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Sub-Saharan Report

Sub-Saharan Africa is one of the focal regions of Global Challenge 2015.
These reports are by Mr. Kenshi Tsunemine, an expatriate employee working in Johannesburg with a view across the region.

Sub-Saharan Africa - Special Study Edition

September 10, 2016

Mr. Patrick Ryan is the writer of the Special Edition this time

We are again providing a Special Edition to the Sub-Saharan Africa Report. These reports have been written by Mr. Kenshi Tsunemine, one of Marubeni's expatriates in the sub-Saharan region. This year's January Special Study Edition was written by Mr. Patrick Ryan, also of the Marubeni Research Institute, and he is again writing a Special Edition for the September Sub-Saharan Africa Report with some comments from Africa by Mr. Tsunemine.

Mr. Kenshi Tsunemine
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In order for the Marubeni Research Institute to acquire live information from the field and contribute to the Company's strategy, young Marubeni staff well-versed in economic and industry analysis have been posted to the region.

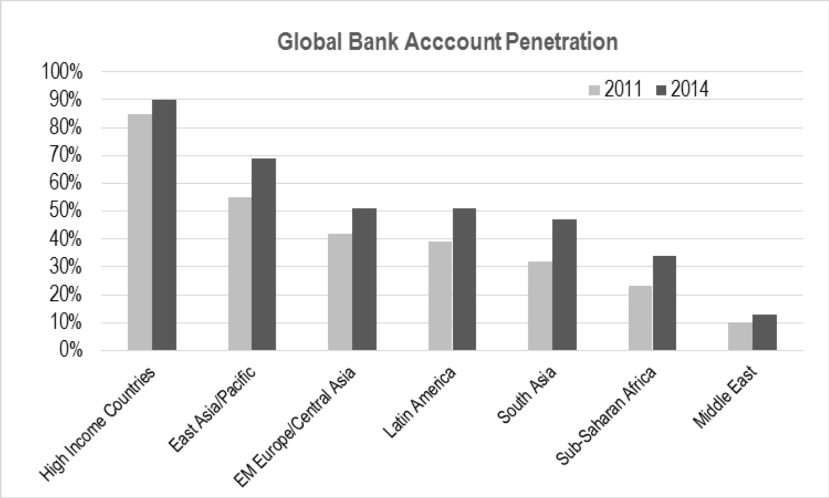
Financial Inclusion and Mobile Money Financial Services in Sub-Saharan Africa
Leveraging Bottom of the Pyramid (BOP) Business Potential via Mobile Technology

Introduction - Financial Inclusion

Sub-Saharan Africa is at a turning point. Over the last decade and a half the region has attained high economic growth rates and many countries are now looking to structurally reform their economies to achieve a sustainable growth model, mainly by diversifying the manufacturing base and modernizing agriculture. However, this strong economic performance has not necessarily resulted in a significant reduction in poverty levels or substantial improvement in the majority of livelihoods. For growth to be sustainable it has to be socially and politically viable, meaning it has to be inclusive of all.

(Note: The Japan-led Tokyo International Conference on African Development (TICAD VI) was recently held in Nairobi, Kenya addressing many of the above issues. Also, for Marubeni readers, as you know Marubeni has targeted Africa as a priority market. So as business people one of the challenges for us is how to do or carry out BOP or bottom of the pyramid-related business in sub-Saharan Africa. This paper addresses one potential way, mobile money (financial services), which has been making rapid advances in sub-Saharan Africa.)

One essential component for sustainable economic growth is access to financial services. Finance development experts have noted that universal financial access, i.e. financial inclusion, is integral to economic and social development and that financial exclusion is a leading cause of extreme poverty and a key barrier to growth. The level of financial inclusion, or access to banking, in sub-Saharan Africa has generally been quite low. At the end of 2014 just 34% of adults in sub-Saharan Africa have an account at a formal financial institution, which falls to around 28% (or lower) when the high formal banking countries of Mauritius (80%) and South Africa (71%) are excluded. Furthermore only 24% of micro and small and medium size enterprises (SMEs) have an outstanding loan. The main reasons for financial exclusion are low and volatile incomes, lack of proper documentation, complex financial products and services, illiteracy, and inadequate infrastructure combined with the long distances to financial institutions. Most of the unbanked are women, young people, farmers and the poor, mostly in rural areas. Given that the rural population, which accounts for most of the unbanked adults, is 60% of sub-Saharan Africa's population, and that sub-Saharan African adults have the highest percentage of loans aimed at starting a business (13%) in the world, as well as the fact that SMEs and micro-businesses, make up about 90% of total enterprises, having access to formal financing would have a huge overall economic impact by leveraging local development.



Source: Recent Trends in Banking in sub-Saharan Africa, European Investment Bank 2015

Source: SME Finance in Africa, Beck and Cull, Brookings Institute

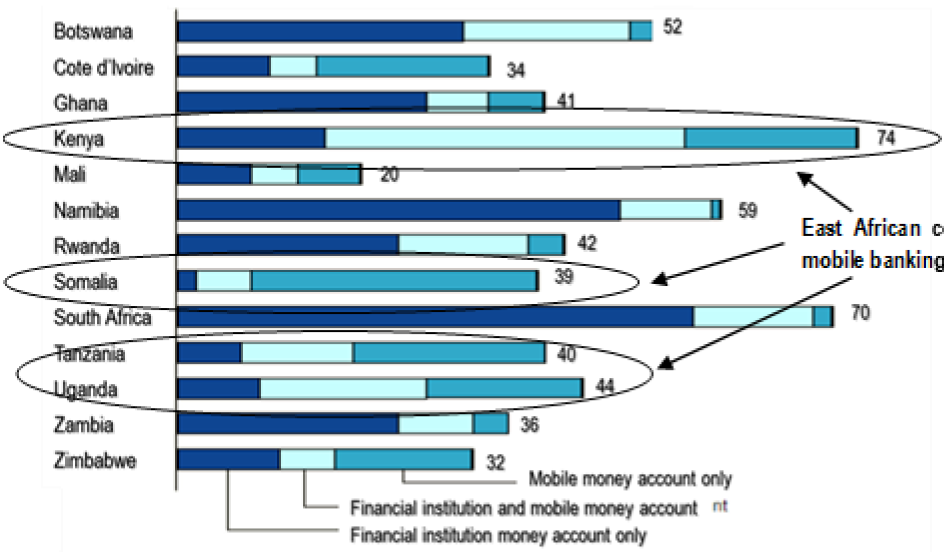
Most unbanked save their money at home in cash, or more so in such illiquid forms as livestock, land and material goods like jewelry. Furthermore, most of their borrowings come informally from friends and family, while SMEs either use their own retained earnings and the owners' personal funds. Providing the 70% of the population that is unbanked with access to secure savings, loans, credit and insurance will allow households to fully engage in economic activities and more efficiently generate income and mobilize savings. This increases deposits at financial institutions raising their ability to loan to promising household micro-businesses, entrepreneurs and SMEs to invest, stimulating the local economy and promoting sustainable economic growth in the process. Higher rates of financial inclusion are also imperative to the diversification and modernization of sub-Saharan Africa. In fact, financial inclusion is becoming such a policy objective in many African countries that central banks are increasingly taking an active role in promoting financial inclusion, particularly in the areas of microfinance, consumer protection, rural finance and SME financial access.

Mobile Financial Services in Sub-Saharan Africa - Mobile Banking/Mobile Money

Although financial inclusion in Sub-Saharan Africa is currently low by global standards, there is a bright spot driven by necessity, innovation, new technologies and central banks, which is the advance of mobile banking and mobile money. (***Note: Mobile banking is the connection between a mobile phone and a personnel or business bank account to access banking services. Mobile money is a service that allows customers to transfer money person to person and for bill and other type of payments. A mobile money account can be with a bank or with a non-bank).*** Mobile banking and money are speeding up the inclusion of rural populations into the financial system and is expanding the reach of microfinance.

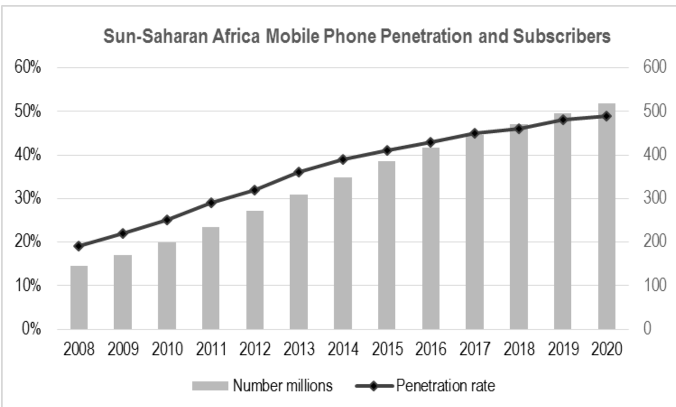
Sub-Saharan bank account penetration rose by 13% between 2011 and the beginning of 2015 mostly on the back of mobile banking. Sub-Saharan Africa is the world leader in mobile money accounts with 12% of the adult population now having mobile money accounts versus 2% globally. Only 13 countries in the world have mobile money account penetration of 10% or more and all of them are in Sub-Saharan Africa. Mobile banking and money accounts are especially widespread in East Africa where 20% of adults report having a mobile money account led by Kenya with 58%, and followed by Somalia, Tanzania and Uganda all having over 35%. (Note: A mobile money account may or may not be a bank account.)

All the Countries in the World with Mobile Money Account Penetration of 10% or more are in Sub-Saharan Africa



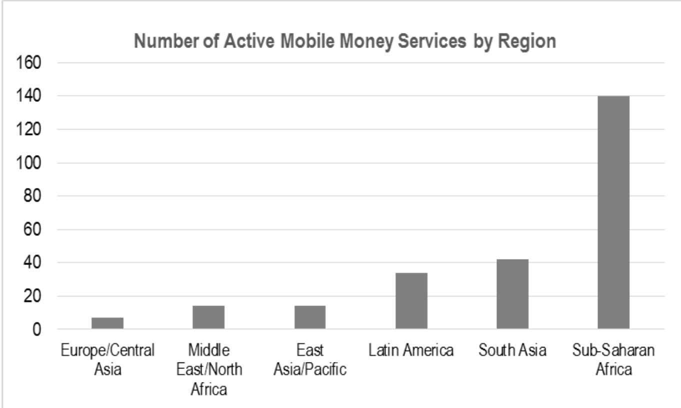
Source: Recent Trends in Banking in sub-Saharan Africa, European Investment Bank

Of course, mobile financial services depend on mobile phone penetration and penetration is rapidly growing in sub-Sahara Africa. Mobile phone penetration in 2015 was 41%, more than double what it was in 2008 with 386 million subscribers. Penetration is expected to reach nearly 50% by 2020 with over 500 million mobile phone subscribers, 400 million of them smart phones. However, while large, this still lags the world average of 63%, which means there is much room for growth in mobile and the mobile-related economy in sub-Saharan Africa.



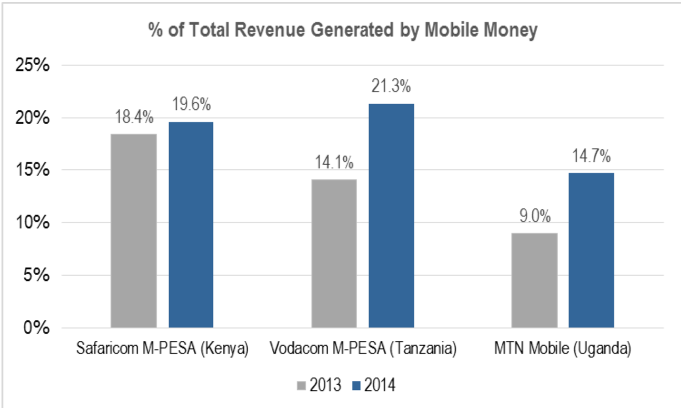
Source: The Mobile Economy - Sub-Saharan Africa 2015

However, the mobile financial service revolution taking place in sub-Saharan Africa is really being driven by the advance of mobile phone software and applications technology (i.e. smart phones) which have drastically lowered the cost of digital money transactions and the fact that there is a huge need for mobile money services as rural areas often lack access to a physical banking network (most banking facilities are in or near urban areas). This has resulted in the deployment of mobile systems to deliver financial services, mostly through telecommunication companies' mobile platforms, across the region. As you would expect, sub-Saharan Africa leads the world in the number of active mobile money service deployments with over 130 in operation (end of 2014) in 38 sub-Saharan markets, more than 50% of all mobile money services in operation worldwide.



Source: State of the Industry 2015 - Mobile Financial Services for the Unbanked

Some of the most successful mobile financial service providers are obviously operating in East Africa, notably Safaricom's M-PESA in Kenya, Vodacom's M-PESA in Tanzania and MTN's Mobile Money in Uganda, with between 15% and 20% of their total revenues coming from mobile money and growing. M-PESA (M stands for mobile and PESA means money in Swahili) is a mobile-based financial service network developed by the UK's Vodafone for Safaricom and Vodacom respectively. (There is also Orange's Orange Money and Airtel's Airtel Money in West Africa, among others).



Source: State of the Industry 2015 - Mobile Financial Services for the Unbanked

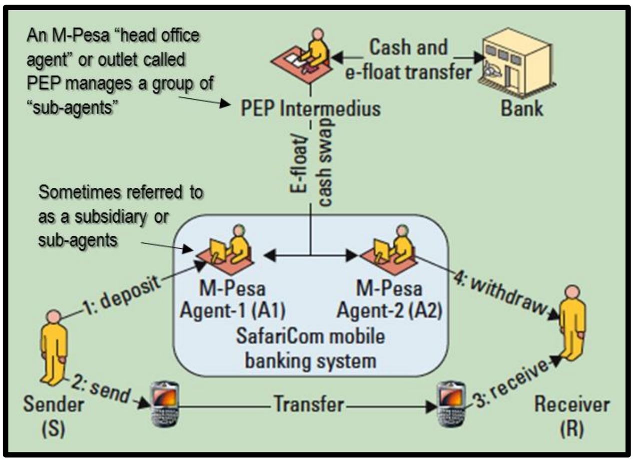
The business model for these mobile services can either be **bank-led, bank-focused or led by non-banks**. **The bank-led model** is where a traditional bank just extends it services through the use of ATMs, internet banking and mobile phone banking to existing customers. **The bank focused model** is a branchless form where customers can use a range of retail agents, which can be post offices, supermarkets and other types of stores including small shopkeepers and even individuals to conduct financial transactions managed by the bank. The bank focused model is carried out by either contracting directly with the agents or through joint ventures with telecoms, or what are referred to as mobile network operators (MNOs), that have their own networks of agents, to provide mobile financial services. Such MNOs as Orange, Airtel, MTN and Safaricom have partnered with such banks as BNP, Societe General, ECOBANK and the Commercial Bank of Africa. **The non-bank led model** is where banks play a very limited role and the money accounts are managed by a non-bank entity, usually an MNO (telecom), through an extensive network of contracted agents using mobile technology with the bank only safeguarding funds. The model does not require the ownership of a bank account, but has a strong impact on financial inclusion by making it easily deliverable.

To give you a better idea of the economics of mobile money let's look at how M-PESA works in Kenya **(non-bank led model)**.

Mobile Money Unbanked Model Example: Safaricom M-PESA (Kenya)

Safaricom the MNO, accepts deposits of cash from its M-PESA users through a registered network of 16,000 third-party agents, agent outlets (called agent points) and sub-agents. Becoming a PESA user is easy as it requires only one kind of official ID. Once the user deposits the money with the agent they are assigned an electronic money account, or "e-wallet" linked to their phone number (using SIM technology). The value of this deposit is stored in the mobile account as "e-float", a kind of electronic commodity, which matches the value of the cash deposit. The e-float can now be used as "mobile money" to withdraw cash, transfer money to other people (P2P remittances), pay bills or pay for goods directly (note: roughly 25% of the merchants in Kenya now accept mobile payment, eliminating the need for cash or credit cards), and purchase mobile phone air time. Mobile money can be transferred to another party and bills and goods paid for by simply entering the recipient's mobile money account details, the cash amount required, and then simply sending it as a text. The recipient can then convert this text into cash with their local agent located in their own region. The transactions are automatically recorded and accounts updated in real time.

The accounts are operated and managed by M-PESA and the e-float is fully covered by Safaricom through deposits in fully regulated commercial banks. There is no charge for deposits nor do users receive interest on their deposits, however a surcharge is made on withdrawals and on mobile money transfers when sent. Agents receive transaction commissions. Agents are required to hold cash and manage their liquidity and deal with banks and may carry out e-float transactions with other agents (agent outlets and sub-agents) to ensure they have enough cash for their customers.



Pictures 1 and 2: An M-PESA agent outlet.

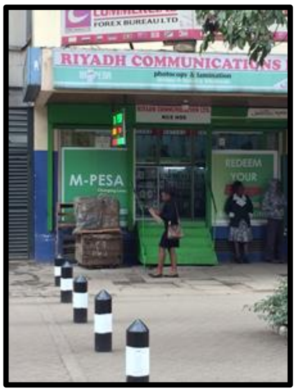
While M-PESA and the non-banked mobile money model does not directly give credit, loan money or sell insurance its platform is a low cost and efficient conduit for these services to be delivered. Furthermore, by making monetary transactions low cost and efficient and extending transfer and payment services to a larger base, it is both increasing economic activity and making the economy more productive. Already digital payments have enabled new business models such as off-grid energy systems in rural East Africa.

Comments from Africa by Mr. Kenshi Tsunemine

As can be seen in the pictures, M-PESA outlets (some are just stands) can be found just about anywhere in Kenyan towns and have become firmly rooted in people’s lives.

In fact, all of the national staff at Marubeni’s Nairobi office (13) have used M-PESA, which just goes to show you the high rate of mobile banking penetration in Kenya. They have said that the service is ‘very convenient and transactions very quick”, “it is easy to use”, and “the fees very reasonable”.

On the other hand, this does not necessarily mean that there are no problems with the M-PESA system as users have also said that “the system is often down and is sometimes slow”, “it can be difficult to use for business as the SMS does not issue a physical receipt as evidence”, and “if you send a wrong ID or transaction number, cancellation can be complicated”. Also, there is the impression that it is generally less reliable than a bank, and that in terms of savings deposits (large amounts of money) most people would rather use an existing bank (if possible). These are some areas where the M-PESA system has room for future improvement.



Mobile Money Dependent Business Model Example (Asset Locked Lending): PAYG Off-Grid Solar Energy Businesses

PAYG (pay-as-you-go) home solar systems companies provide (loan) home solar systems on a pay-as-you-go basis using mobile money services. PAYG solar home systems consist of solar panel, installed on customer’s roof for a down payment ($10-$60, depending on system size). The customer pre-pays to use the energy from their mobile wallet. Once the pre-paid use of the energy expires the system is automatically shut down until the next payment is made. A solar home system usually may include lights, phone charging, and radio or TV to improve household quality of life.

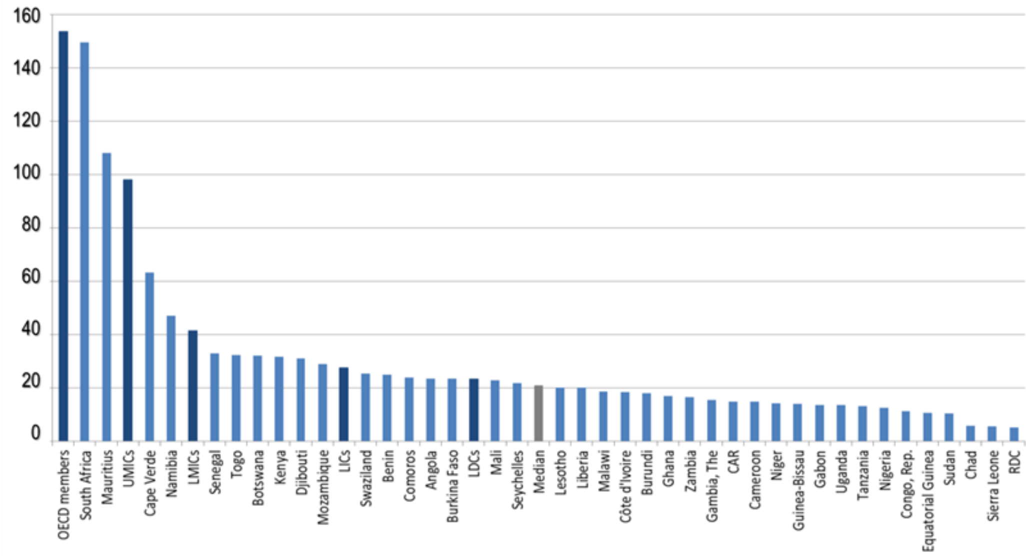
Without mobile money, PAYG solar operators would have to build an entire cash management infrastructure and customers would be forced to travel to far away physical pay points whenever they wanted to have their solar units turned back on. This would make PAYG’s solar business model obsolete. By utilizing mobile money, this business becomes viable by being able to accurately track customer behavior and reduce the time units are off by making payments convenient.

Interestingly, 30% to 50% of their customers had never used mobile money, which meant the companies had to register their customers for mobile money and teach them how to us it and arrange for an agent. Furthermore, some of the solar energy providers will now finance sales to poor customers as theft and non-payment are not issues due to the providers' ability to remotely lock the asset. Moreover, these users are creating credit histories that may allow them to create savings accounts, buy insurance or receive loans. So PAYG solar energy businesses, as well as other off-grid energy service providers are helping to drive mobile money adoption.

Mobile Credit

Which bring us to mobile credit and loans. As mentioned, micro-household businesses and SMEs, both formal and informal, make up more than 90% of all businesses in sub-Saharan Africa and form the backbone of most countries in the region. Providing financial support to them is necessary to grow employment and sustain local economies to the benefit of the national economy as a whole. However, credit to the private sector in sub-Sahara Africa is only 24% of GDP, with most of that going to large firms, compared to 77% for other developing economies and 172% for developed economies.

Credit to the Private Sector 2014 (% of GDP)



Source: Recent Trends in Banking in sub-Saharan Africa, European Investment Bank

SMEs in Africa find it extremely difficult to access funding from traditional banking sources citing the lack of audited financial statements, credit histories and collateral as barriers. It is most acute among micro and small businesses. As a result 80 percent of SMEs in Africa finance investments internally with only around 8 percent of investments financed by banks. This means there is a need for financing solutions for micro-businesses and SMEs in sub-Sahara Africa- that are innovative and Saharan Africa transformational.

One solution that comes to mind is microfinance. In fact, the original concept of M-PESA was to create a service which would allow microfinance borrowers to receive and repay loans using the network of Safaricom mobile air time resellers. The original aim of microfinance was poverty elimination by providing small loans to very poor rural households and was made famous by the Grameen Bank in Bangladesh. There are now several thousand microfinance institutions (MFIs) worldwide with a strong presence in many poor rural communities. Most microfinance credit and loans go to women, who are seen as lower credit risks and are usually the ones that create household-related micro businesses. To issue loans MFIs focus on analyzing the cash flow from a households micro-entrepreneurial activities rather than on collateral. However, while helping to compensate for the lack of funding from traditional financial institutions and helping lift households out of extreme poverty, microfinance loans are just that, micro, meaning small, short-term loans which do not necessarily address the investment needs for long-term growth. In addition, these micro-credit institutions are themselves constrained by their limited funds, the high cost of refinancing through the formal banking sector, and limited technological platform.

This is where the advances in mobile money platform applications are having an impact. Banks and microfinance have made some progress in addressing the needs of people at the bottom end of the economic pyramid in Africa. However, due the lack of rural infrastructure by banks and the high costs for MFIs, they are limited in their reach. Furthermore, informal credit is too expansive. However, by partnering with MNOs, which typically don't loan money, and their mobile money platforms, banks and MFIs are now able to provide credit and loans services via mobile money networks.

The biggest challenge for banks and MFIs has been in gauging the risk of borrowers, meaning their ability to repay or default. As financial services providers have lacked the data to gauge creditworthiness they have tended to put low risk and high risk customers together limiting their ability to provide inexpensive financial products. By making use of the MNOs mobile money transaction data to create credit histories they can now apply credit scoring models to evaluate risk.

Already a number of mobile credit and loan services have been launched in sub-Saharan Africa, the most well-known being Safaricom and the Commercial Bank of Africa's M-Shwari in Kenya, which specializes in mass market short-term loans (note: non-performing loans make up just 2.2% of M-Shwari's total loans compared to an average figure of around 5% for all of Kenya), and its counterpart in Tanzania, M-PAWA, run by Vodacom and the Commercial Bank of Africa. Also, Kiva Zip, a peer-to-peer lender, loans money to entrepreneurs in Kenya using M-PESA with 0% interest and no fees. Furthermore, a number of MFIs in Kenya are now handling deposits, which will give them more monetary resources for loans and are also acting as agents for MNOs to disburse loans and collect repayments using mobile money platforms.

The biggest impact of mobile credit may be on the agricultural sector, which makes up around 40% of the GDP of many African markets, but receives only 3% of the loans given out by African banks. Smallholder farming is predominant in sub-Saharan African with 80% of all farming carried out by small-scale farmers (10 hectares). Small-scale farmers often lack access to cash to buy basic farm materials and loans to purchase better farm equipment, land and insurance. Mobile money would allow for efficient and timely payment for their crops and a safe, convenient way to buy farm supplies. Mobile money account records would show their costs, sales and savings which may allow them obtain loans based on the creditworthiness from these farm records. In Kenya, the microfinance institution Maroni developed an agricultural loan specifically for small farmers and M-SHWARI creates accounts for farmers and gives out 30-day loans both using M-PESA mobile money service. (Note: Another type of finance to farmers in taking place Sub-Saharan Africa is VCF or value-chain financing where large multinational commodity buyers lend to small-scale farmers and guaranteed purchase.).

Mobile insurance services are also beginning to rise in sub-Saharan Africa, usually in partnerships between special insurance providers and MNOs. However, insurance coverage in Africa is generally low (44.4 million total in all of Africa versus 500 million mobile phone users), so the potential is high.

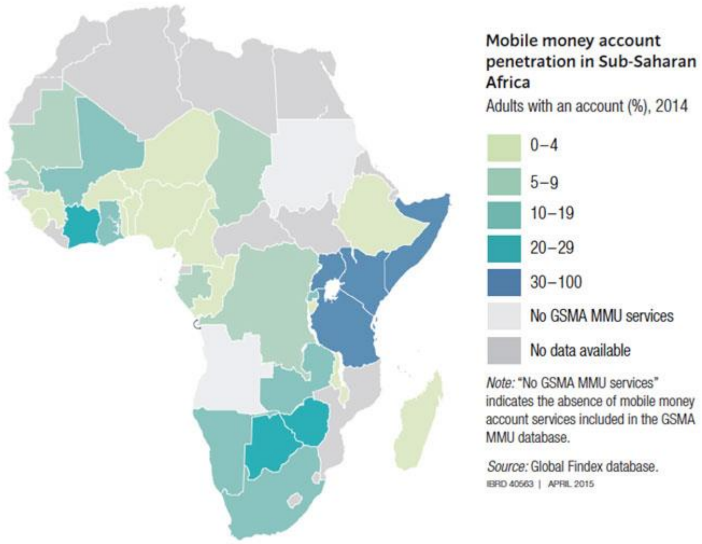
All in all, the impact of mobile credit on sub-Saharan economies could prove transformative by speeding economic development from the bottom up as financial institutions are able to allocate capital both more extensively and more efficiently to the most promising farmers, household micro-businesses, SMEs and entrepreneurs.

Conclusion

Although currently only 12% of the sub-Saharan Africa utilize mobile money accounts (16% have used mobile money services in some from in the last 12 months), penetration has been growing rapidly. If mobile and mobile financial services gain traction and achieve scale, it may allow sub-Saharan Africa, or at least a number of countries in the region, to leapfrog an entire stage of the financial development process (the need for actual banking facilities near you to gain financial access) and speed economic development by bringing greater financial inclusion and energy access to the bottom half of the population spurring bottom-up growth to go along with top-down development (physical infrastructure and manufacturing and agricultural modernization). The mobile money ecosystem should have a strong effect on consumption (bottom-up) through its increasing use in business to business (B2B) and business to consumer (B2C, or retail) transactions. Furthermore, it can improve the top-down development process by eliminating corruption in the development aid process nu ensuring aid money goes to those who need it.

Customers already see mobile money as being speedier, safer, more convenient, and cheaper than the traditional model. In fact, the number of people in Africa living on $1.25 a day who use M-PESA grew by more than 50% between 2009 and 2013. Also, it has been estimated M-PESA has generated 0.5% in total factor productivity (TFP) growth per year in Kenya since its introduction in 2007, about 25% of total growth, suggesting a large economic impact from mobile money technology.

However, there remain some obstacles to mobile money penetration. While mobile money and financial inclusion in East Africa, led by Kenya, whose financial sector is relatively broad and well-developed for a sub-Saharan country, has been expanding fairly rapidly, penetration has been disparate through other parts of sub-Saharan Africa, especially in regions and countries with weak banking systems. For example, in Central Africa only around 7% of adults have a formal bank account and somewhere between 4% and 10% have mobile money accounts depending on the country. In West Africa about 25% have a bank account and anywhere between 5% and 30% have mobile money accounts. Southern Africa has a



relatively high rate of financial inclusion due to South Africa, with the region having between 10% and 30% mobile money penetration rates (M-PESA has not done well in South Africa as nearly 75% of adults do formal banking).

These obstacles include illiteracy, especially in rural areas where it still high (nearly 40% in sub-Saharan Africa), meaning a large segment of the population in Africa would not be able to use mobile money services. Also, further mobile phone penetration depends on large continued investment by telecommunication companies in mobile phone infrastructure in rural areas which they may not want to make without government support. A solution to this of course, is to focus more development aid on rural education and on subsidies to African governments for rural mobile phone infrastructure.

Still, despite these obstacles the mobile financial services revolution taking place in sub-Saharan Africa should continue to gain momentum and expand due to the rise of pan-African banking and experienced mobile network operators, the success of current mobile money models and the very innovative and user-friendly nature of the mobile technology platform, the great need for financial services that have yet to reach most of the region's large population and the increased importance African government are placing on financial inclusion. As such, much attention should be paid to the growing mobile economy in sub-Saharan Africa and the bottom of the pyramid businesses and consumption that may spring form it.

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