Translating Financial Education into Knowledge and Behavior Change

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The number of financial education programs continues to flourish. However, research measuring the effectiveness of these programs has been more limited, primarily because of a continued lack of understanding among financial education providers about how to measure program impact. In general, the empirical rigor of these studies is still far from satisfactory, and only recently have a few studies attempted to present program impact within the context of a theoretical framework.

A special session was held at the 2006 conference of the American Council on Consumer Interests to highlight some of the leading research studies related to financial education and program evaluation. Four papers were presented during the session. The first two papers provided examples of how more rigorous empirical models can be used to show how financial education and counseling can affect changes in knowledge and behavior. The third paper presented the impact of financial education within the context of the Transtheoretical Model of Change (TTM). The TTM framework integrates major psychological theories into a theory of behavior change. TTM can be used to identify the state at which individuals are ready and able to change their financial behaviors so that appropriate educational interventions can be applied. The fourth paper provided a national overview of the current state of financial education and program evaluation and future directions for researchers in this field. This study identified current barriers to conducting more rigorous program evaluations and provided suggestions for how the financial education profession can overcome these challenges to build national evaluation capacity.

The research presentations set the stage for an open discussion at the end of the session that focused on what the profession can do to realistically increase the rigor of financial education research. Below is a brief summary of each paper and some of the highlights from the discussion that followed.

Measuring Consumers' Credit Knowledge Using OLS and Quantile Regressions

(Mitchell Rachlis and Angela Lyons)

Credit literacy depends, in part, on understanding credit reports and scores. Both credit reports and credit scores can influence lenders' decisions to grant credit and may affect individuals' ability to obtain jobs, insurance, and rental housing. Higher credit scores can improve the likelihood a loan will be granted and lower the interest rates offered on automobile, mortgage, and other consumer loans. Many credit experts suggest that it is prudent practice for consumers to check the accuracy and completeness of their credit report information periodically. However, it is not clear how well consumers understand what is in a credit report, what factors affect credit scores, and how to dispute information in a credit report. Understanding the consumers' level of credit literacy is vital to improving consumers' ability to manage their own credit.

In 2004, the US Government Accountability Office (GAO) conducted a study to assess consumers' knowledge of credit reports, credit scores, and the procedures needed to correct an error on a credit report (US GAO, 2005). Rachlis and Lyons used this data to extend the work of the GAO. Specifically, Rachlis discussed in his presentation how OLS and quantile regressions were used to determine differences in credit knowledge across demographic groups and how the impact of demographic factors varied across the distribution of consumers with different levels of credit knowledge. Current financial education research has moved away from knowledge-based surveys and more towards collecting measures of behavior. In addition, much of this research collects data using convenience samples (i.e., program participants). The research conducted by Rachlis and Lyons contributes to the literature by showing how valuable insight can be gained from a knowledge-based survey using a random sample of the U.S. population. Quantile regressions, previously unused in financial education studies, were used to identify specific subgroups of the population that could benefit from more targeted financial education.

A telephone survey was used to collect data from a random sample of U.S. consumers. Respondents were asked a total of 58 questions. Twenty-three survey questions (worth a total of 56 points) were created to test consumers' knowledge of credit reporting issues. An additional 22 questions were included to obtain consumers' opinions about these issues and to examine their experiences with the credit reporting process. For example, respondents were asked if they lived in a state where they could receive copies of their credit reports free each year prior to the passage of the Fair and Accurate Credit Transactions Act. It was hypothesized that having this right might encourage more individuals to look at their credit reports, which could increase their credit reporting knowledge. Similarly, it was hypothesized that having a mortgage or an automobile loan could mean that consumers were more likely to know more about credit reporting issues based on their ongoing experiences with borrowing. Other experience-related factors that might influence consumers' knowledge and understanding of credit reporting issues included having seen a credit report or credit score, disputing information on a credit report, and experiencing identity theft. Additional questions were asked to collect general demographic information on ethnicity, age, gender, education, employment status, investments and loans, and income level.

A credit knowledge score was calculated for each respondent using the 23 credit knowledge questions in the survey. Using these questions, a respondent could earn a total of 56 points; 37 points based on 14 credit report questions, 12 points based on four credit score questions, and 4 points based on four questions related to the dispute resolution process. In addition, consumers could earn three additional points by answering one question about the FACT Act. Consumers' average credit knowledge score was calculated as the percentage of correct answers to the 23 credit knowledge questions. The mean score on the survey was 55 percent, where consumers with higher credit knowledge scores were assumed to be more knowledgeable.

To determine how different factors affect consumers' credit knowledge, OLS and quantile regression models were estimated, where the credit knowledge score served as the dependent variable. The independent variables included ethnicity, age, annual household income, employment status, gender, education levels, had a mortgage or auto loan, requested a copy of credit report, pulled credit score, disputed contents of credit report, experiences identity theft, and lived in a free credit report state. The results from the OLS model showed that most of the independent variables in the model were statistically significant. For example, having higher levels of income and education significantly increased a consumer's credit knowledge score while being older and unemployed significantly decreased scores. Using whites as the comparison group, Hispanics had significantly lower scores while blacks did not. It is interesting to note that the largest positive marginal effects were found for education while the largest negative marginal effects were founds for Hispanics.

The findings from the OLS regression also showed how prior financial experiences can significantly influence credit knowledge. Living in a free report state and having experienced identity theft had no statistically significant effect on consumers' credit knowledge scores. However, having a mortgage or an automobile loan, having seen a credit report or credit score, and having disputed an error on a credit report significantly increased scores. These increases are consistent with the hypothesis that increased experience with credit and credit reports improves consumers' knowledge of these issues.

Quantile regressions were estimated to determine if the impact of the independent variables varies for consumers at different points in the distribution of knowledge scores. Specifically, do the independent variables have a different impact on the credit knowledge scores of consumers who scored lower in the distribution versus those who scored higher? While OLS minimizes the sum of the squared residuals at the mean, quantile regression minimizes the weighted sum of the absolute value of the residuals, where the weight function depends on the signs of the residuals and the quantile (i.e., position in the distribution). Thus, it is possible to explore the potential effects of independent variables (covariates) on the location and scale of the conditional distribution as well as the shape of the distribution (Koenker and Hallock, 2001).

The results of the quantile regressions showed that the position of an individual in the credit knowledge distribution significantly affects the impact that various independent variables have on the consumers' level of credit knowledge. For example, while education continued to positively affect credit knowledge scores, a large and positive spike in the effect of education was observed for the lower tail of the distribution at the 20th quantile. The implication is that higher levels of education have a stronger, positive impact on scores for those who are less financially knowledgeable about credit reporting. Recall that the OLS regression showed that being Hispanic was correlated with having lower credit knowledge scores. In the quantile analysis, being Hispanic had a stronger negative impact on credit knowledge for those in the lower tail of the distribution. Additional evidence revealed that the effects of age, income, employment status, gender, and financial experience also varied across the distribution with respect to significance levels and the magnitude of the effects.

The findings from this research have important implications for consumer educators, financial professionals, and policymakers, especially with respect to national strategies designed to improve consumers' financial well-being. Results from the standard OLS model identified, in general, demographic groups that were less credit knowledgeable than others. However, the quantile regressions allowed for more precise identification of specific demographic subgroups that would likely benefit from more targeted financial education. Thus, quantile analysis can be a useful tool for identifying potential opportunities for more targeted information to specific subgroups of consumers.

Measuring the Impact of Credit Counseling on Borrower Behavior

(Michael Staten)

Credit counseling agencies dispense financial education and advice to millions of consumers each year. The central mission of most non-profit counseling agencies is to provide "decision assistance" to financially troubled borrowers in the form of individual budget analysis, diagnoses of core problems and identification of options. In addition, a core service of agencies is to negotiate with creditors on behalf of eligible consumer clients to set up voluntary repayment plans (Debt Management Plan or DMP) that often feature concessions on finance charges and fees, lower monthly payments, re-aging of accounts and cessation of collection efforts. When appropriately recommended, these agency-administered plans provide a valuable service for consumers by helping them to avoid the negative consequences associated with default or bankruptcy. Those consumers who do not enroll in a DMP (the majority of agency customers in most cases) may also benefit from the thorough budget analysis and recommendations for action that follow from the initial "intake" interview session.

Public policy increasingly views counseling as important for preventing future financial problems. Homeownership and budget counseling features prominently in several state and local laws that attempt to curb predatory lending in mortgage markets (e.g., North Carolina). An important provision of the new federal bankruptcy law passed in 2005 requires two rounds of credit counseling for consumers filing for bankruptcy (one prior to filing, another prior to discharge of debt). Each of these counseling requirements seems to envision either a rehabilitative or preventive role for credit counseling to avoid future financial problems. However, despite the growing impact of the counseling industry on millions of consumers, we are aware of no studies to date that demonstrate the impact of credit counseling on the subsequent credit usage of counseled borrowers.

Over the past decade, credit counseling agencies have expanded their channels for delivering individualized counseling to include telephone counseling and, more recently, Internet counseling. Telephone and Internet counseling are less expensive methods of delivering counseling to consumers across large geographic areas primarily because they eliminate the need for investment in brick and mortar facilities used to conduct in-person interviews. Consequently, they enable an agency to serve more clients per time period, and respond faster to any surge in demand. However, the move away from face-to-face interaction with clients has been driven primarily by budgetary pressures and not by demonstrated effectiveness of the telephone and Internet channels. To date, the most cost-effective means of delivering budget counseling and financial education to consumers is unknown.

Both the value of credit counseling to borrowers and the relative effectiveness of face-to-face vs. technology-assisted delivery of counseling are empirical questions. Two empirical studies were recently undertaken at Georgetown University's Credit Research Center to investigate both issues. The results from these studies were presented by Staten and are summarized below.

The first study investigated whether credit counseling was associated with a measurable, positive effect on a consumer's subsequent credit behavior. More specifically, this study examined the impact of one-on-one counseling delivered to approximately 8,000 clients by certified credit counselors over a five-month period during 1997. Credit bureau data provided objective measures of credit performance for these clients over a three-year period following the initial counseling session, as well as for a large stratified random sample of individuals with risk profiles and geographic residences similar to the client group in 1997 but who were not counseled by participating agencies.

The study provided evidence that the receipt of one-on-one credit counseling is associated with improvement in borrower credit profiles over an extended period. On seven different measures of borrower credit performance, including an overall index of creditworthiness (i.e., credit score), the borrowers who received credit counseling improved their profile and performance over the subsequent three years, relative to borrowers with similar initial credit profiles who did not receive counseling. Statistical techniques to correct for borrower self-selection into counseling revealed that much of the improvement was attributable to motivation, or other unique characteristics of the group of borrowers who chose to seek counseling. This was especially true of the observed change in borrower credit scores. But, across several specific margins of credit usage (e.g., total debt, total active accounts), counseling itself was associated with substantial reduction in debt and improved account usage measured three years later. Moreover, it appears that the counseling experience provided the greatest benefit to those borrowers who had demonstrated the least ability to handle credit at the outset.

Does counseling bring about a lasting change in borrower credit behavior? With only a single post-counseling credit report snapshot, it is difficult to distinguish enduring behavior change from temporary restructuring of a borrower's debt portfolio. Multiple credit report snapshots over time, or a single snapshot taken after a longer post-counseling period, would help distinguish the two. Data for this study made it possible to examine the borrowers' profiles after three years, which may be sufficient to capture real behavior change, especially with respect to specific credit usage margins. But, we should not make an assessment of the value of the counseling experience solely contingent on evidence of permanent behavior change. Credit counselors often recommend strategic moves to boost a borrower's credit profile. Even when the advice involves simple debt consolidation (e.g., moving credit card balances into a home equity loan), it can substantially improve the borrower's credit score, and subsequent eligibility for lower interest rates, as well as reduce the likelihood of costly delinquency on one or more accounts. Since the objective of this study was to determine if credit counseling helped borrowers, such outcomes certainly seemed to qualify as help—even in the absence of stronger evidence of permanent behavior change.

The second empirical study (currently in progress) examined the effectiveness of face-to-face, telephone and Internet counseling across all types of consumer clients (i.e., those who enroll in a DMP and those who receive financial counseling only). For each delivery channel, this study looks at how different approaches to the timing, duration and content of the counseling influence client outcomes. Effectiveness of counseling is gauged using credit bureau data to examine the credit profile of counseled clients in each delivery channel at the time of the intake interview, and then up to 3 years following counseling. Ten credit counseling agencies were selected to participate through a competitive proposal process. Participating agencies supplied detailed data from the counseling "intake" interview on 60,000 clients who were counseled through various delivery channels during 2003. Results should be available by mid-2006.

Measuring Successes of Consumers in Credit Counseling: A TTM Perspective

(Jing Jian Xiao)

The purpose of this presentation was to demonstrate how successes of consumers in credit counseling are measured under the framework of the Transtheoretical Model of Change (TTM). A consumer with debt troubles may call a credit counseling agency for help. Most of them will fall into one of three categories: 1) those who are in better financial shape and can do something themselves to get out of financial trouble (FCO – financial counseling only); 2) those who need a debt management program (DMP) administered by the credit counseling agency; and 3) those whose financial situations are very bad and filing for bankruptcy is the best solution for them. TTM has the potential to better help these clients achieve their goals of debt reduction.

The Transtheoretical Model of Change (TTM) is a framework that integrates major psychological theories to help people effectively change their behaviors and improve their quality of life. TTM was developed in the 1970s by Dr. James Prochaska. The framework was first used to help individuals stop smoking and then in many other areas to promote positive health behaviors. In recent years, TTM has been applied to financial education and credit counseling (Kerkman, 1998; Newman, Prochaska, Leon, Bassett, & Johnson, 2004; Shockey & Seiling, 2004; Xiao, Newman, Prochaska, Leon, & Bassett, 2004a, 2004b; Xiao, O'Neill, Prochaska, Kerbel, Brennan, & Bristow, 2004).

Compared to other intervention frameworks, TTM has several unique features. It integrates the essential components of major psychological theories to form a framework to offer more effective interventions. It refines the stages of behavior change, which is different from the traditional theory and has the potential to reach more consumers in terms of the targeted behavior. It also matches intervention strategies with different stages of behavior change, which makes it more effective compared to other intervention programs. Finally, it focuses on enhancing self-control.

Major concepts of the TTM framework include stages of change, the process of change, confidence, and decisional balance. TTM identifies five stages of behavior change: precontemplation, contemplation, preparation, action, and maintenance. If a person is not willing to change in 6 months, he/she is in precontemplation. If a person is willing to change in 6 months, he/she is in contemplation. If he/she is willing to change in 30 days, he/she is in preparation. If he/she has started to change for less than six months, he/she is in action. If he/she has been changing for over 6 months but less than 18 months, he/she is in the maintenance stage. If he/she has changed the behavior for more than 18 months, his/her behavior is classified as having changed. However, some people may relapse to previous stages. For these individuals, behavior change may take several cycles. TTM also identifies ten change processes (or intervention strategies). According to TTM, these intervention strategies can be more effective if they are matched with the appropriate stage of change.

Two indicators of success of behavior change are decisional balance and self-efficacy (confidence). When people are at a later stage, they perceive more benefits and fewer costs of behavior change, and they are more confident about their self-control when they face difficult situations.

In his presentation, Xiao discussed how he collected both qualitative and quantitative data from a sample of credit counseling clients nationwide to develop a measure of readiness to change following the TTM framework. The findings suggested that TTM has the potential to be used in the setting of credit counseling to help consumers change stage by stage to achieve their desired financial goal(s), such as eliminating credit card debt and taking charge of their finances. The findings also demonstrate a general pattern of success defined by decisional balance and self-efficacy (Xiao, Newman, Prochaska, Leon, & Bassett, 2004; Xiao, Newman, Prochaska, Leon, Bassett, & Johnson, 2004).

The findings have important implications for the credit counseling industry as well as educators and financial professionals in general. To increase the success rate of consumers who seek credit counseling, counselors should proactively incorporate education into the counseling process. The following are some recommendations for how financial professionals can use the TTM framework to better help their clients change their behavior. First, counselors need to consciously integrate education into the counseling session and make it part of the initial assessment. Then, they need to identify the key behavior problems of the clients, communicate the problems to the clients, and encourage them to change. At this point, the counselor can follow the TTM-based approach to provide differentiated interventions to clients at different stages of change. Counselors should measure the outcomes and document any changes in behavior. To do this, they will want to develop a standardized approach to evaluating the education enhanced counseling.

Are We Making the Grade? A National Overview of Financial Education and Program Evaluation

(Angela C. Lyons)

In recent years, numerous programs and initiatives have been developed to promote and provide financial education to U.S. consumers. However, research measuring the effectiveness of these efforts has not kept pace. In fact, little is still known about whether these efforts are actually improving consumers' overall financial well-being. There are a number of reasons why research in this area has been limited. First, there is a general lack of evaluation capacity. Many financial education providers still do not have a basic level of understanding and knowledge about how to measure program impact to show that these programs are working. The lack of evaluation capacity is compounded by a general lack of time, staff, and financial resources to conduct program evaluations.

Even with these challenges, measuring program impact is an issue of critical importance to groups and organizations that need to demonstrate that their programs are working to maintain current funding and obtain future resources. Most financial education programs are still evaluated using output information such as the number of programs delivered and the number of program participants. However, these types of impact measures are no longer sufficient. Funders have raised their expectations; they want to see documented improvements in individuals' knowledge, attitudes, and financial behaviors.

This presentation highlighted key findings from a recent study conducted by Lyons, Palmer, Jayaratne, and Scherpf (2006). The study provides an overview of the current state of financial education and program evaluation and identifies critical gaps that exist in program evaluation using qualitative and quantitative data collected from a national sample of financial professionals and educators. Lyons identified the methods and indicators currently being used to collect data and disseminate impact findings. She also identified several areas of deficiency with respect to program evaluation such as the lack of evaluation capacity, failure to integrate evaluation into the program design, and lack of empirical rigor and "industry" standards. It was noted, however, that many of the deficiencies could be overcome by developing future evaluation resources, offering nationwide training, and raising national awareness about the importance of evaluation.

There was also discussion about the recent movement by researchers and funders to conduct more rigorous evaluations that include control groups and longitudinal tracking of program participants. Many of those on the "front lines" delivering and evaluating financial education programs expressed concern that these types of evaluations were unlikely to be realistic. Most grass-roots level organizations do not have the staff, time, and financial resources to carry out large-scale evaluations. For this reason, financial education providers with limited time and resources may need to be more strategic in their evaluation planning. One national program leader commented: "We're jumping into evaluating everything, instead of… taking a couple of projected outcomes or a subset of all that we work with and trying to do evaluations with those." Thus, providers may want to pool their resources and focus on evaluating only one or two of their key "signature programs" rather then spread their limited resources across several evaluation projects.

Overall, this presentation provided significant insight into: 1) the challenges facing financial education providers and 2) how the profession can realistically overcome these challenges by building national evaluation capacity. There was also emphasis on the need for a more standardized and consistent approach to program evaluation. However, as noted by Lyons, one needs to be cautious when recommending a standardized approach. The findings from this national study suggest that it is difficult to layout a single approach to evaluating programs that vary in content, delivery method, and target audience. Also, there is wide variation not only in the types of programs being offered, but in the infrastructure of various organizations and the availability of financial and non-financial resources. These disparities suggest that a "one-size fits all" approach to program evaluation may not be the best solution. Instead, a set of evaluation tools that is flexible enough to account for the wide variation in programs may be a better option. The challenge is in creating tools that are flexible enough to meet the needs of a wide variety of individual programs, yet standardized enough so that they can be used to make comparisons across programs.

It was suggested that a set of national evaluation tools and training resources could go a long way toward overcoming many of the barriers and challenges facing financial education providers, especially those related to evaluation capacity, time, and resource constraints. Implementing a more standardized and consistent approach would help the profession to: 1) better identify "best practices," 2) improve program effectiveness, and 3) establish policies that lead to better financial decision making for consumers and their communities.

A description of what an ideal "evaluation tool" might look like at the national level was also discussed. Specifically, Lyons described how efforts were currently underway to develop a web-based evaluation tool. The project aims to help financial educators and professionals build their evaluation capacity by: 1) developing a database of evaluation questions and planned practice changes for a wide range of financial topics and target audiences and 2) providing a user-friendly evaluation manual with instructions on how to use the database to construct evaluation instruments and show program impact. Funding for the project is provided by the National Endowment for Financial Education.

Discussion and Concluding Remarks

A discussion between the presenters and the session attendees followed the presentations. The discussion focused on three key questions: (i) What is financial education? (ii) Where should financial education research be heading? and (iii) What can the profession realistically do to build evaluation capacity and increase the rigor of financial education research? Three central themes emerged from the discussion. First, researchers need to build a better link between theoretical models of behavior change (i.e., TTM and the theory of planned behavior) and how impact data should be collected, analyzed, and interpreted. Second, researchers need to be more strategic in the projects they choose to evaluate. It was recommended that the focus be on conducting more rigorous evaluations with projects that have the greatest potential for documenting program impact through the use of control groups and follow-up studies. The findings from these "targeted" evaluations could be used to support the continuation of similar programs that do not have the resources to conduct more rigorous evaluations. With this said, a number of session participants commented that there may still be a need to conduct more simplified, and less rigorous, evaluations so that grass-roots level organizations can show some type of program impact to maintain state and local funding. Finally, there was a general discussion about how financial education should be defined. In recent years, there has been considerable debate about this, especially with respect to whether credit counseling should be included under the broad umbrella of financial education. While no consensus was reached during the session, participants agreed that this dialogue needed to continue. Overall, the session provided useful insight into how researchers can build evaluation capacity and conduct more rigorous evaluations. As the profession moves forward, researchers need to be cognizant of the issues raised during this session and use it as a foundation as they continue to conduct outcome-based evaluations.

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