



ELSEVIER

www.elsevier.com/locate/worlddev



CrossMark

World Development Vol. 79, pp. 127–137, 2016
0305-750X/© 2015 Elsevier Ltd. All rights reserved.<http://dx.doi.org/10.1016/j.worlddev.2015.11.006>

Mobile Money, Remittances, and Household Welfare: Panel Evidence from Rural Uganda

GGOMBE KASIM MUNYEGERA and TOMOYA MATSUMOTO*

National Graduate Institute for Policy Studies, Japan

Summary. — Access to financial services is crucial for development as it enhances resource mobilization needed for productive investment and facilitates consumption smoothing. With a vast majority of adult Ugandans having no access to formal financial services, mobile money is expected to bridge this gap especially in rural areas. This financial product allows users to make financial transactions using their mobile phones. Within five years of its inception in Uganda since 2009, the mobile money service has been used by over 35% of the adult population and the rate of penetration is rapidly increasing. We investigate its impact on household welfare using panel data covering 846 rural households. Using a combination of household fixed effects, instrumental variable and propensity score matching methods, we find a positive and significant effect of mobile money access on household welfare, measured by real per capita consumption. The mechanism of this impact is the facilitation of remittances; user households are more likely to receive remittances, receive remittances more frequently, and the total value received is significantly higher than that of non-user households. We attribute this impact on the reduction in transaction, transport, and time costs associated with mobile phone-based financial transactions. Our results are robust to changes in model specifications and alternative explanations.

© 2015 Elsevier Ltd. All rights reserved.

Key words — mobile money, financial inclusion, household welfare, Africa, Uganda

1. INTRODUCTION

Financial inclusion¹ plays an integral role in reducing rural poverty as it facilitates saving and borrowing as well as empowering the poor to smooth consumption and insure themselves against a number of vulnerabilities in their lives (Demirgüç-Kunt & Klapper, 2012). However, a large fraction of the population in developing countries lacks access to the basic financial services. Lack of access to basic financial services restricts the ability of the rural poor to make savings and investments and engage in both formal and informal insurance mechanisms aimed at smoothing consumption and curbing poverty (Dupas & Robinson, 2009).

The prevailing low rate of financial inclusion has attracted the attention of scholars to investigate its driving factors (Johnson & Nino-Zarazua, 2011). Among the commonly cited limiting factors is the relative concentration of formal financial institutions in urban centers with limited penetration among rural communities. This urban concentration poses high monetary and opportunity costs involved in accessing and using financial services, especially by the rural poor in remote locations. In their analysis of financial access and exclusion in Kenya and Uganda, Johnson and Nino-Zarazua (2011) re-defined financial inclusion to include semi-formal and informal financial services like Rotating Saving and Credit Associations (ROSCA) and Savings and Credit Cooperative Organizations (SACCO). They found that exclusion is associated with agro-ecological and socio-cultural characteristics of the region, rather than the mere urban–rural status.

Mobile banking, a recent innovation in the financial sector, is expected to bridge the financial service access gap, thus allowing for socio-economic improvements especially among the financially excluded rural communities in many developing countries. Mobile money allows users to deposit and transfer funds as well as purchase a range of goods and services using their mobile phone. This provides a relatively cheap and

convenient means through which family members and friends exchange financial assistance in the form of remittances especially in remote areas with limited or no access to formal financial institutions like banks. The rapid development of this financial innovation especially in emerging markets has been partly driven by the massive expansion of mobile phone possession (Kshetri & Acharya, 2012) and the general lack of an affordable alternative.

Empirical studies have illustrated the developmental impact of mobile money, particularly with reference to payments efficiency and welfare. One of the major channels through which this financial product delivers development outcomes is the facilitation of peer to peer remittance exchange among family members and friends (Mbiti & Weil, 2011). Other studies have demonstrated payment efficiency benefits of mobile money to organizations and companies. For example, experimental evidence from Afghanistan indicates that salary payment through *m-paisa* significantly reduces the cost of salary administration (Blumenstock, Callen, Ghani, & Koepke, 2015). Aker, Boumniel, McClelland, and Tierney (2011) demonstrated that a government welfare program that distributed financial assistance for people to cope with the adverse effects of the 2008 drought in Niger was implemented cheaply through mobile money, relative to the conventional cash-based transfer channel. It is also demonstrated that access to mobile money services facilitates informal risk sharing by

* We wish to thank Keijiro Otsuka, Chikako Yamauchi and participants at the 2014 Pacific Conference for Development Economics, Center for Effective Global Action, University of California Los Angeles for their insightful comments and suggestions. Constructive comments from Aaron Janine at Oxford University and members of the GRIPS Development Research Group are highly appreciated. This work was supported by MEXT (Ministry of Education, Culture, Sports, Science and Technology), Global Center of Excellency and JSPS KANENHI Grant Number 25101002. All errors remain ours. Final revision accepted: November 21, 2015.

reducing the cost of remittances exchange among family members and friends, ultimately buffering households against consumption declines during illness and weather shocks (Jack & Suri, 2014).

Despite the remarkable potential of mobile banking to augment the livelihoods of the rural poor, there is scanty empirical evidence on its potential to uplift their welfare. Although it has been demonstrated that mobile money aides in vulnerability alleviation—enabling consumption smoothing by reducing the cost of informal risk sharing mechanisms (Jack & Suri, 2014), less is known about the impact of this financial product on the level of rural household welfare in the absence of such shocks (poverty alleviation impact). Besides, the analysis sample in Jack and Suri (2014) bundles both urban and rural households whereas the welfare impact may differ by rural–urban status, partly depending on the availability of alternative financial services. In the context of Uganda, recent studies on mobile money are centered on analyzing its adoption and use patterns (Johnson & Nino-Zarazua, 2011; Ndiwalana, Morawczynski, & Popov, 2010). This paper therefore attempts to make two contributions to the existing literature; first, by quantitatively estimating the effect of mobile money adoption on household real per capita consumption and second, by focusing the analysis on an exclusively rural sample. The focus on rural households is quite important because they are the most often excluded from the formal financial sector, partly due to the relative urban concentration of formal financial institutions.

We use a two-year panel of 846 households (1,692 household-year observations) from 94 Local Council 1s in Uganda, collected in 2009 and 2012.² Between December 2011 and June 2014, the number of mobile money users increased more than fivefold from three million to 17.6 million. This is expected to facilitate remittance transfer among family members and friends and thereby increase the welfare of remittance recipient households. In our analysis sample, household adoption of mobile money services expanded from less than 1% in 2009 to 38% in 2012. We find strong evidence that mobile money adoption increases real household per capita consumption. This is made possible through the facilitation of remittances among family members and friends. In particular, we find that households with at least one mobile money subscriber are 20 percentage points more likely to receive remittances from their members in towns and that the total annual value of remittances received is 33% higher compared with their non-user counterparts.

The rest of the paper is organized as follows. In section II, we provide background information about mobile money in Uganda. Section III discusses the data and summary statistics, followed by empirical strategy in section IV. Empirical results are discussed in section V while section VI concludes.

2. BACKGROUND ON MOBILE MONEY IN UGANDA

In March 2009, Mobile Telephone Network (MTN)-Uganda established *MTN Mobile Money*, the first of its kind in the country, following the massive success of Safaricom's M-PESA in Kenya. Airtel Uganda, formerly known as Zain, joined the service when it rolled out its *Airtel Money* in June the same year. This new financial innovation proved to be an efficient way for telecom companies to increase their market shares by widening the range of services available to their clients. This attracted Uganda Telecom's *M-Sente* in March 2010, followed by *Warid Pesa* from Warid Telecom in

December 2011 and *Orange Money* from Orange Telecom in the first half of 2012.

Since mobile money was established in Uganda, the number of subscribers has been steadily increasing. By the mid-2012, Uganda had over 17.6 million mobile money users all over the country. This represents over a fivefold expansion from nine million users recorded in 2011. The number of mobile money transactions increased from 180 million to 242 million during 2011–12 while the total value exchanged through the platform increased from \$1.5 billion to \$4.5 billion in the same period. MTN Mobile Money alone has over 30,000 agents as compared with approximately 900 commercial bank branches with 786 Automated Teller Machines. This rapid expansion partly owes to the high rates of both the roll-out of mobile phone network and adoption of mobile phones. In our sample, the proportion of households owning a mobile phone increased from 52% to 73% between the two survey rounds while all LC1s were covered by mobile phone network in both surveys.

Mobile money allows users to make basic financial transactions via the mobile phone. The transaction is facilitated by a mobile money agent who converts customers' cash deposits into e-float stored on the customer's SIM card-based account, called an *m-wallet*.³ The e-float can then be in various ways: it can be transferred to another user; the user can use it to buy goods and services electronically and; it can be converted into cash (withdrawn) at any mobile money agent location all over the country. In the initial stages of its establishment, the range of services offered was largely limited to person-to-person transfer but with the growing interest from stake-holders, coupled with competition among the mobile network operators (MNOs), this platform has expanded the range of services to include more complex uses like payment of utility bills, school fees, airtime purchase, and direct purchase of goods and services.

Recent developments in the mobile banking arena have made it possible for users to access their bank accounts using their mobile phones without having to physically visit their bank branches, thanks to the partnership between MNOs and banks.⁴ This is expected to raise financial inclusion especially at the lower end of the social spectrum while reducing the cost of access and use of basic financial services. With the rapid urbanization in Uganda over the past years, the number of people migrating to towns has been steadily increasing. Those who migrate to cities often render financial support to their rural households in the form of remittances. The efficiency of this remittance system heavily relies on the quality of physical infrastructure as most of these transactions involve physical transfer of cash by the receiver, sender, and agents like bus and taxi drivers among others informal channels. Besides, the massive geographical dispersion between senders and receivers implies high transaction costs in terms of transport fares and travel time involved in sending and receiving money among household members especially across geographically distant and remote locations.

3. DATA AND SUMMARY STATISTICS

We use data from household and community surveys collected in Uganda in 2009 and 2012 as a part of the Research on Poverty, Environment and Agricultural Technology (RePEAT) project. This is part of the four survey rounds administered jointly by Makerere University, the Foundation for Studies on International Development (FASID) and the National Graduate Institute for Policy Studies (GRIPS) in

Download English Version:

<https://daneshyari.com/en/article/7392922>

Download Persian Version:

<https://daneshyari.com/article/7392922>

[Daneshyari.com](https://daneshyari.com)