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Liquidity Profiles of Poor Mexican Households

JULIA PAXTON
Ohio University, OH, USA

and

LAUREN YOUNG *
Catholic Relief Services, MD, USA

Summary. — Buffer stock savings theories predict that more vulnerable households build up liquid savings in order to cope with income variability. Using data from 1801 marginalized Mexican households, this paper examines how household liquidity levels vary by income level and use of banking. The paper finds strong evidence of buffer stock savings in poor and vulnerable households. It also shows that membership in a financial cooperative is a determinant of higher household liquidity levels. Financial instruments are used more to confront idiosyncratic shocks than systemic shocks. Idiosyncratic shocks and remittances are important determinants of liquidity levels in unbanked households.

Key words — Latin America, Mexico, liquidity, household finance, precautionary savings

1. INTRODUCTION

The desire to understand and explain the complexities of how the world's poor save has generated a huge volume of literature and yet, no consensus exists within the literature on how theoretical savings models pertain to the poor. Many empirical studies, particularly in developed countries, have shown savings to be a luxury good given that the poor save a smaller (or negative) portion of their incomes than do higher income households (Hubbard, Skinner, & Zeldes, 1994; Modigliani, 1986). However, many household studies using developing country data do find evidence of savings among the poorest of the poor. In fact, research is increasingly showing that lower income households require more financial intermediation, albeit on a micro-level (Collins, Morduch, Rutherford, & Ruthven, 2009; Morduch, 1994, 1995; Rutherford, 2000). Given the uncertainty and the lack of financial options, economic theory would suggest the importance of liquid savings in the poorest households.

Research on precautionary savings has become increasingly prevalent in the savings literature as a way of explaining the savings patterns of the poor. The combination of income volatility and borrowing constraints make it necessary for the poor to build up savings in the form of liquid and semi-liquid assets as a buffer stock against income shocks (Deaton, 1992). Empirical evidence of this type of precautionary savings in developing countries has been mixed, in part due to varying measures and definitions as well as a lack of reliable household data. Many of the macroeconomic time-series studies on savings lack sufficient detail to accurately model household saving behavior in developing countries. In particular, the large component of informal savings and nonfinancial savings is absent in country level statistics. Household surveys, particularly in developing countries, are needed to provide the richness of detail on savings behavior that is lacking in aggregate statistics.

This paper contributes to the burgeoning literature on savings by the poor in several ways. It utilizes an exhaustive 2004 household survey of 1801 [1] marginalized Mexican households that has a unique depth and breadth of detail. Using a flexible definition of savings (Paxton, 2009), liquid assets are a composite measure of informal and formal savings instruments that not only includes cash, but other liquid stores of value including small farm animals and stored grain. The paper contributes to our understanding of the savings behavior of poor households by posing several pertinent questions. Do the poor use liquid savings to smooth consumption? Is there evidence of precautionary savings in the form of higher household liquidity levels among poor households? Do bank members have different liquidity profiles than non-bank members? Do certain types of economic shocks affect household liquidity more than others for bank and non-bank members?

The answer to each of these questions is a resounding "yes." The paper finds strong evidence of buffer stock savings in lower income groups. It also shows that membership in a financial cooperative is a significant determinant of household liquidity levels and that these liquidity levels are more influenced by idiosyncratic shocks and remittances in unbanked households. A literature review is offered in Section 2 followed by an overview of the data in Section 3. The liquidity model and its results are presented in Sections 4 and 5 with a discussion of the implications for the savings literature in Section 6.

2. LITERATURE REVIEW

While savings behavior is one of the most studied economic concepts, savings by the poor in a developing country context has many unresolved issues, primarily due to poor data quality and availability. Household savings data from developing countries are riddled with measurement errors given the wide

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range of definitions of consumption, production, investment, and savings in survey data. The noisiness of savings data leads to spurious variability and the inability of comparing household level data to aggregate macroeconomic data. Often it is complicated to disentangle current consumption and investment when considering education, agricultural inputs, and production cum investment materials. In addition, particularly in rural areas, many transactions are made in kind or not recorded as income. Several controversies fuel our misunderstanding of savings behavior by the poor.

(a) *Are the poor too poor to smooth consumption through savings?*

A commonly held view is that the poor are "too poor" to save. Many empirical studies in developed countries indicate a lower propensity to save among poorer households (Hubbard *et al.*, 1994; Modigliani, 1986). In Mexico, Attanasio and Szekély (2001) find that poorer households are much less able to smooth consumption through liquidating savings than richer households. However, as Rutherford (2000) explains, "poor people can save and want to save, and when they do not save it is because of lack of opportunity rather than lack of capacity." The poor, especially farmers, face high degrees of risk and uncertainty and need to rely on savings for consumption smoothing, life-cycle needs, emergencies, and entrepreneurial activities. Given the lack of financial infrastructure in many parts of the developing world, personal savings is the main financial instrument available for obtaining "usefully large lump sums" of money (Rutherford, 2000).

(b) *Do precautionary savings models hold for the poor in developing countries?*

Precautionary savings models predict that poor and young households with uncertainty and a high rate of time preference will have a motive for creating a buffer stock of liquid savings to be used to smooth consumption (Banerjee & Duflo, 2007; Deaton, 1992). Risk augmented life cycle models and precautionary savings models may predict increased levels of savings to offset income variability in wealthy countries. Numerous empirical studies show a significant link between uncertainty and precautionary savings (Carroll & Samwick, 1998; Paxson, 1992). Gourinchas and Parker (2002) find evidence of buffer stock savings among the younger consumers. Few empirical studies exist to shed light on whether precautionary savings is evident among the poor in developing countries.

(c) *Does access to banking affect liquidity profiles among the poor?*

The relationship between access to banking and household liquidity and precautionary savings is not well understood in the literature (Lee & Sawada, 2010). Access to formal financial intermediation may increase the range and depth of financial tools available to poor households and therefore alter the household liquidity mix. Morduch (1994) emphasizes the problem of weak financial institutions and inefficient markets for credit and insurance in developing economies. He points out that when households in developing economies have access to financial institutions, they often face borrowing constraints when times are bad but not when times are good. Additionally, formal and informal credit may be much harder to access during times of systemic economic distress (e.g., during times of drought, natural disaster, and falling commodity prices) due to covariant risk. Srinivasan (1993) proposes that inadequate credit and insurance markets reinforce the precautionary motive for saving. In other words, households that believe they will be unable to access future credit will instead accumulate assets to be liquidated in times of need. Lee and Sawada (2010) find that precautionary savings motives are stronger among households with credit constraints in rural Pakistan.

Likewise, households that have access to deposit services in financial institutions benefit from a secure means to accumulate financial savings that are easily liquidated in times of need. Indeed, such deposit services allow households to handle emergency needs, smooth consumption, accumulate large amounts of cash for anticipated needs, and take advantage of investment opportunities (Consultative Group to Assist the Poorest, 2005). Collins *et al.* (2009) argue that financial management tools (savings, credit, and insurance) are critical among the poorest households and that well functioning financial services are key to consumption smoothing and investment opportunities.

In many cases, formal savings products are unavailable, forcing low income people to save informally. When savings products are tailored to meet local demand, they are readily adopted. Ashraf, Karlan, and Yin (2006) found evidence that low income microfinance clients with a tendency to undersave were more likely to adopt commitment microsavings products in the Philippines. In this sense, access to formal financial intermediation might increase liquidity through access to well designed, secure deposit facilities. On the other hand, buffer stock theory suggests that the most vulnerable, isolated poor who do not have access to formal finance may find it necessary to build up greater liquidity as a coping mechanism for economic shocks. In the end, little is understood about how access to financial instruments changes the liquidity portfolio of poor households.

In addition to strengthening our understanding of these three controversies, this paper sheds light on a fourth question that, to our knowledge, has not been explored in the literature: do certain types of economic shocks affect household liquidity more than others for cooperative member households and unbanked households?

Cross sectional data on savings have the limitations of being incapable of tracking savings over time and also of being distorted by cohort effects depending on the growth of real income. Nevertheless, detailed surveys, particularly in developing countries, are needed to provide the richness of detail on savings behavior that is lacking in aggregate statistics. This study adds to our understanding of these controversies about the poor and their savings behavior by utilizing an exhaustive household survey in rural Mexico that takes into account informal and formal financial practices and a detailed inventory of expenditure and income.

3. DATA

In 2003, the Mexican Secretary of Agriculture, Livestock, Rural Development, Fisheries, and Food (SAGARPA) and the National Bank of Savings and Financial Services (BANSEFI) initiated a collaborative project named the Project of Technical Assistance for Rural Microfinance (PATMIR). The project targeted several Mexican states identified as having high levels of marginalization and aimed to expand outreach and achieve sustainability of financial institutions in those areas. The project targeted financial cooperatives as the vehicle for achieving greater outreach and sustainability in selected marginalized areas (Paxton, 2007). In an effort