Chapter 1
Coming to Terms with Financial Literacy

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With consumer debt at record levels, low savings rates, and increasing rates of bankruptcy and foreclosure, it is not surprising that discussions of financial literacy are increasingly common in the public sphere. Interest has largely focused on the question of whether Americans willfully make bad financial decisions, or if they are making bad decisions due to a lack of personal financial literacy. Researchers have long been concerned over a perceived lack of financial literacy (Markovich & Devaney 1997; Warwick & Mansfield, 2000; Avard, Manton, English, & Walker, 2005), though the public and many financial institutions long maintained an air of indifference. Such an attitude may be increasingly problematic given that consumers are faced with an increasingly complex financial marketplace.

The current economic climate requires consumers to be more financially independent, given that an increasing number of employer-based retirement plans are structured as defined contribution plans (which places the burden on individuals) rather than defined benefit plans (which places the burden on employers) (Poterba, Rauh, Venti, & Wise, 2006). Further, continued concern over the weakening of the United States' Social Security System has raised the question as to how many Americans can still rely on the "three-legged stool" framework for retirement, referring to the traditional model of pension planning in the United States which consisted of social security, private pensions, and personal savings on the part of consumers (Gruber & Wise, 2001). Thus, an understanding of issues related to personal finance has become increasingly important for the long-term financial security of many Americans.

As Hira and Schuchardt (2008) note, it is increasingly difficult to ignore the concept of financial literacy given the pervasiveness of the term. They cite the existence of "the President's Council on Financial Literacy, the Financial Literacy and

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Education Commission, the Jump$tart Coalition for Personal Financial Literacy, [and] the Institute for Financial Literacy" (Hira & Schuchardt, 2008, p. 1). Financial literacy even has its own month (April). It is unlikely that mere coincidence alone has spurred this growing interest in financial literacy, particularly given that it has come during an economic period that many consider to the most serious since the Great Depression. Many are likely familiar with the popular expression, "it takes a village to raise a child." In recent years, an apt expression may be that it takes a recession to raise financial awareness.

The need for an understanding of this topic has been recently highlighted in the convening of a National Research Symposium on Financial Literacy and Education in October of 2008, resulting in a comprehensive report by the United States Department of the Treasury. A summary of this report is available in the *Journal of Financial Counseling and Planning* (Schuchardt et al., 2009). Among the research priorities identified by the participants were questions regarding the core principles of personal finance that every consumer needed to know, and measuring the success of financial education, with a particular emphasis on validity and reliability (Schuchardt et al., 2009). Despite all the recent attention, America has had a difficult time coming to terms with the concept of financial literacy. While there are some common themes among published works, the majority of the research available lacks consistency in regards to how literacy is defined and how knowledge is measured. The present chapter highlights recent developments in the study of financial literacy, ways in which financial knowledge has been measured, and provides some suggestions for the future.

Defining Financial Literacy

Over the years, a number of researchers have provided definitions of financial literacy, and these definitions range significantly in complexity and emphasis. Vitt, Reichbach, Kent, and Siegenthaler (2005) defined personal financial literacy as follows:

> [Financial literacy may be defined] as the ability to read, analyze, manage and write about the personal financial conditions that affect material well being. It includes the ability to discern financial choices, discuss money and financial issues without (or despite) discomfort, plan for the future, and respond competently to life events that affect everyday financial decisions, including events in the general economy.
>
> (Vitt et al., 2005, p. 7).

This definition, like many, is couched in terms of abilities on the part of the consumer. The United Kingdom offers a more simplified version, defining the concept "as the ability to make informed judgments and to make effective decisions regarding the use and management of money" (Noctor, Stoney, & Stradling, 1992). Fox, Bartholomae, and Lee (2005) provide a similar definition that stresses the importance of financial literacy in terms of consumer decision-making. McCormick (2009) broadly defined literacy as "the possession of basic knowledge or competence …" (McCormick, 2009, p. 1).

Still other definitions go beyond competency, indicating other dimensions that might be considered fundamental to financial literacy. Psychological factors such as confidence are included along with knowledge as part of the ANZ financial literacy framework (Roy Morgan Research, 2003) and by Cutler and Devlin (1996), though the ANZ framework includes attitudes as well. Balatti (2007) suggested a modification that involves the importance of social interactions, noting that, “financial literacy is exercising in real life situations the ability to make informed judgments and to take effective decisions regarding the use and management of money.” (Balatti, 2007, p. 7).

Hogarth (2002) summarized the conceptual content of these definitions, noting the following themes of interest:

> (a) being knowledgeable, educated, and informed on the issues of managing money and assets, banking, investments, credit, insurance, and taxes; (b) understanding the basic concepts underlying the management of money and assets (e.g. the time value of money in investments and the pooling of risks in insurance); and (c) using that knowledge and understanding to plan, implement, and evaluate financial decisions.
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> (Hogarth, 2002, pp. 15–16).

This sentiment is echoed in Hira and Schuchardt’s (2008) recent review of the issue, as they note that a comprehensive financial literacy program should at least educate consumers on the following concepts: control of cash flow, savings, investments, borrowing decisions, risk management, and asset transfers.

Given the available literature, obvious difficulties abound. The primary difficulty lies in the fact that it is rarely helpful to have various definitions for a single concept, particularly when individuals are interested in understanding that concept better. This is a point that the field has recognized, as noted in Hira and Schuchardt’s (2008) call for uniformity in what has been a traditionally multi-disciplinary area of research. Further, other fields of research have acknowledged the fundamental complexity of literacy as a concept. Freebody and Luke (1990), for example, discuss literacy in terms of what it enables us to do and distinguish between the following types:

> *Basic/functional literacy*—sufficient basic skills in reading and writing to be able to function effectively in everyday situations, broadly compatible with the narrow definition of ‘health literacy’ referred to above. *Communicative/interactive literacy*—more advanced cognitive and literacy skills which, together with social skills, can be used to actively participate in everyday activities, to extract information and derive meaning from different forms of communication, and to apply new information to changing circumstances.
>
> *Critical literacy*—more advanced cognitive skills which, together with social skills, can be applied to critically analyse information, and to use this information to exert greater control over life events and situations.
>
> (Freebody & Luke, 1990).

Applying such distinctions to financial literacy creates a more interesting analysis, as consumers may be expected to behave differently depending on where they stand developmentally. As noted in the health literacy literature, these distinctions also tie literacy to cognitive development, as higher levels of financial literacy are necessarily reliant on individuals having highly developed cognitive skills. Consider how health educators define health literacy:

> Health literacy represents the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which

> promote and maintain good health. Health literacy means more than being able to read pamphlets and successfully make appointments. By improving people's access to health information and their capacity to use it effectively, health literacy is critical to empowerment (Nutbeam, 1998).

One point that is not always highlighted in the available literature is the fact that the concepts of financial knowledge and financial literacy are in fact quite different. This is not always clear, as these terms are used interchangeably at times. In this author's opinion, both concepts are equally important and demand clarification. We can start from the very basis of the concepts. Webster's dictionary defines being literate as "having knowledge or competence" in a general sense (Merriam-Webster, 1996). Knowledge can basically be defined as "(1) the fact or condition of knowing something with familiarity gained through experience or association; (2) acquaintance with or understanding of a science, art, or technique" (Merriam-Webster, 1996). While these concepts are clearly interrelated, the following distinction is worth noting. Someone can learn how to read (i.e., become literate) but may not necessarily understand syntax and more advanced concepts (knowledge related to the art of language). Similarly, it is important to distinguish between one's ability to navigate financial decisions (literacy) and one's ability to understand the underlying forces at work (knowledge). This draws into question the end goal of these various financial literacy initiatives. Is it enough to provide consumers with the ability to get by in an increasingly complex financial market, or is it more important for consumers to understand the decisions they are making in the market?

Financial Knowledge as a Construct

As is often the case when dealing with human concepts such as knowledge, the difficulty lies not only in measurement but also in definition of the construct. Researchers have long considered financial knowledge as an important component in analyzing consumer decisions, though no universally recognized measure of financial knowledge has been developed to this date. Rather, anyone wanting a finer understanding of financial knowledge is confronted immediately with a myriad of findings based on various different measures of knowledge. While a majority of those measures in the available literature are certainly reasonable in their assumptions and are likely capturing some aspect of financial knowledge, it is not clear as to whether or not the various measures are capturing the same construct. In fact, determining whether or not a given measure actually captures what a researcher intends to measure is one of the more difficult aspects of working in the human sciences. The present section provides a brief overview of the various instruments that have been used to measure financial knowledge in the past and presents an argument for what is needed in the future.

Personal financial knowledge is typically assessed in one of two ways in the literature. One type requires participants to answer an array of questions related to general financial knowledge, and the questions tend to be closely related to topics covered in an introductory personal finance course (Avard et al., 2005; Chen & Volpe, 1998; Jones, 2005; Markovich & DeVaney, 1997; Robb, 2009; Robb & James, 2007; Robb & Sharpe, 2009). Other studies use specific knowledge of one's own situation (APR associated with credit cards, balance, credit reports, etc.) as a proxy for respondent's understanding of personal financial matters (Braunsberger, Lucas, & Roach, 2004; Joo, Grable, & Bagwell, 2003; Warwick & Mansfield, 2000). However financial knowledge is measured, studies consistently indicate that Americans do not possess a high degree of financial knowledge (Avard et al., 2005; Chen & Volpe, 1998; Jones, 2005; Markovich & DeVaney, 1997; Warwick & Mansfield, 2000). Whereas a majority of the studies have emphasized college student populations, evidence suggests that adults do not perform much better (Braunsberger et al., 2004). The various measures and studies are summarized in Table 1.1.

One of the most common measures of specific financial knowledge is awareness and understanding of the Annual Percentage Rate (APR). Reporting of the APR was made mandatory by the Truth in Lending Act of 1968, and evidence suggests that awareness of the APR has grown considerably among consumers since that time (Hogarth & Hilgert, 2002). Warwick and Mansfield (2000) emphasized consumer knowledge as it related to the respondents' own credit card, emphasizing knowledge of interest rates, credit limits, and balance information. Students sampled ($n=381$) showed a general lack of knowledge, as a mere 29% were aware of the interest rate associated with their card, with 52.5 and 57% knowing their current balance and credit limit, respectively. Joo et al., (2003) noted significantly higher awareness of the APR associated with students' cards (61%) using a sample of 242 graduate and undergraduate students. Whereas evidence suggests it is important for consumers to be aware of personal financial information such as the APR and relevant fees/limits, researchers have noted that awareness does not necessarily correspond with understanding (Lee & Hogarth, 1999).

Markovich and DeVaney (1997) measured financial knowledge using a 21-point scale consisting of credit/loan, insurance, and investment knowledge components. Questions were specifically designed to cover aspects of personal finance that would be covered in an introductory course. Students surveyed ($n=236$) demonstrated a general lack of knowledge and generally believed that they would benefit from exposure to a course in personal finance. Chen and Volpe (1998) used a 36-question survey including dimensions on general financial knowledge, savings and borrowing, insurance, and investments. While they noted significant degree (business majors scored better than non-business majors) and class rank effects (upperclassmen scored higher than underclassmen), the average percentage correct was still roughly 53% ($n=924$), indicating a severe lack of financial knowledge among the college students surveyed. Avard et al., (2005) present yet another measure of personal financial knowledge consisting of 20 questions deemed to be important for individuals to make basic financial decisions in the current market. Those students surveyed ($n=407$) earned an average score of roughly 35%, indicating an extreme lack of financial knowledge.

Table 1.1 Summary of measures of financial knowledge/literacy

Author	Population of interest	Measure of financial knowledge
Markovich & DeVaney (1997)	College seniors; $n=236$	4-point Credit/Loan Scale 5-point Emergency Fund/Insurance Scale 12-point Investment Scale Scales summed to create Total Knowledge Scale (0–21)
Chen and Volpe (1998)	College students; $n=924$	9 General financial knowledge questions 9 savings/borrowing questions 6 insurance questions 7 investment questions Summed to create 36-item scale
Warwick and Mansfield (2000)	College students; $n=381$	Questions dealing with students' knowledge of the interest rate on their credit card (APR), their card's credit limit, and outstanding balance
Hilgert, Hogarth, and Beverly (2003)	Households in the Surveys of Consumers; $n=1,004$	28 True/False questions dealing with various aspects of credit (9), saving (5), investment (6), mortgages (4), and others (4)
Joo, Grable, and Bagwell (2003)	College students; $n=242$	Awareness of own APR
Avard, Manton, English, and Walker (2005)	College freshmen; $n=407$	20 Questions designed to assess basic knowledge of financial issues Responses summed to generate a possible score of 0–100 (each question worth 5 points)
Jones (2005)	Incoming college freshmen; $n=216$	3 Questions on general credit knowledge 3 Questions on specific credit knowledge Responses summed to generate a score on a 100-point scale
Lusardi and Mitchell (2007)	HRS respondents; $n=1,984$	Questions dealing with basic numeracy skills including compound interest, and percentages
Guiso and Jappelli (2009)	Unicredit Bank Customers included in the 2007 UCS; $n=1,686$	Questions dealing with interest rates, inflation, investment risk, and diversification. Index constructed based on 8 indicators
	College students	6 Questions dealing with general financial knowledge
Robb and James (2007)	$n=3,525$	Responses summed to generate a score from 0 to 6
Robb (2009)	$n=1,354$	Responses categorized as low (0–2), medium (3–4), or high (5–6) based on number of responses
Robb and Sharpe (2009)	$n=3,884$	Responses summed to generate a score from 0 to 6

Jones (2005) examined a more specific aspect of personal financial knowledge, credit knowledge, among a sample of 216 incoming freshmen. As in previous studies with broader measures of personal financial knowledge, Jones (2005) noted average scores of roughly 53%. A series of recent studies used a 6-question scale of financial knowledge (Robb, 2009; Robb & James, 2007; Robb & Sharpe, 2009). Unlike the previous studies that develop their own measures of financial knowledge, researchers generated their six-question scale using questions available in the previous literature. Questions were selected with the intention of serving as a reflection of the issues that college students might be faced with in a general course on personal finance. The six questions were drawn from the 2006 Jump$tart Survey and from research conducted by Chen and Volpe (1998). Robb and James (2007) analyzed the relationship between various sociodemographic characteristics and this measure. Robb and Sharpe (2009) noted a mean response rate of 3.14 correct questions out of 6 (roughly 52%) using a sample of 3,884 college students. Using the same six-question scale, Robb (2009) categorized students as having a low, medium or high financial knowledge score. Roughly half (48.4%) of the sample ($n=1,354$) answered three or four questions correctly (medium knowledge), while 31% earned a low score and 20.6% earned a high score (Robb, 2009).

Hilgert, Hogarth, & Beverly (2003) examined the correlation between financial knowledge and actual behavior among the general population in the United States. They measured knowledge using the 28-question financial IQ measure that is included in the Surveys of Consumers, which deals with aspects of cash-flow management, credit management, savings, investments, mortgage information, and other financial-management topics (Hilgert et al., 2003). Overall scores indicated consumers answered roughly 67% of the questions correctly, with some variation within specific topic areas.

It is important to recognize that many of the measures used suffer from a potential methodological flaw. Whereas it is intended that the questions capture realistic consumer responses, many of the measures use multiple choice question formats. These formats allow for consumers to guess the correct answer, and respondents may be guessing even in cases where a do not know option is present. This is a flaw that should not be overlooked entirely, as many of the correct responses observed may be due to chance rather than knowledge.

As if things were not difficult enough given the variety of financial knowledge measures, there are a number of studies that present similar methodology but use what they refer to as measures of financial literacy. Lusardi and Mitchell (2007) made use of data from the Health and Retirement Study (HRS), which included a measure of economic literacy (test of numeric skills) and indicated that nearly half of those sampled failed to answer a simple question dealing with interest rates. Guiso and Jappelli (2009) used data from the Italian-based 2007 Unicredit Customers' Survey. The survey stresses objective questions and covers issues such as interest rates, inflation, ranking of asset risk, and diversification. As in the previous analyses, response rates range from fair to poor (roughly 52% of the sample answered the inflation question correctly with only 34% answering the interest rate question correctly).

Overall, anyone wishing to explore the issue of financial knowledge (or financial literacy) is met with the daunting task of simply coming to an understanding of what is meant by the term(s). Aside from generally suggesting that people lack knowledge or literacy, these studies tend to recommend that further research is needed, particularly in regards to how literacy or knowledge is measured. Further, most of the available evidence is supportive of a link between personal financial knowledge and behavior. For the most part, there is nothing inherently wrong with the selected measures of personal financial knowledge that have been used in the past and they all likely capture some aspect of the construct. However, without a widely accepted measure, the field lacks uniformity and thus questions persist as to the reliability and validity of findings. This lack of uniformity has a broader impact from the standpoint of applicability, as it makes it difficult to determine whether literacy is improving and whether programs have the same impact on literacy, which makes it difficult for policymakers to take decisive action in the area of financial education and regulation.

Literacy, Knowledge, and Behavior

The existing evidence suggests that there is a relationship between literacy or knowledge and behaviors in the market, though the exact nature of this relationship remains unclear (Guiso & Jappelli, 2009; Hilgert, Hogarth, & Beverly, 2003; Lusardi & Mitchell, 2007; Mandell & Klein, 2009; Robb, 2009; Robb & Sharpe, 2009). However, it seems clear that there is a need for a uniform measure before we can effectively study the relationship between knowledge and behavior. Given the variety of measures in use at the present time, it is difficult to draw clear conclusions and issues related to reliability and validity abound. This applies to financial education programs as well. The ascendance of financial literacy as a key topic of interest led to a virtual explosion of financial education programs in the United States (see Fox et al., 2005 for a detailed review). The Organisation for Economic Cooperation and Development (2005) defines financial education as follows:

> Financial education is the process by which financial consumers/investors improve their understanding of financial products and concepts and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being (p. 26).

Fox et al., (2005) further categorize educational efforts into three broad categories: those designed to improve financial literacy by covering a broad array of financial topics, those specifically designed to improve retirement planning or savings behavior, and those geared toward home ownership decisions (the latter two focusing on more specific aspects).

Whereas these programs have assisted researchers in developing a better understanding of the relationship between education and financial knowledge scores, the initial proliferation of educational programs has been criticized for failing to collect data that are more outcome-specific in nature (Fox et al., 2005; Lyons, 2005; Peng, Bartholomae, Fox, & Cravener, 2007). As Willis (2008) noted, many studies are structured such that the impact of education on knowledge or literacy is measured, but there is a lack of information concerning the impact of that knowledge or literacy on subsequent behavior. This is supported by Mandell (2005), who noted that not only was it unclear whether increasing financial literacy makes a difference but it was also uncertain what areas of financial knowledge might be most important. This issue is compounded by evidence that many financial education initiatives are not necessarily resulting in improved knowledge scores (Mandell, 2006).

These difficulties are further compounded by the fact that high literacy or knowledge levels are not necessarily a guarantee that individuals will behave in the desired fashion, as financial decisions are often influenced by emotions. The fact that saving is important is not new information to most consumers, so why do American's continue to struggle with adequate savings rates and excessive debt? The present research also lacks consensus on how knowledge and literacy are related and what might be a desirable level of literacy for the average consumer. Even if researchers and policymakers are able to achieve some level of agreement as to how literacy should be defined and measured, the question remains as to who should be responsible for developing more literate Americans. Is this a topic that should be covered by middle school, high school, or college curricula (or a combination of all three), or is it something that remains a personal responsibility?

Despite the difficulties associated with defining and researching financial literacy, researchers in the field are taking a series of encouraging steps that warrant attention. Tahira Hira recently asked other researchers in the field to indicate their views on the term "financial literacy," a project that should yield some interesting results and discussion. Further, researchers at Texas Tech University have undertaken a broad-based Financial Literacy Assessment Project that may provide some interesting insights into components of literacy, as well as a carefully constructed measure of financial literacy that can be applied by other researchers in future analyses.

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