



Borrowing from “Pui” to Pay “Pom”: Multiple Borrowing and Over-Indebtedness in Rural Thailand

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Summary. — Rural financial markets have grown rapidly in Asian emerging market economies, thus contributing to economic development and the reduction of poverty. At the same time, however, the level of indebtedness of rural households has increased, making households more vulnerable to shocks. One of the reasons for rising household debt is the ease of borrowing simultaneously from a growing number of lending institutions. This paper addresses two major questions. First, does borrowing from multiple sources increase rural households' risk of over-indebtedness? Second, do over-indebted rural households refinance their outstanding loans through multiple borrowing, running the risk of becoming trapped in a debt cycle? Employing a dynamic random effects bivariate probit model for a unique set of longitudinal household panel data from Northeast Thailand, this study examines the bidirectional relationship between over-indebtedness and multiple borrowing to determine to what extent rural households become trapped in debt cycles. On the one hand, the results indicate that households in Northeast Thailand take on multiple loans, which further increases their risk of becoming over-indebted. On the other hand, our model results do not confirm the widespread notion that over-indebted rural households use multiple loans to refinance unpayable debts.

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1. INTRODUCTION

In recent years, microcredit markets have grown substantially in developing and emerging market economies. In Thailand, for example, the geographical outreach of financial institutions has increased significantly in the past 15 years, particularly improving rural households' access to credit. One indicator is the density of financial institutions. The number of commercial bank branches increased 50% from 8 to 12 branches per 1,000 km², and the number of ATMs increased fourfold from 20 to 89 per 1,000 km² from 2004 to 2012 (as cited in [Terada & Vandenberg, 2014](#)). One effect of development in the financial sector is that households borrow from an increasing number of sources at the same time, i.e., they become multiple borrowers. Although multiple borrowing is usually seen as a sign of financial development, there are downside risks that under certain conditions could lead to over-indebtedness, i.e., a situation in which debt repayment becomes a significant financial burden to households. More specifically, multiple borrowing poses the following risks: (1) households increase the amount borrowed and accumulate more debt than they can repay ([McIntosh & Wydick, 2005](#)); (2) households are tempted to default on a loan from one lender while borrowing from another lender due to asymmetric information ([Hoff & Stiglitz, 1997](#)); and (3) households use loans from one lender to refinance previously unpaid loans of another lender, thus rolling over eventually unpayable debt to the future and sparking a vicious cycle of debt ([Arnold & Booker, 2013](#)).

The theoretical literature on financial intermediation primarily supports the hypothesis that multiple borrowing increases borrowers' over-indebtedness and default risk. These theories view the relationship between multiple borrowing and over-indebtedness from two different angles ([Arnold & Booker, 2013](#); [Casini, 2015](#); [Guha & Chowdhury, 2013](#); [McIntosh & Wydick, 2005](#); [McIntosh & Wydick, 2007](#)). Institutional economics theories consider multiple borrowing as a

principal agent problem wherein lenders cannot observe borrowers' current level of indebtedness and ensure that a borrower will not take on additional loans in the future. This scenario leads to a moral hazard problem in which borrowers take out hidden separate loans from multiple lenders, accumulate debt beyond their repayment capacity and increase their default risk ([Casini, 2015](#); [Guha & Chowdhury, 2013](#); [McIntosh & Wydick, 2005](#); [McIntosh & Wydick, 2007](#)). Alternatively, behavioral economics theories suggest that over-indebtedness and multiple borrowing problems arise due to the present biased and time-inconsistent decisions of borrowers. [Arnold and Booker \(2013\)](#) suggest that “naïve present-biased” borrowers who are over-indebted and highly discount the future relative to their true preferences take on additional loans from moneylenders to keep up with loan repayments to microfinance institutions, thereby further increasing their debt burden. Hence, borrowing from multiple lenders simultaneously increases borrowers' risk of over-indebtedness in both strands of theories though the effect is reversed.

Although respective institutional and behavioral economics theories suggest a relationship between multiple borrowing and over-indebtedness, the empirical evidence is rather mixed. Several studies find evidence suggesting that multiple borrowing increases borrowers' risk of over-indebtedness ([Chaudhury](#)

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& Matin, 2002; Chen, Rasmussen, & Reille, 2010; Consultative Group to Assist the Poor (CGAP), 2010; Khandker, Faruquee, & Samad, 2013; Vogelgesang, 2003), whereas other researchers have not been able to confirm such a relationship (Gonzalez, 2008; Khalily, Faridi, & Saeed, 2016; Lahkar, Pingali, & Sadhu, 2012; Schicks, 2014). However, previous studies focus primarily on the unidirectional effects of multiple borrowing on over-indebtedness and mostly estimate the effect using models with a static setting on cross-section data. Hence, there is a need to address the bidirectionality of this relationship and check for endogeneity between multiple borrowing and over-indebtedness to better understand the implication of the rapidly growing microfinance market in rural areas of emerging market economies for the long-term well-being of households.

In this research, we are able to overcome some of the limitations of previous studies. First, we use a comprehensive panel data set of 914 rural Thai households from the province of Ubon Rathchathani with four panel waves during 2007–11. The survey instrument contained a detailed section on borrowing and lending, together with wide-ranging spectra of household characteristics, as well as village-level data that provide information on differences in social and economic infrastructure. Hence, we are able to address the two key questions: (1) Does borrowing from multiple sources simultaneously increase rural households' risk of over-indebtedness? (2) Do over-indebted rural households refinance ultimately unpayable debt through multiple borrowing and become trapped in cyclical debt?

Second, we explicitly address the bidirectionality of the relationship between multiple borrowing and over-indebtedness using the dynamic bivariate random effect probit model that jointly estimates the two effects within two separate equations. Multiple borrowing and over-indebtedness equations are developed independently but estimated jointly to address the potential endogeneity between the two. Their bidirectional relationship is estimated using a dynamic setting that includes the cross-lags of multiple borrowing and over-indebtedness to address reverse causality.

Our results suggest that rural households in Thailand take on multiple loans from several sources. They adopt multiple borrowing practices in response to experiencing unexpected adverse shocks to income. Such behavior does increase the likelihood of over-indebtedness in the future. However, the view that over-indebted households use multiple loans to refinance ultimately unpayable debt and hence become trapped in perpetual debt, as suggested by numerous studies and technical reports, is not supported by our results. Hence, policy makers and industry stakeholders should pay more attention to multiple borrowing and take steps to protect microcredit borrowers from taking on multiple loans and accumulating more debt than they can repay.

2. THAILAND'S RURAL CREDIT MARKET

Thailand's rural credit market has been at the center of government policy intervention since the early 20th century. The government has since devoted a significant amount of resources to provide cheap credit to the rural sector in a myriad of institutional settings (Siamwalla *et al.*, 1990) as part of an overall rural development and poverty reduction strategy (Menkhoff & Rungruxsirivorn, 2011). One such government initiative is the Village and Urban Community Fund (VF) program that provided one million baht to every village and urban community in 2001. The VF, one of the largest micro-

finance initiatives in the world, improves financial inclusion and credit outreach to rural households in Thailand (Kaboski & Townsend, 2012).

Currently, various financial institutions provide microfinance services to rural households in Thailand. Among these financial institutions, the main microfinance service providers are the state-owned and government-subsidized financial institutions. Particularly, the Bank of Agriculture and Agricultural Cooperatives (BAAC) and the VF dominate the rural credit market, supplying subsidized credit to rural households in Thailand (Asian Development Bank (ADB), 2013; Menkhoff & Rungruxsirivorn, 2011). The BAAC reaches approximately 95% (7.27 million) of all farm households in Thailand (Terada & Vandenberg, 2014), while the VF serves approximately 13 million households, mostly rural farmers and low-income households, with a circulating capital of THB 162 billion for all funds (ADB, 2013). In addition to these two providers, semi-formal financial institutions such as agricultural and savings cooperatives, credit unions, and farmers' groups also provide microfinance services to rural households (ADB, 2013).

Despite a growing number of formal and semi-formal financial institutions supplying credit in rural areas, households still use informal lending in combination with the other sources of credit (Giné, 2011; Kislat & Menkhoff, 2013). Particularly among low-income households in Thailand, informal community savings and credit organizations such as Savings Groups for Production (SGPs) and Sajja savings are important microfinance service providers (ADB, 2013). Alongside such organizations, pawnshops and other informal lenders provide an alternative source of short-term credit for rural households. These financial institutions altogether provide multiple borrowing options for the majority of rural households (Menkhoff & Rungruxsirivorn, 2011).

While in the past the major challenge for rural households in Thailand was limited access to loans, the problem is now how to choose loans from an increasing number of lending institutions and how to manage multiple loans (ADB, 2013; Banking with the Poor Network (BWTP) & Foundation for Development Cooperation (FDC), 2010; Bird, Hattel, Sasaki, & Attapich, 2011). There is concern that easy access to credit from multiple sources, especially from government credit programs, might encourage borrowers to take on multiple loans for non-income generating activities and increase the level of indebtedness among low-income households (ADB, 2013; Bird *et al.*, 2011; Siripanyawat, Sawanggoenyuang, & Thungkasemvathana, 2010). Repeated debt restructuring, debt moratorium, and debt-forgiving programs by the government are also believed to have engendered a culture of indebtedness among the rural poor and worsened the problem of over-indebtedness (ADB, 2013; Bird *et al.*, 2011; BWTP & FDC, 2010). A high level of indebtedness is particularly considered a problem in northeastern Thailand, where 73% of rural and 58% of urban households are indebted. In this region, borrowing from the VF and BAAC to pay off other debts was found to be among the top five main purposes for loans (ADB, 2013).

However, mitigating the problem of multiple borrowing is problematic in the rural credit markets of Thailand due to the absence of credit information on borrowers' levels of indebtedness and credit histories. Although information-sharing has improved since the establishment of two private credit bureaus in 1999 (Kunvipusikul, 2009), the rural credit market still suffers from a lack of information on borrowers (ADB, 2013). Until now, the national credit bureau has limited credit information in the low-income sector (ADB, 2013; Bird *et al.*, 2011). The primary lenders to the rural credit

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