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## Mobile financial services and financial inclusion: Is it a boon for savings mobilization?

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### Abstract

The adoption of mobile telephony to provide financial services in Africa has become instrumental in integrating the hitherto unbanked segments of the population to the mainstream financial systems. This study sought to establish this linkage by examining whether the pervasive use of mobile telephony to provide financial services is a boon for savings mobilization in selected countries in sub Saharan Africa. The findings show that availability and usage of mobile phones to provide financial services promotes the likelihood of saving at the household level. Not only does access to mobile financial services boost the likelihood to save, but also has a significant impact on the amounts saved, perhaps due to the frequency and convenience with which such transactions can be undertaken using a mobile phone. Both forms of savings, that is, basic mobile phone savings stored in the phone and bank integrated mobile savings are likely to be promoted by use of mobile phones. Thus, growing and deepening the scope for mobile phone financial services is an avenue for promoting savings mobilization, especially among the poor and low income groups with constrained access to formal financial services.

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**JEL classification:** G20; G21; O30; E21

### 1. Introduction

Financial inclusion has become a key pillar of development policy in most countries around the world. This emanates from the realization that inclusive financial system is critical in reducing extreme poverty, boosting shared prosperity, and promoting sustainable inclusive economic growth and development (World Bank, 2014; IMF, 2014; Demirgüç-Kunt et al., 2008). Inclusive financial systems enable poor people to save and borrow, allowing them to build their assets, invest in education and entrepreneurial ventures, and thus improve their livelihoods (Demirgüç-Kunt and Klapper, 2012). In addition, the poor can smooth their consumption and insure themselves against socio-economic vulnerabilities.

Whereas developed economies have enhanced access to and provision of quality and sustainable formal financial services like credit, savings, payment systems, insurance and pension among others, in most of the developing economies, the bulk of the adult population still lack access to basic financial services. In SSA, 80% of the adult population has no access to basic financial services and only 34% have an account at a formal financial institution (CGAP, 2011; Demirgüç-Kunt et al., 2014). Despite the low penetration, majority of the population still save in informal ways and often employ fairly sophisticated methods to manage their finances and plan for the future. Existing evidence reveals various savings behavior by most poor households. These include stockpiling seeds and grains, keeping small amounts of money in tin-cans, under mattresses, in a hole underground, saving with Rotating Savings and Credit Associations (RoSCAs) and Accumulating Savings and Credit Associations (ASCRAAs), keeping livestock and jewelry, and lending to others (Zimmerman and Bargee, 2009; Collins, 2005; Rutherford, 2003, 2000).

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The varied savings mechanism using informal channels could be attributed to banks' product designs that have not been able to target specific saving behavior of the majority of the poor population, or lack of flexibility to allow clients to tailor their usage of accounts to meet different savings needs. It is only until recently, that the use of mobile phone technology has exploded into the African market, providing the most effective way of integrating the unbanked population into the mainstream financial system. Technological advances such as mobile money transfer, payments, savings and credit, and the creation of new delivery channels such as mobile branches or banking services through third-party agents are currently playing an important role in providing greater financial access in Africa.

The advances in technology and especially mobile phones have revolutionized financial services provision and introduced new models of serving the poor. An estimated 12% of the adult population in SSA have a mobile money account compared to only 2% worldwide (Demirgüç-Kunt et al., 2014). The mobile financial services are relatively cheap, secure, reliable and accessible and have seen majority of the poor and low income earners expand their financial platforms to include mobile banking, agency banking and other forms of financial services. In particular, the wide-spread use of mobile phone technology has opened new markets across SSA and has necessitated financial services to reach consumers in remote areas where banking services is lacking.

It is in this regard that this study analyzes the role of mobile financial services in expanding financial inclusion and promoting savings in selected SSA countries based on data from Kenya, Uganda, Malawi and Zambia. Specifically, the study examines the extent to which adoption of mobile phones has helped promote financial inclusion, and empirically analyze the role of mobile phone financial services usage on savings mobilization. Given its comparatively more developed state of financial innovation and usage of mobile financial services, an in-depth empirical analysis of the latter is conducted using Kenya's financial access survey data of 2013.

## 2. Literature review

Theoretical literature has long emphasized the importance of financial sector development for economic growth. Earlier theoretical literature emphasized financial liberalization through market determined interest rates that are conducive for higher growth path as opposed to financial repression which involve interest rate ceilings, restrictions on competition of financial institution and market inefficiencies (McKinnon, 1973; Shaw, 1973; Stiglitz and Weiss, 1981; Diamond and Dybvig, 1983). Other theories have argued that a developed financial system broadens access to funds through efficient allocation of capital across different investment alternatives including production technologies and entrepreneurial innovative activities (Banerjee and Newman, 1993; King and Levine, 1993; Aghion and Bolton, 1997), pooling of funds and facilitating risk management, and diversification that leads to enhanced asset liquidity (Bencivenga and Smith, 1991; Levine, 1991; Rajan and Zingales, 1998; Levine, 2004).

Empirical literature on financial sector development and economic growth has evolved alongside the theoretical literature. Initial contributions used the household survey data to analyze the methods and extent to which households in developing countries are able to insure themselves against risk through mechanisms such as informal inter-household transfers, state-contingent loan repayments, marriage and precautionary saving (Rosenzweig and Wolpin, 1982; Deaton, 1991, 1992; Townsend, 1994; Udry, 1996). Other recent empirical studies have also revealed that the poor families in the informal economies of developing countries actively manage their financial lives by engaging in precautionary and commitment savings (Dupas and Robinson 2013a, 2013b; Brune et al., 2011).

Empirical analysis using micro based financial sector survey data has revealed widespread adoption of mobile phones that has advanced from a simple communication gadget to a savings tool by both the wealthy and poor households (Jack and Suri, 2014, 2011; Honohan and King, 2012; Shem et al., 2012; Mbithi and Weil, 2011; Wilson et al., 2010; Collins et al., 2009; Comminos et al., 2009).

Jack and Suri (2014) examined the impact of reduced transaction costs of mobile money on risk sharing in Kenya. The findings showed that M-PESA users were able to fully absorb large negative income shocks (such as severe illness, job loss, livestock death, and harvest or business failure) without any reduction in household consumption. By contrast, consumption for households without access to M-PESA fell on average 7% in response to a major shock. Honohan and King (2012) used fin-scope survey dataset to analyze causes and effects of financial access. The results confirm that income and education are key demand side determinants of access to formal banking. They found that the more sophisticated an individual's financial sector knowledge is, the higher the likelihood of being formally banked and that trust in banks is associated with significantly higher chances of being formally banked.

Demombynes and Thegeya (2012) examined mobile savings phenomenon in Kenya, using survey data collected in 2010. Study findings revealed that the usage of bank integrated mobile savings products remain limited and largely restricted to the wealthy group. In the rural areas they found that individuals who are male and married are more likely save and that majority of the population use mobile phones as a depository for funds especially among those who are unlikely to save using formal channels. They also found that those with registered M-PESA accounts were 32% more likely to have some savings. The evidence that M-PESA increases savings even though it does not pay interest is not surprising given that the convenience and safety derived may far outweigh interest payment considerations.

Mbithi and Weil (2011) analyzed the impact of M-PESA on a number of economic and social outcomes using a balanced panel of 190 sub-locations in Kenya. The study findings revealed little evidence linking use of M-PESA accounts as a place to store wealth. Instead, M-PESA improved individual outcomes by promoting banking and increasing transfers. In addition the study findings revealed that increased use of M-PESA had lowered the propensity of people to use informal savings mechanisms such

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