Consumer Behaviors in Financial Markets

By Sumit Agarwal (August 2010)

In light of the recent meltdown in the subprime mortgage market and the subsequent financial crisis of 2007-2008, there is a growing concern that U.S. consumers are ill-prepared to make sound decisions in an increasingly complex financial environment. Numerous examples come to mind – social security privatization, under-participation in the 401K plans, lack of sufficient portfolio diversification, choosing the right mortgage ARM/FRM, subprime mortgages, optimal refinancing timing. Let me illustrate my point through the following example. Bank One advertised that it had 3000 different types of credit cards with varying interest rates, fee rates, and reward options - travel, auto, gas, and hotel rewards. To choose the right card that best suits a consumer's needs seems like a daunting task.

Hence, some people argue that in this complex environment, consumers make incorrect financial decisions that ultimately lead them to incur high interest and fee payments. Others, however, argue that financial intermediaries are extracting excess rents from their customers. Most agree that consumers need education in financial planning and financial literacy.

In this research study, which is part of the Centre for Asset Management Research & Investments’ (CAMRI) Life-Cycle Saving and Investing in Asia Research Series, I will investigate questions such as: (i) Do Asian consumers make mistakes in choosing credit contracts? (ii) If yes, do they learn from their mistakes? (iii) Do financial mistakes vary by age? (iv) Is financial decision making related to cognitive abilities? (v) Does financial counseling and education help them make better financial decisions? (vi) Do consumers optimally choose retirement savings in their old age?

To provide further insights on these issues, I will summarize some of my research on U.S. consumer behavior. Looking at consumer’s choice between two credit contracts, one with an annual fee but a lower interest rate and the other with no annual fee but a higher interest rate, Agarwal, Chomsisengphet, Liu and Souleles (2006) find that 40 percent of U.S. consumers made a mistake in choosing the optimal credit contract. For a small minority of the consumers, these mistakes cost them hundreds of dollars in excess interest payments. The good news is that over time, consumers learn from their mistakes and the larger the costs, the more likely consumers will correct those mistakes.

Next, studying late payments, credit limit payments, and cash advance fees of credit card borrowers, Agarwal, Driscoll, Gabaix, and Laibson (2008) show that over a four-year period, credit card fee payments drop by 75 percent. However, we also find that consumers' hard-earned knowledge does not persist, and over time, consumers tend to
forget about the fee payments. These results suggest that experience produces learning, but only when the feedback is recent.

Trying to understand as to who makes these mistakes, Agarwal, Driscoll, Gabaix, and Liabson (2009) find that younger and older borrowers are more prone to make financial mistakes. We find that the age at which consumers are least likely to make financial mistakes (which we describe as the "Age of Reason") is around their 53rd birthday. These findings were consistent across an array of credit instruments - three kinds of credit card fee payments, credit card interest payments, and interest rates on credit cards, mortgages, auto loans, home equity loans and credit lines, and small business loans. We hypothesize that this may be a consequence of the trade-off between "experiential capital" and "analytical capital" (cognitive ability). The young have high analytical capital, but little experience. The old have substantial experience, but declining analytical capital. To further study this issue in detail, Agarwal and Mazumder (2010) directly link the cognitive ability measures as represented in the AFQT scores and consumers’ ability to make financial decisions. We find that consumers who have higher math and verbal language scores are less likely to make balance transfer and home prices estimation mistakes.

If financial illiteracy drives suboptimal (or welfare-reducing) financial behavior, then improving literacy could increase consumer welfare. A growing literature investigates whether financial education programs are effective in improving financial literacy and financial behavior. Though the evidence is mixed, it appears that some financial education programs do improve the behavior and outcomes of their graduates. The effects appear to be strongest for the most financially vulnerable, especially those with low incomes and levels of education. However, the relationships among financial education, financial literacy, and financial behavior and outcomes are not straightforward. Some financial education programs improve financial literacy, but not financial behavior; others lead to improved behavior and outcomes without improving financial literacy; and still others do not appear to be effective at all.

Agarwal, Amromin, Ben-David, Chomsisengphet and Evanoff (2009) find little evidence that a state-mandated pre-mortgage counseling program for high-risk borrowers in select Chicago area zip codes led to better mortgage choices. However, their study shows how a financial education program can affect outcomes without necessarily improving literacy. The authors find a significant drop in default rates of mortgages originated in the treated zip codes during the period of mandatory counseling. However, this drop appears to occur because the riskiest lenders and borrowers left the market, and not because the remaining borrowers chose better mortgage products. The threat

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1Surveys find that a shocking proportion of consumers, both in the U.S. and in other countries, fail basic financial literacy tests. Many adults do not understand the difference between compound and simple interest; the characteristics of financial assets such as stocks and bonds; the benefits of portfolio diversification; or the important features of their own mortgages, Social Security and pension plans.
to lenders of increased oversight and potential fraud detection, as well as the perceived cost to borrowers of attending counseling sessions, dramatically reduced both the supply and demand for credit. Borrowers who were able to choose less risky products to avoid counseling did so, and lenders rejected far more loan applications and originated fewer low-documentation loans during the treatment period (activity resumed to normal levels when the program ended). While some borrowers followed the advice provided by counselors, many modified their loans in ways that were contrary to counselor recommendations, and others took out loans they had been told they could not afford. In aggregate, the counseling program did not appear to materially improve loan outcomes for individuals who stayed in the market.

Mortgage and credit counseling programs often include services apart from financial education, such as client advocacy and proactive intervention, which make the effects of financial education difficult to disentangle. One such program is the Indianapolis Neighborhood Housing Partnership (INHP), a voluntary mortgage counseling program evaluated by Agarwal, Amromin, Ben-David, Chomsisengphet and Evanoff (2010a). The study finds that, controlling for loan characteristics, borrowers who participated in INHP, some of whom had mortgages originated and serviced by INHP itself, had significantly lower default rates 12 and 18 months after origination. This result is robust to several econometric specifications and to a matched propensity score model. However, while it is clear that INHP’s services improved outcomes, it is not clear how much of the effect was due to better loan terms, how much due to INHP’s proactive interventions when loans became delinquent, and how much due to improved financial management on the part of borrowers.

Finally, Agarwal, Amromin, Ben-David, Chomsisengphet and Evanoff (2010b) look at financial literacy in India and find that a vast majority of the respondents appear to be financially literate – they answer the numeracy, inflation, and diversification questions correctly. The Indian financial literacy level is the same as in Netherlands but 20% higher compared to the U.S. Indians use about 38% of monthly income to cover monthly expenses –they save or invest 62% of their salary on average.

We also observe that there are significant variations across demographic groups. Looking at risk tolerance by gender we see that men tend to be more oriented toward risk than females, with 30% of males being categorized as aggressive growth and only 8.7% of females. This is mirrored on the conservative returns side with 17% of males being conservative compared to 38% of females. The women in the sample also appear to have more education, with 68% of women having more than a graduate education and only 50% of men having a similar degree. Contrasting salary with risk and education levels, we see that higher income individuals tend to be more educated and seek aggressive growth portfolios. Looking at family size, there does not appear to be a strong correlation between education and number of dependents. However, looking at risk profiles we see that lower risk planners tend to have smaller families. The average number of dependents for low risk planners is 1.45 as opposed to 1.27 for aggressive
planners. Combining information about goals, investments, liabilities and insurance policies we can discern some patterns in the data. As the number of goals increases, we find an increase in the number of financial instruments, i.e., an increase in the number of investments, liabilities and insurance policies, with investments showing the largest increase as the number of goals increase. Looking at the distribution products as a function of the number of investments also looks interesting. We find that aggressive growth individuals tend to have more insurance policies. This increase appears to be correlated with the increase in the number of investments, suggesting that the insurance policies may not be as conservative as they initially look. Finally, I am starting some new research on the issue of retirement savings and how it is correlated with various demographics.

In this article I have shown that some consumers make financial mistakes, and they tend to learn from their mistakes. Some consumers (old and the young) are more prone to making financial mistakes, and these mistakes are correlated to cognitive abilities. I also look at the role of financial counseling and education and find mixed evidence. I have offered some policy recommendations, but by no means are these conclusive. We need further research in this extremely important topic, particularly as it applies to Asian consumers’ behaviors and choices in their financial borrowing, saving and investing context.

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References


