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Poor and Saving, but Poorly Served

By *Pascaline Dupas*

Saving requires being fairly good at money management. Here in the United States, as in many developed countries, we have access to a range of financial products and services. Wages are usually deposited directly into a secure bank account on a regular basis, and besides the basics, our financial institutions offer IRAs, 401(K)s, CDs, and other products to help us build our savings. Would-be savers in developing countries face very different conditions. Most people are self-employed earning highly irregular income, either a daily wage in the informal sector when business is good or only realizing income once or twice a year in farming when the harvest is good. The great majority do not have even basic bank accounts. Under these conditions, saving becomes

surpassingly difficult, requiring not just good but excellent money management.

And yet, the poor in developing countries do save. This is shown in two recent studies, both covering multiple developing countries. Banerjee and Duflo (2007) use detailed household surveys from 13 countries to show that households living on less than \$2 per day per person spend “only” between 56 and 78 percent of their income on food. And Collins et al. (2009) used financial diaries and surveys to detail the finances of 250 households in Bangladesh, India, and South Africa; none of the households spent all their earnings on day-to-day basics. The day-to-day cash flows recorded in the diaries show that the households routinely *continued on inside...*

About The Author

Pascaline Dupas is Assistant Professor in the Economics Department at Stanford University, a research fellow at the National Bureau of Economic Research and an affiliate of the MIT Jameel Poverty Action Lab. Prior to joining the Stanford faculty, she taught at Dartmouth College and UCLA. Her recent research concerns education, health and savings behaviors in rural Africa. She received a Ph.D. in Economics from the Ecole des Hautes Etudes en Sciences Sociales (Paris, France) in 2006.



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save small amounts and spend them in the short term, a detail that would not emerge in surveys that focus, as most do, on long-term holdings.

Since they do not have formal financial services, the poor save using a variety of informal devices. They store money under the mattress. They use a deposit collector, who collects a small sum at agreed-upon intervals that he holds until the savings goal is reached, at which point he returns the lump sum minus a service charge. They participate in group savings clubs or Rotating Savings and Credit Associations (ROSCAs): Imagine a group of six women, each wanting to accumulate \$6. Every week all members contribute \$1 to the pot, and one member takes the whole pot of \$6. This reduces the average time to accumulate \$6 and provides structure, without which individuals may take longer than 6 weeks to save the target amount, if they save at all. The members have a social commitment to make their contribution partly because those collecting the latter pots provide credit to those collecting earlier pots.

All these informal ways of saving are either risky or costly. Money hidden away can disappear; ROSCAs can break

down before everyone has collected; deposit collector fees can be as high as 40 percent by some estimates (Collins et al., 2009). These details bring up several important questions for development economists: Does the high cost of saving constrain the amount the poor can save? What type of savings products can help the poor save as much as they would like? Can and does the market provide these products and services?

In our recent work, Jonathan Robinson (UC Santa Cruz) and I try to answer these questions. We have been running a series of field experiments and collecting detailed household data in Kenya for more than five years and in Uganda and Malawi for two years. The overarching question behind our work is what impact would better access to formal saving devices have on the poor's ability to make investments that require lump sums. We have so far completed two projects and their results suggest some answers.

I. Do the Poor Face Savings Constraints?

In our first study, in Kenya, we directly tested the question would the poor save and invest more if they had better access to financial services. We worked with a local

community-owned bank—called a “village bank”—to provide basic bank accounts to 125 self-employed individuals. The accounts pay no interest and have substantial withdrawal fees, so that, even before accounting for inflation, the interest rate on deposits is negative. The 125 recipients were chosen by lottery from a pool of 250 individuals, primarily women operating market stalls (market women) and men operating bicycle taxis (taxi men). We followed all 250 participants over six months. Our data included financial diaries we asked them to keep as well as copies of their bank statements, which together gave us a comprehensive view of their holdings and day-to-day cash flows. Because we randomly selected account recipients, we can be fairly confident the outcomes of the recipients and non-recipients would have been comparable in the absence of our intervention. Comparing the outcomes of the 125 people offered free accounts and the 125 not offered free accounts allows us to isolate the impact of access to a bare-bones bank account.

We found the following:

Access to bank accounts caused market women to save and invest more—About

40 percent, a substantial share of the market women, used their bank accounts actively and increased their savings. This expanded savings capacity improved their lives in important ways. In four to six months, they had increased their business capital by 38 percent. And perhaps because they were earning more and had more control over their earnings, they were spending 37 percent more on goods for themselves. Clearly, these market vendors face savings constraints. Why else would they pay the bank for the privilege of lending their savings to the bank and why else would saving with the bank improve their ability to invest in their businesses? The fact that once they had an account they saved and invested suggests even higher negative returns on money they save through available informal devices.

But the taxi drivers with bank accounts did not save or invest more than those without access to the accounts—The taxi drivers in our sample did not use their accounts much. And their savings rate was not affected—neither was the likelihood of entering an alternative more lucrative business, a goal many

drivers had indicated at baseline.

These results tell us that there is an unmet demand for savings instruments for some people. Some of the poor, such as the market women, would save more if they had access to a safe place to save, even if that place pays no interest and charges a hefty withdrawal fee. For others, however, a bare-bones bank account that provides only safety and charges a fee is not appealing. Are there other financial instruments that would cause the poor to save more?

II. What Financial Instruments Can Help the Rural Poor Save More?

To ask what features a savings product should have is to ask what problems it solves. In general, savings products provide at least three important services: safety, structure, and incentives. Safety means providing a secure place to store the money—safe from termites and thieves but also safe from day-to-day temptations. Structure means providing ways to set savings goals, to start saving, to deposit regularly, to withdraw rarely if at all, and to invest the savings in the goal. One example is earmarking, where you have a target item and save up until

there is enough money to buy it. Another is deposit collection, where a trusted person shows up at an agreed-upon time to collect an agreed-upon sum. This may help those with low self-control; it may, for example, keep those with time-inconsistent preferences from telling themselves, “Oh, let me spend today and tomorrow, tomorrow for sure, I’ll start saving.” Incentives increase how quickly the savings goal is reached. Incentives encourage larger, more frequent deposits. Forms of incentives include higher interest rates and social commitment. Rotating savings clubs, for example, rely on social commitment. Members face pressure from other members to make their scheduled contribution or suffer both financial and social sanctions.

In our second study, also in rural Kenya, we examine two questions. Which features (safety, structure, and incentives) are most important for the poor? And what saving barriers do these features help overcome?

What features matter?

We identified individuals already participating in ROSCAs and among them randomly varied access to four saving instruments

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that differed in the degree of structure (through earmarking) and incentives (through social commitment).

1. Individual Safebox.

Recipients were given a metal box with a piggybank slit on the top, a padlock for the box, the key for the padlock, and a passbook to record a savings goal and the deposits. The safebox allowed saving for preventive health products and for remedial health expenditures. This provided safety, weak and implicit structure, and no incentives. The structure arises from recording a savings goal in the passbook, a very weak form of commitment through a form of mental accounting called labeling.

2. Individual Lockbox.

The lockbox was just like the safebox, except that it was locked and the key was kept by a program officer. The savings were earmarked for a preventive health product. Once the goal was reached, the officer would meet the participant at a shop that sold the recorded health product and open the box, releasing the money for immediate purchase. This provided both safety and strong structure through earmarking.

3. Individual Health

Savings Account (HSA). This took advantage of existing rotating savings club, but the savings were not shared. Each member saved individually, depositing money with the ROSCA treasurer. (Much like HSAs in the United States, the savings were earmarked for remedial health expenditures.) Like the lockbox, the HSA provided security and structure through earmarking, the difference being that the HSA money was available for emergencies while the lockbox money was not.

4. Group Health Pot.

This also took advantage of existing rotating savings clubs. As is standard in ROSCAs, the savings were shared. At agreed-upon dates, all members contributed to the health pot and one member took the whole pot to buy the target health product. The Group Health Pot provided both structure through earmarking and incentives to make regular deposits through social commitment.

While all participants were asked to save for health, the savings instruments could be used to save for anything. We designed these instruments to enable

savings for health investments because poor health is common in Kenya and households typically cite lack of money as a major barrier to health investments. On comparing product take-up and health investment, we found the following:

There is very high demand for a safe place to save for a specific goal—Take-up of all four products was very high, between 66 and 97 percent. This suggests that the main attraction of the savings instruments considered was the feature they have in common—a safe place to save for a specific goal.

Investment in preventive health increased—Both the safebox and the health pot increased significantly the fraction of people who reached their preventive health goal, from about a third to a half.

Vulnerability to health shocks decreased—The health savings account reduced significantly the likelihood that people would find themselves unable to purchase medical care or treatment when needed (such inability to cope with health shocks decreased from 31 percent to less than 20 percent).

Structure through mental accounting — The reason why even the most basic instrument, the safebox, made a large difference is that it facilitated mental allocation of savings to a specific use; this is mental accounting in the form of labeling. In follow-up surveys participants reported that once the money was set aside, they were better able to avoid “unplanned expenditures” including transfers to friends and relatives and spending on “luxuries” (e.g., sodas, meals out). The saved money, once labeled or earmarked for health, was considered no longer fungible even though it was still physically accessible. In other words, having a place to store money safely and designating the money saved in that place “for health” makes it taboo to use for anything other than for health. It is as though the devices gave people a way to run their own layaway plans.

Structure without strictures—The lockbox was the least successful product; in fact, for the average individual it was not successful. The fact that the money saved in the lockbox was not accessible for emergencies (especially health emergencies, which are

very common) was given by respondents as the main reason they did not save much in the lockbox. Would-be savers want some structure but not rigidity, something like the frame of an earthquake-proof building, strong enough to support the house yet flexible enough to survive the shock.

What are the Barriers?

From these experimental results and the attendant surveys we surmise four barriers to saving in our study context, and among poor rural dwellers more generally.

Too much cash on hand because no place to save—Cash in hand is apt to be spent quickly. It is harder to keep track of savings and expenditures when the money to be spent and money to be saved are not kept separately. Lacking a safe place to save forces people to keep too much cash in hand.

Too many friends in need—A second barrier to saving seems to be what we could call a “kin tax.” We find that individuals who at baseline were more “taxed” by their kin (about 19 percent of our sample were giving assistance to others in their social networks and receiving nothing in return)

benefited the most from the saving devices, and they are the only group for whom the lockbox was successful. We conjecture that demands on their income are so high that limiting liquidity is not as costly for them. Instead of providing money to others, they are able to turn that money into savings for themselves.

Too much tomorrow, tomorrow, and tomorrow—A third barrier to saving is time inconsistency. Those who exhibited time-inconsistent preferences in our baseline measurements (16 percent of the sample) did not benefit from gaining access to the safebox. And they did not benefit from earmarking, but they did save with the health pot, the instrument that jointly offered earmarking, credit, and social pressure to make deposits. We conjecture that the credit induced people to start saving and the social pressure induced them to make deposits regularly. It seems that earmarking alone, in the absence of direct deposit or deposit collection, is not enough to increase savings among time-inconsistent individuals.

A house divided will not save—Finally, there may also

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be intra-household barriers to saving. We find that the benefits of the different savings instruments are larger for married women than for unmarried women, suggesting that divergent saving preferences in the household might be at play, but these results are based on a smaller sample and need to be confirmed on a larger scale.

III. Can the Market Provide?

The rural poor want to save and have financial capacity to save, but their ability to save is severely limited by the lack of access to saving products. Why does the market tolerate this vacuum? Why are no appropriate saving products provided to these households? Financial institutions, both banks and microfinance institutions, tend to be concentrated in urban areas, where there are more households earning regular wages in the formal sector. This denser client base greatly reduces the cost of delivering service. As a result, costs are higher for the sparser and poorer households in our rural sample; financial transaction costs per point of service may be too high for the formal institutions.

The banks seem to take account of these higher costs. For

instance, banks in rural Kenya, Uganda, and Malawi seem to discourage the poor from taking up their services. For starters, their account opening fees are often prohibitive, exceeding the median savings a poor household can accumulate in a month. Then, they tend to introduce maintenance fees high enough to wipe out accumulated savings in just a few months—and they do so often without notice. In Malawi, for example, one bank increased its maintenance fees twice over a 12-month period. But account holders were not notified, even though after this 135 percent jump, the monthly fee amounted to more than half the median deposit. In Kenya, a commercial bank introduced a monthly fee as large as the median monthly deposit, without notification, causing some households to lose all their savings. In Uganda, a savings and credit cooperative never credited its clients with the 1.5 percent interest they were promised on their savings accounts. Not only are fees high and arbitrary, service at rural bank branches is often unreliable. One of the local branches we have been monitoring in Kenya has been closed during regular official hours for 33 percent of the time over the past two years.

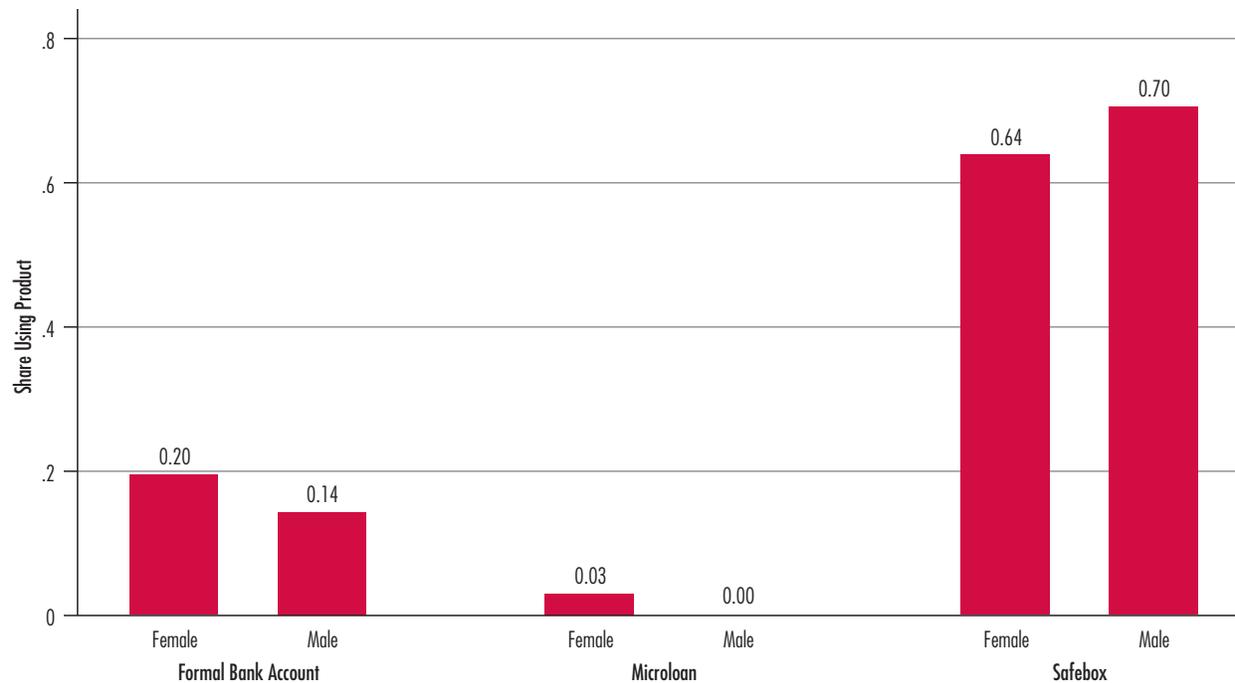
All these issues may contribute to the lack of

trust in financial institutions that we observe among the households in all three study areas. Households have very low willingness to save in accounts at banks. Rural households also appear to shy away from borrowing from these banks, preferring devices such as simple saving box (see Figure 1).

Conclusion

With no safe place to save money, poor households in developing countries may not be able to accumulate the lump sums they need to take advantage of high-return but lumpy investments, such as new business projects or preventive health products. And with no safe place to keep an emergency cash reserve, vulnerability to shocks may remain high. Policymakers are now beginning to devote more attention to expanding access to financial services in developing countries, especially in rural areas. Some countries have mandated banks to open branches in rural areas. Our evidence so far suggests that unless serious attention is paid to the reliability and quality of the services offered, simply adding local branches will fail to effectively offer the safe place the poor so direly need to store their savings, let alone

Figure 1
Active Take-up of Financial Products Experimentally Offered in Kenya
By General Product Type



the structure and incentives they need to build the lump sums they hope to accumulate. Formal financial institutions may need to be incentivized or compensated for them to want to match the needs of the rural poor.

Acknowledgments

Based on joint work with Jonathan Robinson. The specific papers are the following:

(Study 1): Dupas, Pascaline, and Jonathan Robinson. "Savings Constraints and Microenterprise Development: Evidence from

a Field Experiment in Kenya." Forthcoming, *American Economic Journal: Applied Economics*.

(Study 2): Dupas, Pascaline, and Jonathan Robinson. "Why Don't the Poor Save More? Evidence from Health Savings Experiments." Forthcoming, *American Economic Review*.

(Study 3): Dupas, Pascaline, Sarah Green, Anthony Keats, and Jonathan Robinson. "Challenges in Banking the Rural Poor: Evidence from Kenya's Western Province." Forthcoming, *NBER*

Africa Project Conference Volume.

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Banerjee, Abhijit, and Esther Duflo (2007). "The Economic Lives of the Poor." *Journal of Economic Perspectives* 21, 141-167.

Collins, Daryl, Jonathan Morduch, Stuart Rutherford, and Orlanda Ruthven (2009). *Portfolios of the Poor: How the World's Poor Live on \$2 a Day*. Princeton University Press, Princeton.

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