



# Discounting financial literacy: Time preferences and participation in financial education programs<sup>☆</sup>

Stephan Meier<sup>a,\*</sup>, Charles D. Sprenger<sup>b</sup>

<sup>a</sup> Columbia University, Graduate School of Business, 710 Uris Hall, 3022 Broadway, New York, NY 10027, United States

<sup>b</sup> Stanford University, Department of Economics, Landau Economics Building, 579 Serra Mall, Stanford, CA 94305, United States

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## ABSTRACT

Many policymakers and economists argue that financial literacy is key to financial well-being. But why do many individuals remain financially illiterate despite the benefits of being financially informed?

This paper presents results from a field study linking individual decisions to acquire financial information to a normally unobservable characteristic: time preferences. We elicited time preferences using incentivized choice experiments for all individuals to whom a financial education program was offered. Our results show that individuals who choose to acquire personal financial information have substantially higher discount factors than individuals who do not. The results can be interpreted as non-participants discount the benefits of being financially literate more.

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## 1. Introduction

In personal finance, as in other areas of decision-making, information is thought to be a good thing. Financially literate individuals make fewer mistakes and are in better financial condition than financial illiterates (for surveys, see [Lusardi and Mitchell, 2007](#); [Bernanke, 2006](#)). Based on the positive association between financial knowledge and financial outcomes, policymakers promote informational programs, such as credit counseling, homeownership classes, and retirement seminars. Recent changes to U.S. bankruptcy law, requiring individuals to undergo credit counseling, illustrate the importance that policymakers place on providing financial information.<sup>1</sup>

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\* Corresponding author.

E-mail addresses: [sm3087@columbia.edu](mailto:sm3087@columbia.edu) (S. Meier), [cspreng@stanford.edu](mailto:cspreng@stanford.edu) (C.D. Sprenger).

<sup>1</sup> A debtor may be eligible for bankruptcy under Chapter 7 only if he or she has participated in an approved credit counseling session in the previous 180 days. See 11 U.S.C. Sections 109 and 111 for details.

Despite the apparent importance of financial literacy, many individuals remain financially illiterate. Evidence shows that a large number of individuals lack even basic financial understanding. People generally score poorly on financial literacy exams (see, for example, [National Council on Economic Education, 2005](#); [Mandell, 2004](#)) and fail to understand financial instruments (see, [John Hancock Financial Services, 2002](#)).<sup>2</sup> Furthermore, [Lusardi and Mitchell \(2007\)](#) show that only around half of individuals in the Health and Retirement Survey are able to answer two simple questions on inflation and compound interest. It remains an open question why, if acquiring financial information is so critical to financial well-being, many do not choose to become more financially informed.

Very little evidence exists exploring the decision processes underlying the acquisition of financial information. The acquisition of financial information can be seen as a form of investment. Individuals acquire financial information, incurring costs in the present, with an expectation of positive financial returns on this investment in future periods. As in other cases where returns are delayed, time preferences should play a role in determining whether or not an individual chooses to acquire personal financial information. All else equal, less patient individuals should be less likely to invest in gaining financial information. We test this hypothesis by combining objective data on financial information acquisition with directly measured differences in individual time preferences.

Evidence in this paper comes from a field study implemented in cooperation with the City of Boston and a large credit counseling firm. Between January and April of 2007 the credit counseling firm offered a short credit counseling session to around 870 individuals waiting for tax filing assistance in a city-coordinated Volunteer Income Tax Assistance (VITA) site. The counseling session included an overview of the individual's credit report, with their credit score, along with useful, generally unknown credit information (see below). About 55 percent of individuals chose to take up the counseling program. Independently, we elicited the time preferences of *all* individuals to whom the program was offered using standard incentivized experimental methods. Study participants' time preferences were elicited using price lists asking individuals to choose between sooner and later monetary payments. Resulting time preference measures are correlated with individual decisions on take-up of the offered credit counseling program.<sup>3</sup>

Analyzing the acquisition of financial information in the above framework has several advantages. First, the outcome (take-up of the counseling session) is naturally occurring decision and objectively observable. Second, the credit counseling session should have been of value to most study participants. Knowledge about credit scoring and one's credit score is very important in the United States for financial decisions, since credit scores are used to determine the issuance of credit and credit interest rates. Credit reports may also be legally used by employers, landlords, and insurance companies in their decision-making (see 15 U.S.C. Section 1681b). The counseling program was designed to provide critical financial information that would be of value to individuals with credit histories, individuals without credit histories and individuals who already knew their credit score. Third, the opportunity cost of participating is low, as participants are waiting to get their taxes prepared.

Our results show that time preferences are highly correlated with financial information acquisition. More patient individuals are more likely to take up the offered credit counseling program. While the results can ultimately only be interpreted as correlational, the rich data set allows us to narrow down the potential explanations of this association. The results are maintained when controlling for socio-demographic characteristics including gender, race, age and, critically, income and education. As we have access to individuals' tax information, the measures for income are very precisely measured. We additionally show that more patient individuals have greater financial knowledge prior to the field study, providing support for our initial finding. Controlling for this prior financial knowledge and proxies for financial experience and credit constraints, more patient individuals remain more likely to take up the counseling program. This suggests that prior financial experience and financial acumen cannot explain the correlation between measured time preference parameters and the decision to participate in the field study's short credit counseling program.

The finding that financial information acquisition is positively correlated with time preferences helps to explain why some individuals remain financially illiterate despite the apparent benefits of financial knowledge. Acquiring financial information may not be an attractive investment for some groups of individuals; very impatient individuals being one critical subgroup. For policy makers this gives critical insights as to what type of consumers can be reached by voluntary education programs and how to increase attractiveness of such programs.

Previous research has found that more patient individuals have better financial outcomes, as they search longer for a good job ([DellaVigna and Paserman, 2005](#)), experience steeper wage growth ([Munasinghe and Sicherman, 2006](#)), take up welfare programs earlier ([Fang and Silverman, 2009](#)), have higher credit scores, and are less likely to default on their loans ([Meier and Sprenger, 2012](#)).<sup>4</sup> This indicates that more patient individuals, who we find to be more willing to acquire financial information, may already be on the path to better outcomes. Our results indicate that if financial information interventions do not rely on randomization, then their measured educational effects are most likely *overestimated*. Relatively few studies

<sup>2</sup> For a survey on the state of financial literacy, see [Lusardi \(2006\)](#) and [Lusardi and Tufano \(2008\)](#) and papers cited therein.

<sup>3</sup> Prior empirical research, mainly in psychology, shows that there is large heterogeneity in individuals' discount rates (for an early experimental study, see e.g. [Benzion et al., 1989](#)). While some discount the future substantially, i.e. are very impatient, others seem more patient. Substantial difference in discount rates or impatience can already be detected in small children (e.g. [Mischel et al., 1989](#); [Bettinger and Slonim, 2007](#); [Castillo et al., 2010](#)).

<sup>4</sup> With the exception of [Meier and Sprenger \(2012\)](#) these studies all use self-reported proxies for impatience (e.g. smoking) and relate it to self-reported outcome variables (e.g. wage).

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