

Executive Summary

Getting to the Top of Mind: How Reminders Increase Saving

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I. Introduction

Consumption, savings and borrowing behavior is sometimes difficult to reconcile with traditional models of intertemporal choice. Calibrations of U.S. data suggest that extremely high short-term discount rates are necessary to explain observed borrowing patterns. Voluntary commitment devices help increase savings. Default options have large effects on retirement savings decisions. These patterns are often explained by models that emphasize time inconsistency and self-control problems. In such models, people can exhibit both impatience and patience, depending on the horizon or good of choice.

We develop some theory and evidence that a different psychology - limited attention - also plays an important role in explaining these types of intertemporal choices. In most models,

deciding what to consume today requires a consideration of all future expenditure opportunities; e.g., how much in school fees or taxes are coming due? What novel consumption opportunities will arise? In our model, individuals overlook some of these future expenditure opportunities. We are motivated in part by the “planning fallacy”: people systematically underestimate the time required to complete tasks. But prodding people to list specific sub-components of tasks improves the accuracy of time-completion estimates. This evidence illustrates the potential for overlooking specific items when making plans.

We provide a simple model of lifetime consumption and savings that incorporates an attentional failure. We test our model's predictions about reminders in field experiments with three different banks in Bolivia, Peru, and the Philippines. Reminders increased the likelihood of reaching a savings goal by 3% and the total amount saved in the reminding bank by 6%.

II. Model

We begin by modeling individual consumption. Individuals derive utility both from current consumption, and from “lumpy” expenditure opportunities. Fully attentive individuals will optimize their spending between current consumption and “lumpy” expenditure opportunities. To finance this lumpy expenditure individuals will make savings.

In practice, individuals may not be fully attentive to all lumpy expenditure opportunities. We consider that inattentive individuals attend perfectly to consumption and current period expenditure opportunities, but only attend to future lumpy expenditure opportunities with some positive probability less than 1. Individuals who then optimize between present consumption and an incomplete list of lumpy expenditures, will not save enough to finance all future expenditures.

In models of self control, present biased preferences imply a relatively lower relative valuation of future consumption. In our model, individuals fundamentally misunderstand the value of future consumption. As with a model of self control, our model predicts that inattentive individuals will undersave or underborrow. However, our model also generates distinct predictions; that reminders will change behavior, and that reminders linked to a specific future expenditure will increase saving further due to *mental accounting*. Our model can also account for time-inconsistent choices.

III. Other Implications

Our model also helps to explain other observed phenomena, such as the importance of default options in pension plans, the timing in offering fertilizer purchases to farmers, offering deposit collection services, and reminders of other forms.

IV. Experimental Design

We designed three field experiments to test two key theoretical predictions

- 1) that reminders increase savings, and
- 2) that reminders mentioning a particular planned future expenditure will increase savings more than reminders that do not mention the expenditure.

In our experiments we worked with a for-profit bank in the Philippines, a government-owned bank in Peru, and a for-profit bank in Bolivia. All of the banks randomly selected a sub-set of customers of a savings product to receive a monthly reminder to save; some by SMS, some by letter where there was low cell phone prevalence (in Peru), some for existing products and some for new products. In Peru, some customers received a reminder that including a focus on their specific savings goal.

V. Results

One of the two key testable predictions of our model is that reminders will increase savings. Our primary, and simplest, test of this prediction is to use data from all three experiments to identify the effect of getting any reminder. Clients who received monthly reminders saved 6% more than individuals who did not. Reminders also made clients 3 percentage points more likely to save their targeted amount. We do not find any evidence that reminders have significantly different effects across settings, although these estimates are a bit imprecise: the confidence intervals do not rule out economically meaningful differences across the three settings.

Our model also predicts that reminders which are highly associated with a particular future lumpy expenditure will increase savings. We can test this prediction in Peru, our only setting where clients labeled their savings account with a specific future expenditure. Reminders that mentioned the specific expenditure increased savings by an estimated 16% relative to no reminder, while reminders that did not mention the specific expenditure had no effect.

Perhaps reminders impact saving because they are a signal from the bank that saving is important, or that the bank values the client's relationship? The regular communication in the form of a reminder may also have increased clients' trust of the bank. These alternatives to limited attention could explain the main effect of reminders, but not the differential impact of reminders that mention the client's goal. Nor do these alternatives explain why (well-timed) reminders are more effective than gifts.

As shown in Section II, our model also predicts that reminders will be especially effective on

individuals who appear time-inconsistent. We test this prediction by simply estimating the interaction between reminders and a measure of time-inconsistency obtained in the Philippines baseline survey. We find support for the prediction that reminders will be more effective on time-inconsistent individuals, increasing savings balances by 47%.

The variable cost of sending direct mail reminders is nontrivial (almost a dollar in the Peru context). Given our estimated treatment effect (a 6% increase in bank balances) and the small average balances (\$100 or less), mailing reminders is not cost-effective for banks under reasonable assumptions about rates of return on deposited funds. Indeed the one bank here that experimented with mailing reminders discontinued them after the study. However, sending reminders by text message has near zero marginal cost. And indeed Ecofuturo in Bolivia has continued sending the reminders. Direct mail costs and the recent emergence of low-cost text messaging may help explain why most banks have not (yet) offered reminders to save.

VI. Conclusion

We develop and test a model of savings and consumption behavior when individuals have limited attention. Our model predicts that individuals will undersave when they are inattentive to some future expenditures. We find support for these predictions in field experiments with three banks in the Philippines, Peru and Bolivia. These findings raise several issues for further research.

One key question going forward is the relationship between present-biased attention and present-biased preferences. Are both biases prevalent, and correlated with each other?

A closely related issue is measuring a broader set of outcomes that might be affected by “treatments” for limited attention. If limited attention takes particular forms, or if consumers have additional behavioral biases, then attention-getting treatments could have countervailing and even perverse effects. Reminders from one bank may crowd-out savings in other instruments.

Understanding the market for attention is critical. For example, only one of the banks that implemented reminders in this study has continued reminding its clients to save. Might the market under-supply reminders, particularly if consumers are naive about their limited attention?

Finally, deriving the optimal content and timing of attention treatments also offers rich possibilities for future work. Our results hint that reminders are most effective when they focus on both a particular future goal set by the client, and on the means toward achieving that goal.