Real Estate Assets*	*Total Change in Debt between 2004 and 2007*	*Total Change in Financial Assets between 2004 and 2007*	*Total Change in Real Estate Assets between 2004 and 2007*
	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007
Yes, Uncomfortable	-10377.27	3837.25	-13801.98	-43055.72	30449.58	-52592.37
	(4918.01)**	(3259.34)	(12430.04)	(23669.51)*	(19698.30)	(54700.82)
Female	13001.25	2544.81	11462.59	54336.08	18106.55	83397.19
	(4973.88)***	(3094.20)	(11757.13)	(22659.68)**	(13449.28)	(58367.35)
Elementary School	2548.98	2989.17	-24893.92	27566.00	-12762.27	-29319.22
	(7372.79)	(5176.06)	(14730.02)*	(33938.24)	(29817.33)	(68573.82)
High School	4680.60	-7135.35	-22435.34	14922.50	-35997.19	-2693.83
	(5744.16)	(4165.33)*	(13520.05)*	(27101.55)	(19273.81)*	(63460.97)
Age 35–44	10407.66	-1744.16	7131.02	10697.89	7289.22	68396.61
	(9080.52)	(5373.11)	(15879.58)	(37448.81)	(25659.80)	(71433.63)
Age 45–54	-16529.09	-7530.22	-16.39	-66135.85	20984.65	-27684.16
	(8702.63)*	(6455.82)	(18435.54)	(39610.09)*	(33258.47)	(74860.62)
Age 55–64	-20361.76	-3070.65	25964.64	-89917.67	44141.49	23423.51
	(8773.42)**	(6885.90)	(19576.79)	(32113.06)***	(32819.33)	(87447.48)
Age 65–75	-23975.14	-1253.88	53042.71	-116660.20	55078.28	185518.64
	(8118.50)***	(6777.81)	(19659.54)***	(40364.83)***	(37376.60)	(85591.61)**
Disposable Income	1326.05	1077.92	3969.47	7095.80	1050.36	15978.33
	(426.31)***	(402.90)***	(1057.14)***	(2583.40)***	(2756.66)	(5055.47)***
Subject. Risk (0-10)	1446.81	-275.84	-958.29	326.33	-359.21	-2723.13
	(1006.05)	(717.69)	(2437.80)	(5780.84)	(4768.33)	(11450.15)
Patience	2716.95	4215.66	5953.16	3291.12	4589.37	65924.68
	(4952.88)	(3899.66)	(13413.25)	(29496.69)	(19825.55)	(57440.21)
Basic Fin Literacy	465.53	-1259.10	11258.19	4242.38	-3557.70	53789.12
	(2339.64)	(1805.75)	(4827.39)**	(10543.78)	(8400.15)	(26745.00)**
Adv. Fin Literacy	2165.25	3100.04	2468.73	-5345.21	8457.68	18503.99
	(2869.08)	(2231.47)	(6268.40)	(13348.61)	(10443.11)	(30216.83)
Constant	-12271.42	-22799.91	-47634.89	-26410.32	45.88	-3.08e+05
	(14345.85)	(8989.19)**	(28263.01)*	(61248.44)	(56872.17)	(132811.61)**
Observations	2480	2480	2480	648	648	648
Individuals	708	708	708	648	648	648
R^2	0.020	0.038	0.040	0.064	0.024	0.077

Standard errors are clustered at the individual level and are given in parentheses. The regressions in columns 1-3 also include year fixed effects p<0.10, ** p<0.05, *** p<0.01. Debt, financial assets, and real estate assets are defined as the yearly market values as given by the individual tax records. 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). *Disposable Income* is the yearly disposable income divided by 10 000 SEK and is comprised of the sum of labor income, social benefits, and transfers. 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." *Patience* refers to a yes response to the question "As of today, do you have any personal long-term savings?" *Basic* and *advanced financial literacy* are measured as the number of correct answers to each category of financial literacy, respectively; see Appendix Table 2 for further description.

Table 7
IV Regression Estimates of Debt to Income using the Intergenerational and Cultural Transmission of Debt Attitude as IVs for the Respondent's Debt Attitude

First stage estimates	*Yes, Uncomf*	*Yes, Uncomf*	*Yes, Uncomf*	*Yes, Uncomf*	*Yes, Uncomf*	*Yes, Uncomf*
	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007
Yes, Parent Uncomfort	0.429	0.332	0.319	0.424	0.328	0.315
	(0.036)***	(0.056)***	(0.056)***	(0.036)***	(0.055)***	(0.055)***
Female x Uncomf Parent		0.184	0.198		0.182	0.196
		(0.073)**	(0.074)***		(0.072)***	(0.073)***
Mother			0.083			0.084
			(0.055)			(0.055)
Mother x Female			-0.098			-0.098
			(0.070)			(0.070)
Respondent Foreign born				0.142	0.141	0.142
				(0.059)**	(0.059)**	(0.059)**
First stage F-stat	15.86	16.32	14.80	15.59	16.00	14.67
R^2 in first stage	0.219	0.227	0.230	0.230	0.234	0.237
Second stage estimates	*Debt to Income*	*Debt to Income*	*Debt to Income*	*Debt to Income*	*Debt to Income*	*Debt to Income*
IV: Yes, Uncomfortable	-0.456	-0.510	-0.479	-0.482	-0.532	-0.501
	(0.306)	(0.307)*	(0.305)	(0.300)	(0.301)*	(0.300)*
Female	0.327	0.328	0.327	0.327	0.329	0.328
	(0.120)***	(0.120)***	(0.120)***	(0.120)***	(0.120)***	(0.120)***
Elementary School	-0.492	-0.491	-0.492	-0.492	-0.491	-0.491
	(0.179)***	(0.179)***	(0.179)***	(0.179)***	(0.178)***	(0.179)***
High School	-0.419	-0.419	-0.419	-0.419	-0.419	-0.419
	(0.132)***	(0.132)***	(0.132)***	(0.132)***	(0.131)***	(0.132)***
Age 35–44	1.611	1.615	1.613	1.613	1.616	1.614
	(0.196)***	(0.197)***	(0.196)***	(0.196)***	(0.197)***	(0.197)***
Age 45–54	1.207	1.209	1.208	1.208	1.210	1.209
	(0.178)***	(0.179)***	(0.178)***	(0.178)***	(0.179)***	(0.179)***
Age 55–64	1.139	1.137	1.138	1.138	1.136	1.137
	(0.182)***	(0.183)***	(0.183)***	(0.183)***	(0.183)***	(0.183)***
Age 65–75	0.791	0.798	0.794	0.795	0.801	0.797
	(0.171)***	(0.171)***	(0.171)***	(0.172)***	(0.172)***	(0.172)***
Disposable Income	-0.009	-0.009	-0.009	-0.009	-0.009	-0.009
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Subject. Risk (0–10)	0.046	0.044	0.045	0.045	0.043	0.044
	(0.024)*	(0.024)*	(0.024)*	(0.024)*	(0.024)*	(0.024)*
Patience	0.219	0.216	0.218	0.218	0.214	0.216
	(0.127)*	(0.126)*	(0.126)*	(0.126)*	(0.125)*	(0.126)*
Basic Fin Literacy	0.056	0.055	0.056	0.056	0.055	0.055
	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)	(0.057)
Adv. Fin Literacy	0.199	0.198	0.199	0.199	0.198	0.198
	(0.069)***	(0.069)***	(0.069)***	(0.069)***	(0.069)***	(0.069)***
Constant	0.141	0.186	0.160	0.162	0.204	0.179
	(0.386)	(0.384)	(0.381)	(0.385)	(0.384)	(0.381)
Observations	2480	2480	2480	2480	2480	2480
Individuals	708	708	708	708	708	708

Notes: Standard errors are clustered at the individual level and are given in parentheses. The regressions also include year fixed effects. p<0.10, ** p<0.05, *** p<0.01. *Debt to income* is the yearly ratio of the market value of debt value and the yearly disposable income. 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. *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. *Mother* refers to the question referring to the mother. *MotherxFemale* refers to the interaction effect between a female respondent and the question referring to the mother. For an explanation of the other variables, please see Table 4.

Online Appendix

Appendix Table 1.
Summary statistics of full sample

	Mean
Gender	
Female	0.54
Age	
25–34	0.17
35–44	0.18
45–54	0.21
55–64	0.20
65–75	0.24
Education	
Elementary School	0.11
High School	0.46
College	0.43
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
*Financial Literacy**	
Total number of three Advanced FL Question Correct	2.26
Share with all three Advanced FL Questions Correct	0.50
Share with any DNK in three Advanced FL Questions	0.15
Correct Answer to Question on Interest rate Compounding (Q1)*	0.81
Correct Answer to Question on Inflation (Q2)	0.70
Correct Answer to Question on Diversification (Q3)	0.75
Observations	844

Note: * The financial literacy questions are described in detail in Appendix Table 2.

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: The financial literacy measures used in the survey. * indicates the correct answer.

Appendix Table 3. A Probit Regression of Holding any Debt

	Debt>0
	2004-2007
Yes, Uncomfortable	-0.34
	(0.11)***
Female	-0.05
	(0.11)
Elementary School	-0.51
	(0.17)***
High School	-0.25
	(0.13)*
Age 35–44	1.20
	(0.17)***
Age 45–54	1.04
	(0.19)***
Age 55–64	0.97
	(0.18)***
Age 65–75	0.65
	(0.16)***
Disposable Income	0.02
	(0.01)***
Subject. Risk (0–10)	0.04
	(0.02)*
Patience	0.05
	(0.11)
Basic Fin Literacy	-0.04
	(0.06)
Adv. Fin Literacy	0.05
	(0.07)
Constant	-0.13
	(0.32)
Observations	2480
Individuals	708
R^2	0.165

Notes: Standard errors are clustered at the individual level and are given in parentheses. The regressions also include year fixed effects. p<0.10, ** p<0.05, *** p<0.01. Debt>0 Note that 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). *Disposable Income* is the yearly disposable income divided by 10 000 SEK and is comprised of the sum of labor income, social benefits, and transfers. 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." *Patience* refers to a yes response to the question "As of today, do you have any personal long-term savings?" *Basic* and *advanced financial literacy* are measured as the number of correct answers to each category of financial literacy, respectively; see Appendix Table 2 for further description.

Appendix Table 4
OLS Regression Results of Consumption (excluding interest expenses) and Debt Attitude, controlling for Disposable Income

Panel A	*Consumption including Interest expenses (c+rd)*	*Interest expenses (rd)*	*Annual Change in debt*	*Annual Change in financial Assets*	*Capital Income*
	2004-2007	2004-2007	2004-2007	2004-2007	2004-2007
Yes, Uncomf	-13508.45	-4263.92	-10808.92	3628.73	929.20
	(5184.97)***	(1057.99)***	(3777.06)***	(3835.69)	(649.18)
Disposable Income	9408.69	638.06	508.11	1311.33	211.91
	(478.84)***	(83.07)***	(287.96)*	(403.09)***	(74.60)***
Female	4202.05	1205.13	7745.98	3042.36	-501.57
	(5360.54)	(984.00)	(4164.10)*	(3884.52)	(507.17)
Elementary School	-1825.75	2074.99	4848.82	6710.31	35.74
	(8497.86)	(1325.02)	(6469.86)	(5996.00)	(739.58)
High School	-2787.72	513.84	-627.10	1431.43	-729.18
	(6253.41)	(1107.95)	(4487.72)	(4758.50)	(717.92)
Age 35–44	22092.23	5993.26	9633.89	-14324.17	-1865.83
	(7742.84)***	(1307.05)***	(5745.88)*	(5590.77)**	(710.77)***
Age 45–54	16517.37	7432.01	-3051.59	-20819.58	-1250.62
	(7881.28)**	(1514.76)***	(5079.57)	(6380.22)***	(860.89)
Age 55–64	16000.72	5511.18	-1771.18	-18323.27	-551.37
	(9063.34)*	(1438.05)***	(5573.74)	(7102.15)**	(842.55)
Age 65–76	17348.61	3710.14	-3532.92	-20751.72	129.82
	(8191.25)**	(1210.92)***	(4854.92)	(6843.40)***	(1117.08)
Subj. Risk (0–10)	-370.18	369.67	337.25	533.78	-173.65
	(1306.59)	(197.64)*	(852.75)	(1058.31)	(132.65)
Patience	7439.90	-89.26	-17.24	-7040.07	417.06
	(5522.12)	(1096.10)	(3521.27)	(4312.82)	(389.52)
Basic FinLit	3654.56	229.13	116.13	-3267.27	271.16
	(2674.69)	(493.88)	(1800.04)	(2062.17)	(186.59)
Adv. FinLit	4875.83	1150.91	3748.80	-736.25	390.78
	(3136.52)	(514.23)**	(2114.78)*	(2482.77)	(287.03)
Constant	5179.07	-8237.82	-4806.25	-12535.29	-2549.98
	(15592.82)	(2658.30)***	(11274.16)	(11784.58)	(1490.20)*
N	2324	2324	2324	2324	2324
Obs	704	704	704	704	704
R^2	0.393	0.262	0.016	0.028	0.045

Standard errors are clustered at the individual level and are given in parentheses. The regressions also include year fixed effects p<0.10, ** p<0.05, *** p<0.01. *Notes*: Consumption is defined according to equation (1) and includes interest expenses. Interest expenses is defined as the sum of expenditures on loans to creditors. Financial Assets are defined as the market value of financial assets given by individual tax records. Real Estate Assets are defined as the market value of real estate assets given by individual tax records. Disposable Income is the yearly disposable income and is comprised of the sum of labor income, social benefits, and transfers. 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). 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." *Patience* refers to a yes response to the question "As of today, do you have any personal long-term savings?". *Basic* and *advanced financial literacy* are measured as the number of correct answers to each category of financial literacy, respectively; see Appendix Table 2 for further description.

Appendix Table 5
Descriptive Statistics of Survey Questions on Debt Attitudes of sample with non-missing variables (Robustness analysis of Table 1)

	All	Male	Female
Q: Do you feel uncomfortable with having debt?			
Yes	0.56	0.52	0.60
No	0.43	0.48	0.40
Do not know	x	x	x
Do not want to answer	x	x	x
Observations	708	324	384

	All	Uncomfortable with debt	Not uncomfortable with debt
Q: Do you consider it OK to take on debt in order to…			
	Answered Yes	Answered Yes	Answered Yes
…buy expensive clothes or jewelry?	0.99 %	0.8%	1.3%
...pay for a vacation?	4.5 %	4.0%	5.1%
…cover household expenditures?	5.4 %	7.3%	2.9%
…buy a car?	86.0%	82.1%	91.0%
…get an education?	96.9%	96.5%	97.4%

	All	Uncomfortable with debt	Not uncomfortable with debt
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	84.3%	88.2%	79.4%
Important but not when young	4.1%	3.8%	4.5%
Not important if saving in some way	6.6%	4.2%	9.7%
Not important to pay down the principal	3.3%	2.3%	4.5%
Don't know	1.4%	1.3%	1.6%
Don't want to answer	0.3%	0.3%	0.3%

*Notes:*The sample consists of 708 individuals with non-missing values for the covariates associated with the regression specification reported in Table 4.

Appendix Table 6
Mean statistics comparisons of age, gender and education across samples

	Total Sample	*Missing (not replying)*	*Survey Sample*	*Analysis Sample*
Female	0.50	0.53	0.54	0.54
Elementary School	0.16	0.19	0.12	0.18
High School	0.47	0.47	0.46	0.48
College	0.37	0.34	0.42	0.34
Age 25-34	0.25	0.27	0.16	0.16
Age 35–44	0.22	0.23	0.19	0.19
Age 45–54	0.20	0.22	0.21	0.23
Age 55–64	0.19	0.16	0.20	0.20
Age 65–75	0.14	0.12	0.24	0.22
Individuals	1 969	1 125	844	708

Notes: Total sample refers to the random representative sample that was the target of our survey. *Missing* refers to the individuals who did not respond to the survey. *Survey sample* refers to the individuals that responded to our survey. *Analysis sample* refers to the sample we use in the main analysis.

Appendix Table 7
OLS Regression Results for the Parental Debt to Income and the Debt Attitude reported by the Child (Respondent)

	Parent's Debt to Income	Parent's Debt to Income	Parent's Debt to Income	Parent's Debt to Income	Debt of Parent	Debt of Parent	Debt of Parent	Debt of Parent
Yes, Parent Uncomfortable	-0.248	-0.232	-0.092	-0.075	-84831.58	-73830.30	-46049.07	-42430.04
	(0.13)*	(0.14)*	(0.13)	(0.15)	(26347.08)***	(26523.59)***	(24501.93)*	(29493.11)
Parent Female		-0.160	-0.139	-0.216		-72271.82	-68751.08	-88215.73
		(0.09)*	(0.09)	(0.11)*		(16150.76)***	(16004.13)***	(21509.26)***
Parent Foreign born		-0.253	-0.178	-0.240		-81864.28	-66985.87	-72223.99
		(0.21)	(0.21)	(0.31)		(32888.88)**	(32236.40)**	(47827.25)
Parents's Disp Income		-0.001	-0.003	-0.005		1184.43	884.71	1489.06
		(0.00)**	(0.00)**	(0.00)*		(612.11)*	(439.14)**	(957.46)
Parents's cohort 1900-1920			-1.380	-0.411			-256781.6	-77076.60
			(0.11)***	(0.28)			(21757.03)***	(53219.21)
Parents's cohort 1921-1940			-0.870	-1.098			-181980.0	-198400.0
			(0.13)***	(0.30)***			(22744.30)***	(56456.57)***
Parents's cohort 1961-1980			0.420				78566.71	
			(0.28)				(54248.44)	
Parent Elementary School				-0.117				-119 750
				(0.17)				(34 273.34)***
Parent High School				-0.003				-59994.30
				(0.16)				(38568.45)
Constant	1.262	1.347	1.701	2.174	255990.70	175195.22	719802.85	454164.89
	(0.11)***	(0.12)***	(0.14)***	(0.31)***	(22079.83)***	(44816.97)***	(66008.87)***	(62575.02)***
Observations	3501	3501	3501	2656	3501	3501	3501	2656
Individuals	540	540	540	402	540	540	540	402
R^2	0.004	0.009	0.081	0.042	0.016	0.053	0.144	0.106

Clustered standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01. The regressions also include year fixed effects. *Notes*: *Yes, Uncomfortable* is a 0/1 variable if the parent's child (the respondent) answered that the parent is/was uncomfortable with debt where yes=1 and no=0. *Parent female* is a dummy variable for the parent being female (1=female, 0=male). *Parent education* is measured by three dummy variables for the parent (elementary schooling, high school, university schooling [omitted category]). *Disposable income* is the disposable income of the parent in 10 000 SEK the first year the parent has a non-missing value between 2004 and 2007 and is comprised of the sum of labor income, social benefits, and transfers.

Appendix Table 8
A Placebo test using Stock Market Participation and Debt Attitude

	Stock Market Participation>0
	2004-2007
Yes, Uncomfortable	0.03
	(0.03)
Female	-0.08
	(0.03)**
Elementary School	0.01
	(0.05)
High School	-0.04
	(0.04)
Age 35–44	-0.01
	(0.05)
Age 45–54	0.02
	(0.05)
Age 55–64	0.10
	(0.05)*
Age 65–75	0.19
	(0.06)***
Disposable Income	0.01
	(0.00)***
Subject. Risk (0–10)	0.01
	(0.01)**
Patience	0.07
	(0.03)**
Basic Fin Literacy	0.07
	(0.02)***
Adv. Fin Literacy	0.02
	(0.02)
Constant	-0.13
	(0.09)
Observations	2480
Individuals	708
R^2	0.132

Notes: Standard errors are clustered at the individual level and are given in parentheses. The regressions also include year fixed effects. p<0.10, ** p<0.05, *** p<0.01. *Stock market participation* is dummy variable for owning any direct stocks. Note that 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). *Disposable Income* is the yearly disposable income divided by 10 000 SEK and is comprised of the sum of labor income, social benefits, and transfers. 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." *Patience* refers to a yes response to the question "As of today, do you have any personal long-term savings?" *Basic* and *advanced financial literacy* are measured as the number of correct answers to each category of financial literacy, respectively; see Appendix Table 2 for further description.

Appendix Table 9.
OLS Regression Results for the Intergenerational Transmission of Debt Attitudes, Foreign born and Foreign-born Parents

	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)
Respondent Foreign born		0.174		0.142	0.314		
		(0.062)***		(0.057)**	(0.106)***		
Parent foreign born			0.082			0.065	0.171
			(0.056)			(0.051)	(0.092)*
Yes, Parent uncomf				0.425	0.447	0.448	0.471
				(0.036)***	(0.038)***	(0.040)***	(0.043)***
Respondent foreign born x Yes, Parent Uncomf					-0.236		
					(0.124)*		
Parent foreign born x Yes, Parent uncomf							-0.153
							(0.111)
Female	0.038	0.040	0.080	0.016	0.018	0.050	0.050
	(0.39)	(0.039)	(0.044)*	(0.036)	(0.036)	(0.040)	(0.040)
Elementary School	0.022	0.038	0.046	0.027	0.032	0.052	0.053
	(0.060)	(0.061)	(0.069)	(0.056)	(0.056)	(0.062)	(0.062)
High School	0.004	0.017	0.005	0.011	0.011	-0.005	-0.004
	(0.042)	(0.043)	(0.047)	(0.039)	(0.039)	(0.043)	(0.043)
Age 35–44	0.087	0.062	0.062	0.045	0.045	0.036	0.035
	(0.069)	(0.069)	(0.074)	(0.063)	(0.063)	(0.067)	(0.067)
Age 45–54	0.054	0.032	0.026	-0.005	-0.006	-0.015	-0.018
	(0.072)	(0.072)	(0.079)	(0.066)	(0.066)	(0.072)	(0.072)
Age 55–64	-0.023	-0.044	-0.089	-0.131	-0.135	-0.180	-0.193
	(0.072)	(0.072)	(0.080)	(0.067)**	(0.066)**	(0.073)**	(0.073)***
Age 65–75	0.150	0.144	0.133	0.046	0.041	0.002	-0.005
	(0.072)**	(0.072)**	(0.085)	(0.066)	(0.066)	(0.077)	(0.078)
Disposable Income	-0.007	-0.006	-0.005	-0.007	-0.007	-0.007	-0.005
	(0.003)***	(0.003)**	(0.003)	(0.002)***	(0.002)***	(0.003)*	(0.003)*
Subjective Risk (0–10)	-0.029	-0.028	-0.032	-0.025	-0.024	-0.024	-0.029
	(0.008)***	(0.008)***	(0.009)***	(0.007)***	(0.007)***	(0.008)***	(0.008)***
Patience	-0.075	-0.062	-0.050	-0.039	-0.038	-0.022	-0.025
	(0.043)*	(0.043)	(0.050)	(0.040)	(0.039)	(0.045)	(0.045)
Basic Financial Literacy	-0.020	-0.016	-0.027	-0.019	-0.019	-0.024	-0.024
	(0.022)	(0.022)	(0.025)	(0.020)	(0.022)	(0.022)	(0.022)
Adv. Financial Literacy	-0.007	0.002	0.010	-0.009	-0.009	-0.001	-0.001
	(0.024)	(0.024)	(0.024)	(0.028)	(0.025)	(0.025)	(0.025)
Constant	0.843	0.750	0.736	0.546	0.528	0.506	0.496
	(0.098)***	(0.110)***	(0.124)***	(0.102)***	(0.102)***	(0.114)***	(0.114)***
Observations	708	708	576	708	708	576	576
R^2	0.070	0.082	0.085	0.232	0.236	0.254	0.256

Standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01. *Notes*: *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*Female* 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). *Disposable income* is the disposable income in 10 000 SEK the first year the individual has a non-missing value between 2004 and 2007 and is comprised of the sum of labor income, social benefits, and transfers. 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.

Household debt in Sweden

Many Swedish households use debt to invest in human capital or purchase a home, in particular through publicly 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.[25] The aggregate debt-to-income ratio has risen from about 80 percent of disposable income in 1970 to about 180 percent of disposable income in 2018, which is higher than in most European countries. High and rising household indebtedness has been identified as a symptom of vulnerability of the Swedish economy by the IMF and the OECD as well as the Riksbank and the Swedish Financial Supervisory Agency. The increase in debt has prompted macroprudential measures, including a loan-to-value cap of 85 percent for mortgages, which was introduced in 2010, and an amortization requirement for households, introduced in 2016.

The high indebtedness of Swedish households is a modern phenomenon—well into the 20th century, households mainly used banks to make deposits, not to get loans.[26] Government intervention in credit markets sought to ensure that households' deposits were channeled into financing the agriculture and industry sectors and 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 Swedish cultural identity. Such reasoning continued into the 20th century with the growth of savings banks and the cooperative movement. The postwar period saw an expansion of lending to households, in particular to purchase homes. The government also took on an increasingly active role in providing credit to households. Between 1930 and 1960, lending to Swedish households for the construction, improvement, or acquisition of homes increased tenfold. Moreover, the government 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 beginning in the 1960s. Following rapid deregulation of credit markets in the second half of the 1980s, 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.

Today, lending to households constitutes a large share of the assets of the large Swedish banks, while deposits from households make up only a minor share of these banks' funding. The

[25] By contrast, unsecured consumer credit constitutes less than one-tenth of Swedish households' loans.
[26] For a more detailed description, see Morell and Hedenborg, 2006.

question of whether changing social norms regarding debt might reflect and, in part, also explain this dramatic shift is the main motivation for this work.

Survey questionnaire

```
"A1"       "Do you often discuss personal financial matters with your family?

                   "1"       "Yes"
                   "2"       "No"
                   "8"       "Do not know
                   "9"       "Do not want to answer {


"A2"       "Do you often discuss personal financial matters with friends and
acquaintances?
                   "1"       "Yes"
                   "2"       "No"
                   "8"       "Do not know
                   "9"       "Do not want to answer


"A3"       "Do you often discuss personal financial matters with colleagues?
                   "1"       "Yes"
                   "2"       "No"
                   "8"       "Do not know


"W1a"       "If you have any daughters, do you discuss personal financial
matters with them (or her)?
                   "1"       "Yes"
                   "2"       "No"
                   "3"       "Do not have a daughter"
                   "8"       "Do not know
                   "9"       "Do not want to answer


"W1b"       "If you have any sons, do you discuss personal financial matters
with them (or him)?{
                   "1"       "Yes"
                   "2"       "No"
                   "3"       "Do not have a son"
                   "8"       "Do not know
                   "9"       "Do not want to answer


"W2a"       "Is it common for your mother to discuss personal financial
matters with you, or if she is deceased, was it common for her to discuss
personal financial matters with you?
                   "1"       "Yes"
                   "2"       "No"
                   "8"       "Do not know
```

"9"	"Do not want to answer

"W2b"	"Is it common for your father to discuss personal financial matters with you, or if he is deceased, was it common for him to discuss personal financial matters with you?

"1"	"Yes"
"2"	"No"
"8"	"Do not know
"9"	"Do not want to answer

"F1"	"Have you ever tried to estimate how much your household needs to save into your pension?

"1"	"Yes"
"2"	"No"
"8"	"Do not know
"9"	"Do not want to answer

"F2"	"Do you regularly make some type of budget for your incomes and expenditures?

"1"	"Yes"
"2"	"No"
"8"	"Do not know
"9"	"Do not want to answer

"F3"	"Do you often worry about your personal financial development?

"1"	"Yes"
"2"	"No"
"8"	"Do not know
"9"	"Do not want to answer

"F4"	"As of today, do you have any personal long-term savings?

"1"	"Yes"
"2"	"No"
"8"	"Do not know
"9"	"Do not want to answer

"F5"	"Do you have any fund savings apart from what you might have from your occupational pension or premium pension?

"1"	"Yes"
"2"	"No"
"8"	"Do not now
"9"	"Do not want to answer

"F6"	"The last time you invested money in funds, did you compare funds with different fees?

"1"	"Yes"
"2"	"No"
"3"	"Have never personally invested money in funds"
"8"	"Do not know
"9"	"Do not want to answer

"AX1" "The last time you received your annual statement regarding the national pension, the so called "orange letter"[27], did you open it?

"1" "Yes"
"2" "No"
"8" "Do not know
"9" "Do not want to answer

"AX2" "During the last year, did you receive any payment reminders?

"1" "Yes"
"2" "No"
"8" "Do not know
"9" "Do not want to answer

This knowledge-based question is worded as an open-ended question, nevertheless, the answer should be coded as either correct or incorrect.

"C1" "If the probability of contracting a disease is 10%, how many out of 1000 people would be expected to contract said disease?

"1" "Correct -: If the person answers 100 people.
"2" "Incorrect -: If the person answers anything but 100 people.
"8" "Do not know {span class=expl}NOTE DO NOT READ ALOUD!{/span}"
"9" "Do not want to answer

"C2" "A car dealership is offering to sell a used car for SEK 60 000, which is two thirds of what the car cost when it was new. How much did the car cost as new?

"1" "Correct -: If the person answers SEK 90 000.
"2" "Incorrect -: If the person answers anything but SEK 90 000.
"8" "Do not know {span class=expl}NOTE DO NOT READ ALOUD!{/span}"
"9" "Do not want to answer

"C3" "Five people win the lottery and are to share the prize equally. If the prize money they are to share is 2 million, how much money does each person get?

"1" "Correct -: If the person answers SEK 400 000. NOTE READ
"2" "Incorrect -: If the person answers anything but SEK 400 000.
"8" "Do not know
"9" "Do not want to answer

"C4a" "Suppose that you make an investment for which the value increases by 20% each year. How many years need to pass for the value to double?

"1" "2 years or less"
"2" "More than 2 years but less than 5 years"
"3" "5 years or more?"
"8" "Do not know

[27] Sent out by the Swedish Pension Agency containing a detailed value statement regarding the recipient's pension.

"9" "Do not want to answer

"C4b" "Suppose that the size of a potted plant increases by 20% each year.
How many years need to pass for the size to double?

"1" "2 years or less"
"2" "More than 2 years but less than 5 years"
"3" "5 years or more?"
"8" "Do not know {
"9" "Do not want to answer

"C5" "How certain did you feel about your answer to the previous question?
Give your answer on a scale from 0 to 10 where 0 means ''not at all certain'' and 10 means ''completely certain''.">

"0" "0 Not at all certain"
"1" "1"
"2" "2"
"3" "3"
"4" "4"
"5" "5"
"6" "6"
"7" "7"
"8" "8"
"9" "9"
"10" "10 Completely certain"
"88" "Do not know
"99" "DO not want to answer

"D1" "Suppose that you have SEK 100 in a savings account with an interest rate of 2 percent.
How much money do you believe would be in your account after 5 years if you let the money in your account grow?{

"1" "More than SEK 102"
"2" "Exactly SEK 102"
"3" "Less than SEK 102"
"8" "Do not know
"9" "Do not want to answer

"D2" "Suppose that the interest rate on your savings account is 1 percent and that the inflation rate is 2 percent.

If you leave your money in your account for one year, will you be able to buy more, just as much, or less with your money at the end of the year?

"1" "More"
"2" "Just as much"
"3" "Less"
"8" "Do not know
"9" "Do not want to answer

"D3" "Is the following statement true or false?
To buy stocks in a single company is for the most part a more secure option than to buy shares in an equity mutual fund?

You are not allowed to disclose the correct answer, even if requested, until the last interview question has been read.

"1" "True"
"2" "False"
"8" "Do not know
"9" "Do not want to answer

"D4a" "Historically, which one has yielded the highest long-term returns, stocks or bonds?

NOTE: Read aloud ''Do not know'' as a possible answer.
However, do not read aloud ''Do not want to answer'' as a possible answer.

"Chance3=1"
"1" "Stocks"
"2" "Bonds"
"8" "Do not know - JUST THIS TIME, THIS POSSIBLE ANSWER SHOULD ALSO BE READ ALOUD!
"9" "Do not want to answer

"D4b" "Historically, which one has yielded the highest long-term returns, stocks or bonds?

Do NOT read aloud “Do not know” or “Do not want to answer” as possible answers.
Nevertheless, the respondent can answer “Do not know” or “Do not want to answer” and the answer should in that case be coded as such.

"Chance3=2"
"1" "Stocks"
"2" "Bonds"
"8" "Do not know -
"9" "Do not want to answer

"E1" "Which of the following statements do you think best describe how a person with a mortgage should handle their mortgage loan?

"1" "It’s important to pay down the principal"
"2" "It’s important but not when you are young"
"3" "It’s not important as long as you are saving in some way"
"4" "It’s not important "
"8" "Do not know
"9" "Do not want to answer

"E2" "Do you have a mortgage loan?">
"1" "Yes"
"2" "No"
"8" "Do not know
"9" "Do not want to answer

"E3" "The last time you took out a mortgage loan, did you compare offers between different banks?
"1" "Have never had a mortgage"

"2" "Yes"
"3" "No"
"8" "Do not know
"9" "Do not want to answer

"E3=2"
"E4" "When you were comparing offers from different banks, what were the most important reasons for your choice of bank or lending institution?

The respondent can give more than one answer.{/i}">
"1" "The interest rate"
"2" "The size of the down payment"
"3" "Previous relationships with the bank or the financial institution"
"4" "Good bank or lending institution"
"5" "Recommendations"
"6" "Other reasons"
"8" "Do not know
"9" "Do not want to answer

"E5" "Have you ever tried to assess how your personal financial situation would be affected by an increase of the interest rate on mortgage loans to different levels?
"1" "Yes"
"2" "No"
"8" "Do not know
"9" "Do not want to answer

"G1" "Do you feel uncomfortable with having debt?
"1" "Yes"
"2" "No"
"8" "Do not know
"9" "Do not want to answer

"G2a" "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?
"Chance4=1"
"1" "Yes"
"2" "No"
"8" "Do not know
"9" "Do not want to answer

"G2b" " Would your father say that he feels uncomfortable with debt, or if he is deceased, would he have said that she felt uncomfortable with debt?
"Chance4=2"
"1" "Yes"
"2" "No"
"8" "Do not know
"9" "Do not want to answer

"L1" "Do you think it is OK to take on debt to pay for a vacation?
"1" "Yes"
"2" "No"
"8" "Do not know

"9" "Do not want to answer

"L2" "Do you think it is OK to rake on debt to cover household expenses?
"1" "Yes"
"2" "No"
"8" "Do not know
"9" "Do not want to answer

"L3" "Do you think it is OK to take on debt to buy expensive clothes or jewelry?
"1" "Yes"
"2" "No"
"8" "Do not know
"9" "Do not want to answer

"L4" "Do you think it is OK to take on debt to buy a car?
"1" "Yes"
"2" "No"
"8" "Do not know
"9" "Do not want to answer
"L5" "Do you think it is OK to take on debt to get an education?
If the respondent asks, you can clarify that the question refers to all types of study loans including study loans from the Swedish Board of Student Finance (CSN).
"1" "Yes"
"2" "No"
"8" "Do not know
"9" "DO not want to answer

"L5" =" Do you think it is OK to take on debt to get an education?{br}{br}

"1" "YES" />
"2" ”No" />
"8" Do not know
"9"="Do not want to answer

"AX3" "Do you consider yourself to be a person that is completely prepared to take risks, or do you consider yourself as a person who takes as few risks as possible?
Give your answer on a scale from 0 to 10 were 0 means ''Not at all prepared to take risks'' and 10 means ''completely prepared to take risks''
"0" "0 - Not at all prepared to take risks"
"1" "1"
"2" "2"
"3" "3"
"4" "4"
"5" "5"
"6" "6"
"7" "7"
"8" "8"
"9" "9"
"10" "10 – Completely prepared to take risks"
"88" "Do not know
"99" "Do not want to answer

```
"Z1"       "How well does the following statement describe you?
I find questions regarding personal financial matters boring
Give your answer on a scale from 0 to 10 were 0 means ''Does not describe me
at all'' and 10 means ''Describes me completely''
                   "0"       "0 - Does not describe me at all"
                   "1"       "1"
                   "2"       "2"
                   "3"       "3"
                   "4"       "4"
                   "5"       "5"
                   "6"       "6"
                   "7"       "7"
                   "8"       "8"
                   "9"       "9"
                   "10"       "10 - Describes me completely"
                   "88"       "Do not know
```