



# Exploring fintech solutions for women

## Scoping paper

GENESIS ANALYTICS



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# Exploring fintech solutions for women

## Genesis Analytics

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### About the authors

Genesis Analytics is an economics consulting firm, specializing in competition and regulatory economics, financial services strategy, agriculture and agribusiness, applied behavioural economics, infrastructure, health, monitoring and evaluation, and shared value. It has offices in Kenya, India, South Africa, and the United Arab Emirates.

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Mastercard Lab for Financial Inclusion, one of eight labs globally focused on research and development, is a partnership with the Bill & Melinda Gates Foundation with a mission to reach the underserved and underbanked in East Africa. The Lab seeks to create ground-breaking solutions that will impact more than 100 million people by helping them access financial services and therefore manage risk better and lead empowered lives.

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# Table of contents

<b>Foreword</b>	<b>2</b>
<b>Abstract</b>	<b>3</b>
<b>1. Introduction</b>	<b>5</b>
<b>2. The African Context</b>	<b>7</b>
<b>3. The state of women's financial inclusion</b>	<b>12</b>
<b>4. Proliferation and impacts of fintechs</b>	<b>16</b>
<b>5. The impact of fintech solutions on women</b>	<b>20</b>
<b>6. Increasing the impact of fintech solutions for women</b>	<b>28</b>
<b>7. Conclusion</b>	<b>33</b>
<b>Annex: Examples of key fintech solutions in africa</b>	<b>34</b>

# Foreword

The proliferation of mobile banking and other financial sector innovations has accelerated the pace of financial inclusion worldwide. Nowhere is this more evident than in sub-Saharan Africa, which pioneered the use of mobile banking. According to the 2014 Global Findex, 12% of adults in the region use mobile money, compared to just 2% worldwide. This innovation has been instrumental in reaching those excluded from traditional banking services, particularly women. Globally, the financial inclusion gender gap remained at seven points between 2011 and 2014, and was even higher in developing economies, at 9%. Much remains to be done to close prevailing gender gaps. Many governments and private sector actors are intensifying efforts to foster financial inclusion.

Access to financial products and services is believed to be a key enabler – enhancing women’s economic empowerment and allowing them to better manage their lives. While it is widely assumed that this access will have a meaningful impact on people’s lives, social and cultural constraints conspire to prevent many women from fully utilizing financial products and services. The result can be low uptake or negligible changes in women’s economic empowerment and labour market decisions.

Evidence on the impacts of financial inclusion is scarce, but the need for it has become critical as governments, private sector actors, and donor agencies seek to enhance the developmental impact across sectors – especially for groups such as marginalized women, who lack many services in addition to suffering financial exclusion. As efforts to close gender gaps intensify, important questions emerge. Are the financial tools available to women helping them enhance their productivity and income, and more importantly, how can potential gains be realized and enhanced? It is increasingly recognized that ensuring the impact of financial inclusion on women’s livelihoods cannot be done without addressing multiple gender inequalities embedded in the entrepreneurial eco-system – including socio-cultural norms and the gendered division of labour. Another key question is whether financial inclusion is transformative by itself or needs to be coupled with other interventions to have a positive impact on women’s livelihoods.

This scoping paper makes an important contribution to our understanding of how gender intersects with financial inclusion. It is one of a series commissioned by the International Development Research Centre (IDRC) to shed light on the above questions. The papers fed into a stakeholder consultation jointly hosted by IDRC and the Nairobi-based MasterCard Labs for Financial Inclusion in June 2017. The event brought together leading experts, implementing agencies, and women to explore current evidence. Their insights, and these scoping papers, point to potential new areas of research support that will build an evidence base for practical, policy-relevant solutions.

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## ABSTRACT

New digital technologies are revolutionizing the financial services industry around the world. Africa has been an innovation hub in this area, due to its rapid adoption of mobile communication networks. How might the explosion of fintech platforms and applications be tapped to foster greater financial inclusion, especially for women, who are underserved by traditional banking? This scoping paper explores available evidence on the uptake of fintech in Africa, and how it is changing the financial landscape. It highlights examples that illustrate the potential benefits of fintech for women, while pinpointing ways in which these emerging technologies need to be better tailored to the specific barriers that African women face if they are to be truly empowering.

## Key messages

- Despite high rates of female entrepreneurship in Africa, women face significant barriers to accessing and using financial services—including formal and regulatory exclusion, lack of access to capital, and persistent social norms that limit their autonomy and decision-making.
- The nature of banking and other financial services in Africa is rapidly shifting, with mobile networks and other new players disrupting traditional financial modes and platforms, while creating new service innovations.
- A growing number of fintech innovations are opening new pathways for previously excluded groups to access banking, insurance, and other financial services, but there are yet few examples of fintech applications tailored to women's specific needs.
- More innovations are needed in priority areas such as health, education, and social transfers that directly affect a majority of women, with applications tailored to the specific contexts of women entrepreneurs.
- Given the short timeframe of fintech's incubation to date, there is little systematic evidence on their impacts on women; more monitoring and evaluation of specific innovations are needed to assess their potential benefits.

## 1. Introduction

**“Fintech—broadly defined as technology-driven financial innovation—is rapidly changing the nature of financial products, services, marketing, and even institutions worldwide. Amid all the excitement over its potential impact on financial inclusion, the gender dimension of fintech is often overlooked.”**



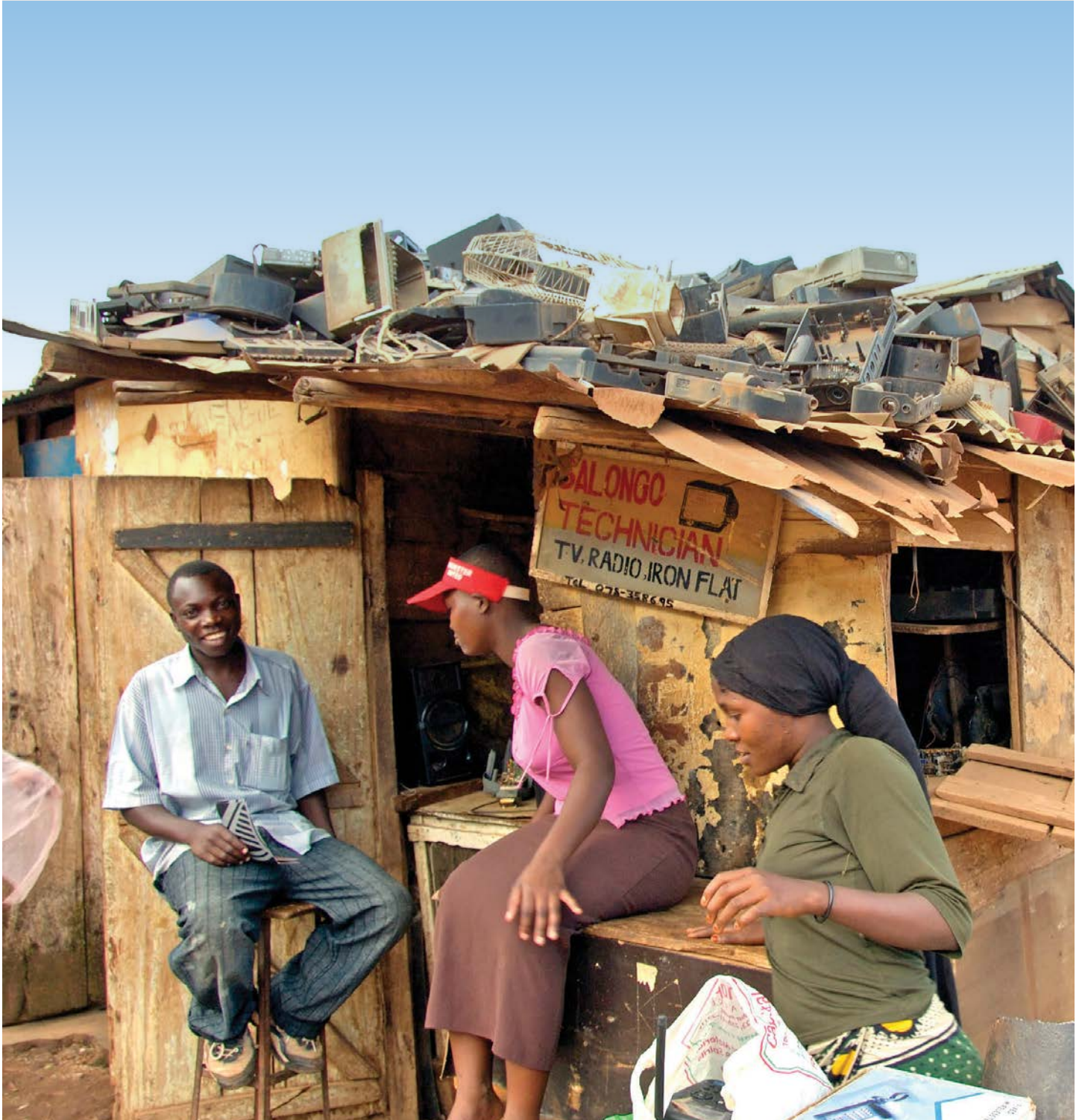
This paper considers what we know about the gender dimension of financial inclusion, and the impact of fintech solutions on women. It begins with evidence on the gains associated with these solutions and how these gains are distributed by gender. It then presents a framework for thinking about the gender dimensions of fintech, and suggests avenues for further research and engagement.

In the first section of this paper, we consider the broader context in sub-Saharan Africa (SSA) and assess whether improvements in macro-economic performance have resulted in a broad reduction in poverty or a greater level of inclusion of women. The second section considers the evolution of the financial sector and the extent to which enlightened regulation has contributed to breakthroughs in financial service innovation, including fintech solutions. The third section discusses broad fintech trends in SSA. In the fourth section, we present a classification of fintech solutions from a gender perspective. Here, we look for evidence on the extent to which women have benefitted from three types: those that transform the market—the “lift-all-the-boats-in-the-sea”-type innovations; those that meet women’s most relevant livelihood needs and address the household burdens they face; and those that affect financial institutions (such as microfinance companies) that target women. The final section concludes the paper and presents some thoughts for the future.



## 2. The African Context

**“Sub-Saharan Africa has high levels of women entrepreneurship, with the proportion of male-owned businesses to female-owned businesses being roughly equal.”**





Many of the advances in financial inclusion over the last ten years have been supported by a very favourable macro-economic environment. Between 2000 and 2014, SSA recorded higher real GDP growth than most other parts of the world (about 5.6% compared to a global average of 3.9%<sup>1</sup>). This growth was on the back of a commodity price boom<sup>2</sup>, favourable demographic developments, burgeoning manufacturing and services industries, and higher government investment in infrastructure. Since 2015, however, growth has slowed markedly to a low of 1.5% in 2016. Poor policies in the major economies, combined with a slump in commodity prices and sustained droughts across the region, have caused food scarcity, water and power shortages, currency depreciation, and high inflation in many countries. Some countries have weathered these challenges better than others: Francophone West Africa and East Africa stand out for their sustained growth.

Looking ahead, commodity prices are expected to remain low for the next couple of years, and food scarcity will likely persist at least until the next harvests in late 2017. Growth across SSA is likely to be 2-3% points lower than in the 2010-2015 period for the next five years. This will have an important impact on the deployment and adoption of fintech products and services

1 IMF World Economic Outlook database, April 2017  
 2 The IMF commodity price index increased from 53.7 to 176.85 by 2014

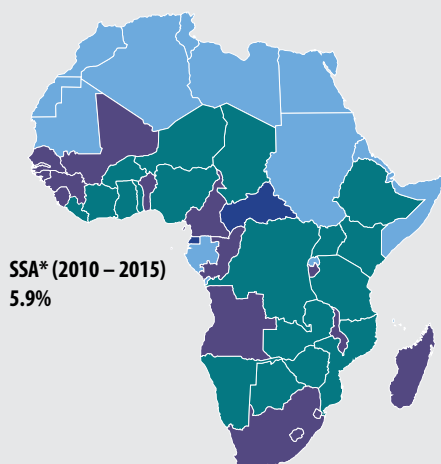
**Figure 1: Economic performance in SSA.  
 Average real economic growth of SSA countries.**

- Above 5%
- 2% to 5%
- Below 2%

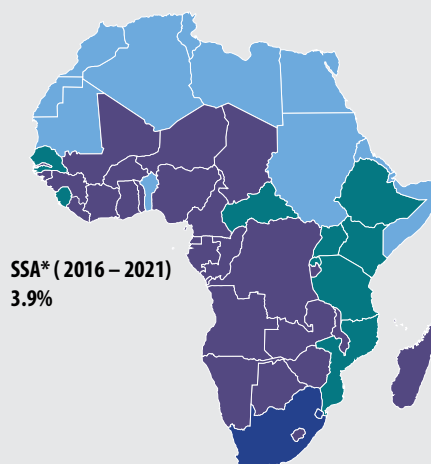
**Stand out performers**

- |                          |                     |
|--------------------------|---------------------|
| 1. Côte d'Ivoire (7.57%) | 5. Tanzania (6.83%) |
| 2. Ethiopia (7.29%)      | 6. Kenya (6.35%)    |
| 3. Senegal (6.93%)       | 7. Niger (6.25%)    |
| 4. Rwanda (6.86%)        |                     |

**CAGR, 2010 – 2015)**



**CAGR, 2016 – 2021)**



**Source:** Author's own analysis based on the IMF World Economic Outlook Database, 2017.

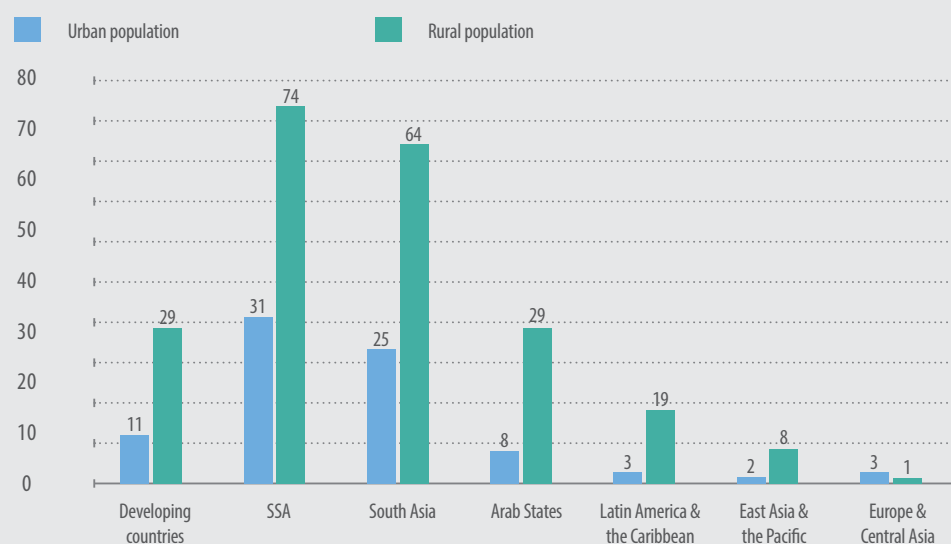
## 2.1 Poverty and productivity

Despite the years of economic growth (also known as the “Africa rising” years), poverty and unemployment levels in SSA remain high, particularly in rural areas where most of the populations reside<sup>3</sup> and people are far more likely to be in multidimensional poverty<sup>4</sup> compared to those in urban areas (Figure 2). However, in a few countries rapid economic growth is indeed leading to a reduction in poverty rates. In Ghana, Rwanda, Ethiopia, and Burkina Faso, for example, there is real evidence of a reduction in poverty<sup>5</sup>.

**Women entrepreneurs continue to receive only a small fraction of the total capital available for SME investment across Africa.**

- 3 According to the World Bank, 2015, about 62% of people in SSA live in rural areas.
- 4 Multidimensional poverty is made up of several factors that constitute poor people’s experience of deprivation—such as poor health, lack of education, inadequate living standards, lack of income (as one of several factors considered), disempowerment, poor quality of work, and threat from violence.
- 5 AGRA, 2016, Africa Agriculture Status Report

**Figure 2. Population in multidimensional poverty (%) Kenya**



**Source:** UNDP, Human Development Report 2016

Agriculture is the backbone of many SSA economies (contributing an average of 20% to GDP), and a primary source of sustenance and income for rural communities. According to the World Bank, about 69% of all sub-Saharan Africans work in agriculture. Most of this farming is done by smallholder farming households, who predominantly farm on land of between one and five hectares using simple farming tools. The growth of the agricultural sector has been constrained in many countries due to a lack of access to markets, poor physical infrastructure (roads, electricity, and water), weak policy implementation by governments, migration by youth to urban areas, political unrest, and armed conflicts.

Women make an essential and increasing contribution to the agricultural and rural economies in SSA. According to the UN Food and Agriculture Organization, women now make up almost 50% of the agricultural labour force, an increase from about 45% in 1980 (this ratio increases to about 53% when looking at rural areas only).<sup>6</sup> Despite the role played by women in food production, very few women have statutory title over the land they live on or cultivate. The discourse around land continues to be defined through a patriarchal narrative, with African women still dependent on their relationships with fathers, husbands, sons, and other male relatives to access land. This lack of land tenure affects their ability to make decisions on key activities such as what crops to grow, what technologies to use, and what to sell. Given their limited decision-making powers over control and access to resources, women struggle to build an asset base, access credit, and to participate in associations that process and market agricultural products.<sup>7</sup>

SSA also has high levels of women entrepreneurship, with the proportion of male-owned businesses to female-owned businesses being roughly equal.<sup>8</sup> In Uganda, for example, 48% of all small- and medium-sized enterprises (SMEs) are owned by women. In Kenya, the corresponding figure is 49%. In Ghana and Nigeria, the number of female entrepreneurs exceeds that of men.<sup>9</sup> Yet, women entrepreneurs continue to receive only a small fraction of the total capital available for SME investment across Africa. The Open Society Initiative for Southern Africa (OSISA) estimates the financing gap for women-owned SMEs is around USD20 billion. This gap is much higher for women-owned businesses in total, given the large number of women business owners in the informal sector.

6 It should be noted that this ratio masks wide variations in women's role in agriculture within regions, countries, and crops. However, a general finding is that women contribute on average 50% or more to agricultural production.

7 AGRA, 2016, Africa Agriculture Status Report

8 Herrington M. & Kelly D., 2012, African Entrepreneurship: GEM Sub-Saharan Africa Regional Report

9 OSISA, 2015, Women's Financial Inclusion in Africa: Barriers, Costs and Opportunities



## 2.2 Demographics

The population of SSA grew from 186 million to just over a billion people from 1950-2015. That is equivalent to about 12 million people a year for the past 65 years. By 2060, the population of the region could be as large as 2.7 billion people. The population structure of SSA countries is shaped by high fertility rates and low life expectancy. Until recently, a woman in SSA had an average of 6.5 children over her lifetime. Now women have 5.1 children on average. These figures, however, mask considerable heterogeneity; in countries like Botswana, South Africa, and Kenya, women have fewer children, but in countries like Niger, the change in fertility levels has been minimal. As a result, today many SSA countries are primarily made up of children aged 14 years and under.<sup>10</sup>

Females account for 50% of the total SSA population. Gender inequality remains high despite the years of economic growth and the slight reduction in poverty. According to UNDP, SSA has the third highest level of gender inequality after South Asia and the Arab States.

Because of differences in education and the mismatch between women's skills and those demanded by the formal labour market, women are more likely to be in vulnerable employment. Here, regulation is weak and social protection is limited.<sup>11</sup>

This in turn pushes women into the informal economy. Increased female participation in the labour market has not meant increased opportunities in high paying jobs or enterprises. A gender wage gap outside agriculture is pervasive across all labour markets in SSA, where, on average, the unadjusted gender pay gap is estimated at 30%.<sup>12</sup>

**“In rural areas, gender inequality is exacerbated by the multiple roles that women have to play.”**

In rural areas, gender inequality is exacerbated by the multiple roles that women have to play. Their activities typically include producing agricultural crops, tending animals, processing and preparing food, working for wages in agricultural or other rural enterprises, collecting fuel and water, engaging in trade and marketing, caring for family members and maintaining their homes. Many of these activities are not defined as “economically active employment” in national accounts but they are essential to the wellbeing of rural households.<sup>13</sup>

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10 World Bank data

11 UNDP, 2016, Accelerating Gender Equality and Women's Empowerment in Africa

12 UNDP, 2016, Africa Human Development Report

13 FAO, 2011, The role of women in agriculture

### 3. The state of women's financial inclusion

**“Bank lending is dominated by the corporate sector and typically excludes lending to those employed outside of the formal sector or to small and micro businesses—areas in which women are more likely to be employed.”**



Though the overall depth and financial sophistication of the financial sector across SSA remains generally low, the sector has evolved considerably over the last decade in a number of countries. Financial sectors in SSA are usually dominated by a highly concentrated banking industry. Given under-developed capital and insurance markets, banks play a crucial intermediation role and represent the main source of external capital for companies. However, bank lending is dominated by the corporate sector and typically excludes lending to those employed outside of the formal sector or to small and micro businesses—areas in which women are more likely to be employed.<sup>14</sup>

The regulatory frameworks in SSA are not always in line with international practice and they can be volatile at times, inducing uncertainty within the banking sector and among international investors. This is demonstrated in Kenya, where the Central Bank recently placed a politically-motivated interest rate cap on loans, and in Nigeria, where the Government has refused to allow payment to bank head-offices for services rendered.

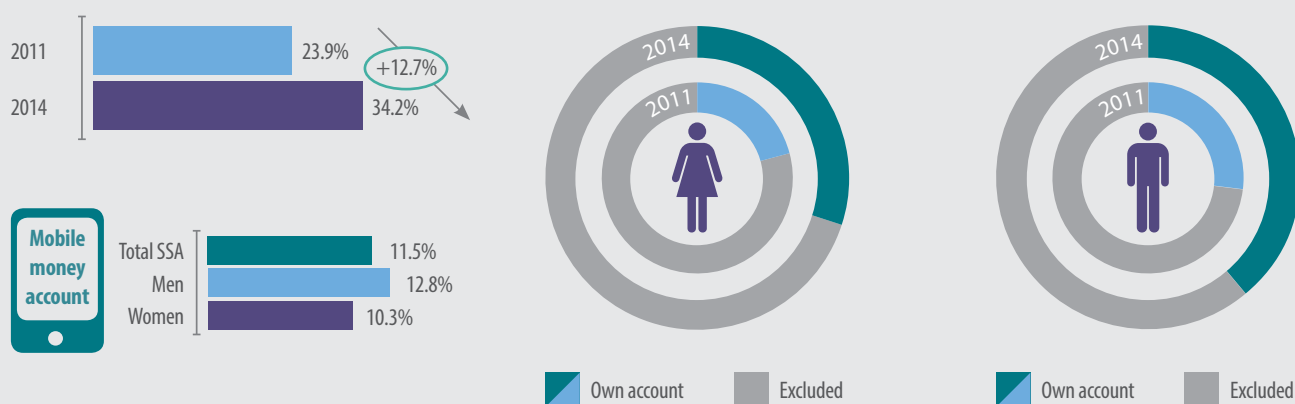
In a rising number of countries, however, the central banks (especially in East Africa) have adopted an informal “sandbox” approach to regulation that encourages innovation, by issuing no-objection letters to certain forms of financial innovation. Most importantly, this gave rise to the introduction of mobile money (a watershed for financial inclusion), agency banking, microinsurance, and bank-insurance company partnerships (bancassurance).

These regulations have led to increased competition, with mobile network operators (MNOs), payments providers, and other fintech companies developing solutions to serve the previously under/served bottom-of-the-pyramid populations (see section 2.1). Although banks were slow to react to this shift, they have begun innovating as well—partnering with MNOs and traditional payments providers (i.e. card associations) and belatedly building the national payments systems to improve their product offering and extend outreach to rural customers.

As a result of these developments, the Findex and FinScope datasets indicate that financial inclusion has increased considerably across SSA, largely driven by the uptake of fintech—mainly mobile money. However, this increase has varied between men and women. According to Findex data, although financial inclusion for both genders increased between 2011 and 2014, the gap between them increased from 6% in 2011 to 9% in 2014, suggesting that men benefited more from financial service innovation than women. As a result, 70% of women were financially excluded compared to 61% of men.

14 European Investment Bank, 2016, Banking in sub-Saharan Africa Recent Trends and Digital Financial Inclusion

**Figure 3. Trends in ownership of a formal account in SSA: 2011 – 2014**



Source: World Bank Findex data, 2011 - 2014

Beyond person-to-person transfers through mobile money, the effect of fintech on financial inclusion has been limited. The majority of the SSA population still meets its savings, credit, and insurance needs elsewhere. Without access to a formal product, informal financial services (e.g. savings groups, village savings and loan associations, money lenders, and family and friends) continue to play an important role in serving financial service needs, particularly in the rural areas and among women. According to FinScope surveys in the SADC region, for example, about 39% of adults have or use informal financial products/mechanisms.<sup>15</sup>

### 3.1 Barriers to women's financial inclusion

As implied in the financial inclusion numbers, women face more constraints to accessing financial services than their male counterparts. Part of the reason for lower account ownership among women is because they use someone else's account, which is common in many SSA countries.<sup>16</sup> This may be a matter of preference in some households, but there are evident barriers for women who wish to have their own accounts.

According to FinScope surveys, **lack of money or regular income** is the most important reason why women do not have an account. In fact, more women than men cite this as the primary reason for not having a bank account.<sup>17</sup> This is a function of their restricted position in the household, where the proceeds from activities such as agriculture are often controlled by the male head of the household. Women farmers also tend to earn less from agriculture since they work on small plots and are less productive in terms of output per unit of land, and as many of the outputs are consumed in the home do not generate a cash income that passes through the women's hands.

#### Women enjoy less access to financial services due to:

- Lack of money or regular income
- Lower levels of education and financial literacy
- Legal and societal restrictions
- Lower rates of mobile phone ownership
- Lack of decision-making power

**Legal and societal restrictions** on women's ability to inherit property, and restrictions that limit their ability to engage in economic activity have a direct impact on the ability of women to access finance because they prevent them from acquiring assets that can be used as collateral to obtain loans from financial institutions.<sup>18</sup>

<sup>15</sup> FinMark Trust, 2016, An excluded society: Financial inclusion in SADC through FinScope lenses

<sup>16</sup> Finmark Trust, 2016, Gender and financial inclusion: Analysis of financial inclusion of women in the SADC region

<sup>17</sup> Finmark Trust, 2016, Gender and financial inclusion: Analysis of financial inclusion of women in the SADC region

<sup>18</sup> OSISA, 2015, Women's Financial Inclusion in Africa: Barriers, Costs and Opportunities

Another key barrier for women's financial inclusion is their **lack of involvement in household financial decision-making** due to societal norms within patriarchal communities. Because proportionately fewer women are involved in household financial decisions, they have a lower level of demand for financial services.

Women across SSA also tend to have **lower levels of education and financial literacy**. According to UNESCO, no country in sub-Saharan Africa has achieved gender parity in both primary and secondary education. On average, there are still only 92 girls per 100 boys in primary school in the region. The gender disparity in education affects financial literacy, which is a major barrier for women's financial inclusion. Awareness-related barriers include lack of understanding about the benefits of having a financial product, how financial products work, the financial language used, and where and how to apply for a product. Attitude-related problems, such as a feeling that formal financial services are not made for them, also play a role.

Low-cost digital financial services (DFS) such as mobile money address a number of barriers to financial inclusion, including proximity, affordability, and know-your-client (KYC) requirements.<sup>19</sup> However, the benefit of these services for women is short circuited by the **lack of mobile phone ownership**. Although cell phone penetration in Africa is high (about 70%), women lag behind men in cell phone usage and access to cell phones in general. This is demonstrated in Uganda, a country with one of the widest gaps in phone ownership by gender in Africa, where 77% of men own a mobile phone, while only 54% of women do.<sup>20</sup> According to GSMA<sup>21</sup>, about 64% of women in SSA are unconnected.<sup>22</sup> This represents an estimated 13% gap in phone ownership between men and women.

All these characteristics suggest that many of the gains in financial inclusion that are dependent on technology (mobile phones), engagements with formal financial institutions, and/ or a monetised income will have a disproportional impact across genders.

### 3.2 The potential role of fintech in addressing women's barriers

Fintech solutions can potentially contribute to closing the gender gap in financial inclusion by tackling some of the barriers that women face. For example, fintech solutions are often more flexible than traditional banking services (i.e. providing closer proximity, lower transaction fees, and simpler loan application processes) and are therefore better able to account for and meet women's individual needs. Throughout Africa, many women organize themselves in savings groups in order to informally gain access to financial services such as loans. Fintech presents an opportunity to build on these existing practices and enhance them with technologies that will allow access to credit, savings accounts, and other financial products.

It can be demonstrated that women have certainly benefited from some of the key innovations that have had an economy-wide impact. This paper thus distinguishes between innovations that have an economy-wide benefit ("lifts all boats"), and those that benefit institutions that predominantly serve women or that are designed to meet the needs of women, given their roles in the household and in the economy.

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19 In many instances, banks only allow women to open bank accounts or obtain credit if the banks first notify their husbands.

20 Pew Research Center, 2015, Cell phones in Africa: Communication lifeline

21 GSMA, 2015, Bridging the gender gap: Mobile access and usage in low and middle-income countries

22 Unconnected females include those who do not own a mobile phone, but may borrow one.



## 4. Proliferation and impacts of fintechs

**“Given the low penetration of bank infrastructure in most SSA markets, the rapid proliferation of digital financial platforms and services, particularly mobile money, has been a key driver of fintech progress across the region.”**



Since the global crisis of 2008, piggybacking on changes in technology, regulation, and consumer behaviours, SSA and the world in general have experienced a fintech revolution. Given the low penetration of bank infrastructure in most SSA markets, the rapid proliferation of digital financial platforms and services, particularly mobile money, has been a key driver of fintech progress across the region. According to GSMA, about 168 million people will become connected by mobile services across Africa over the next five years.<sup>23</sup>

Agency banking, mobile banking, big data credit scoring, and machine-to-machine learning are all examples of innovations that have been possible due to developments in regulation and technology. By greatly reducing costs and providing new forms of risk mitigation, they have resulted in rapid increases in financial access.

Pure fintech companies and entrants from other industries (e.g. MNOs) are now competing to provide financial services that were originally the preserve of banks. These offerings now span the full range of financial services, from payments and savings products to loans, insurance, and financial management.

**“According to GSMA, about 168 million people will become connected by mobile services across Africa over the next five years”**

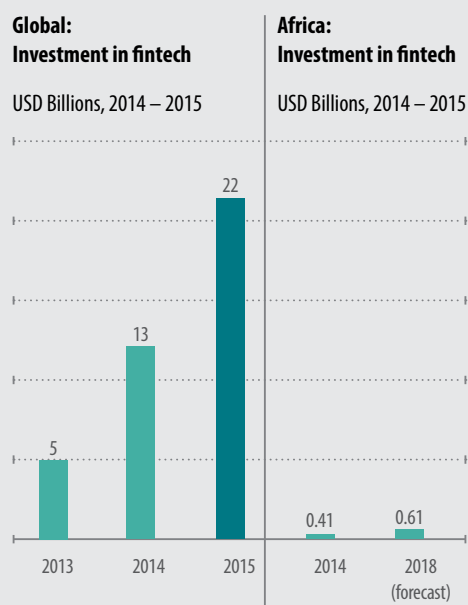
At a global level, funds raised for fintech investment have now reached almost USD25 billion, up from about USD4.5 billion in 2013.<sup>24</sup> Africa has experienced a similar rise with investment in fintech expected to rise from USD414 million in 2014 to USD608 million in 2018.<sup>25</sup>

23 GSMA, 2016, The Mobile Economy - Africa

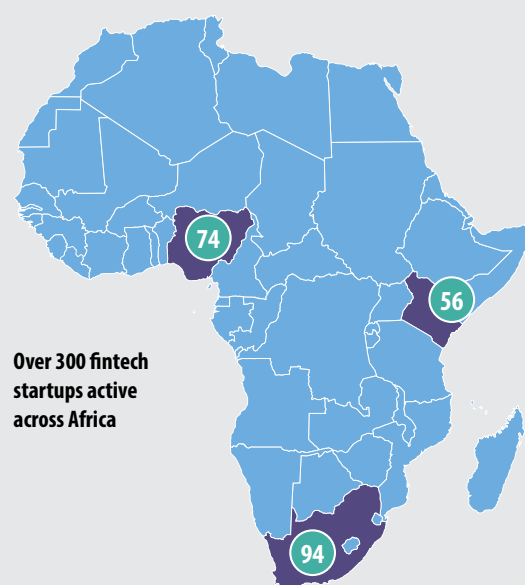
24 Africinvest, 2016, Africa and the global Fintech revolution

25 IFC, 2017, How Fintech is Reaching the Poor in Africa and Asia: A Start-Up Perspective

**Figure 4: Investment in fintech globally and in SSA**



**Figure 5: Concentration of fintech start-ups in Africa**



**Source:** Africinvest, 2016, Africa and the global Fintech revolution | IFC, 2017, How Fintech is Reaching the Poor in Africa and Asia: A Start-Up Perspective| and Disrupt Africa, 2017, Finnovating for Africa: Exploring the African Fintech Ecosystem Report 2017

As a consequence, the number of start-ups in fintech globally has grown from 770 to 1,100 over the same period. Just over 300 of these fintech start-ups are active across Africa.<sup>26</sup> Southern Africa and West Africa are the fintech leaders—with about 34% of the continent's operations based in each of those regions respectively. South Africa has the most fintech start-ups (94), followed by Nigeria (74) and Kenya (56). These three nations account for more than 70% of the fintech start-ups in Africa.<sup>27</sup>

These investments translate into “a flurry of new business models, including pure online banks and insurance companies, non-bank lenders, credit scorers using big data, payment services offered by technology companies (e.g. Google Wallet, Apple Pay), or blockchain platforms.”<sup>28</sup> Payments and remittances start-ups dominate the market, with about 42% of fintech start-ups focused in this space. Lending and financing also proves a popular priority for Africa's fintech innovators, with about 23% of fintech start-ups providing those services.<sup>29</sup>

**“South Africa has the most fintech start-ups (94), followed by Nigeria (74) and Kenya (56).”**

AfricInvest categorises these investments according to the effects they can have on the market (see Annex for examples of solutions in each category):

- **dematerialization** (the digitization of a previously physical activity);
- **disintermediation** (the entry of a new platform or participant that eliminates a traditional industry participant, as when peer-to-peer lending displaces traditional brokers or banks);
- **disruption** (the provision of traditional products in new ways by entrants from other industries, such as Safaricom's M-Pesa mobile payment system); and
- **convergence** (where players from different industries partner to offer new products, such as bancassurance distribution models resulting from partnerships between banks and insurers).

Sometimes a leading innovation will involve several of these effects; for example, mobile money products dematerialised what was largely a cash money transfer business, but are probably best categorized as a disruptor innovation since they resulted from the entry of a MNO into the payments business. The combination of a banking sector with limited reach and high mobile penetration has made innovation around the mobile phone the initial focus of fintech in SSA.

The main contribution to improved financial services in Africa has been the influence of the disruptors in the form of MNOs—initially in payments but now in credit and savings. M-Pesa in Kenya led the way and has revolutionized access to payments and basic accounts in half a dozen countries. M-Shwari is probably best categorised as a convergence play as it takes the form of a savings and loan product provided by a bank but using big data and a platform provided by an MNO. The impact of these two innovations is impressive by any standard—dramatically increasing financial access in Kenya and other markets. M-Pesa has become a way of life for about 30 million Africans in 10 countries, with more than 80% of Kenyans using the service.<sup>30</sup>

26 Disrupt Africa, 2017, Finnovating for Africa: Exploring the African Fintech Ecosystem Report 2017

27 Disrupt Africa, 2017, Finnovating for Africa: Exploring the African Fintech Ecosystem Report 2017

28 Africinvest, 2016, Africa and the global Fintech revolution

29 Disrupt Africa, 2017, Finnovating for Africa: Exploring the African Fintech Ecosystem Report 2017

30 Brand South Africa, 2017, M-Pesa at 10: How Africa became the leader in mobile money

As evidence of its success, in 2015 M-Shwari issued 25 million micro-loans—in a country of 44 million people. This scale suggests that M-Shwari also has the potential to disrupt, and potentially displace, large chunks of the micro-finance industry.

Disruptors include machine-to-machine technology solutions such as the embedded SIM cards in M-Kopa solar panels. These have the potential to massively expand a credit asset class (micro-leasing), as do other innovations that rely on social networks and data for new lending models.

Of particular importance is the rapid evolution of and response to such disruptive business models, as illustrated by the launch of Equitel by Equity Bank (whereby a bank is becoming a MNO to replicate a new business model) and the consolidation in e-commerce providers seen across Africa.

Agency banking is an equally important disruptive business model that has transformed the cost and reach of financial service providers but may be entering into a new phase of consolidation.

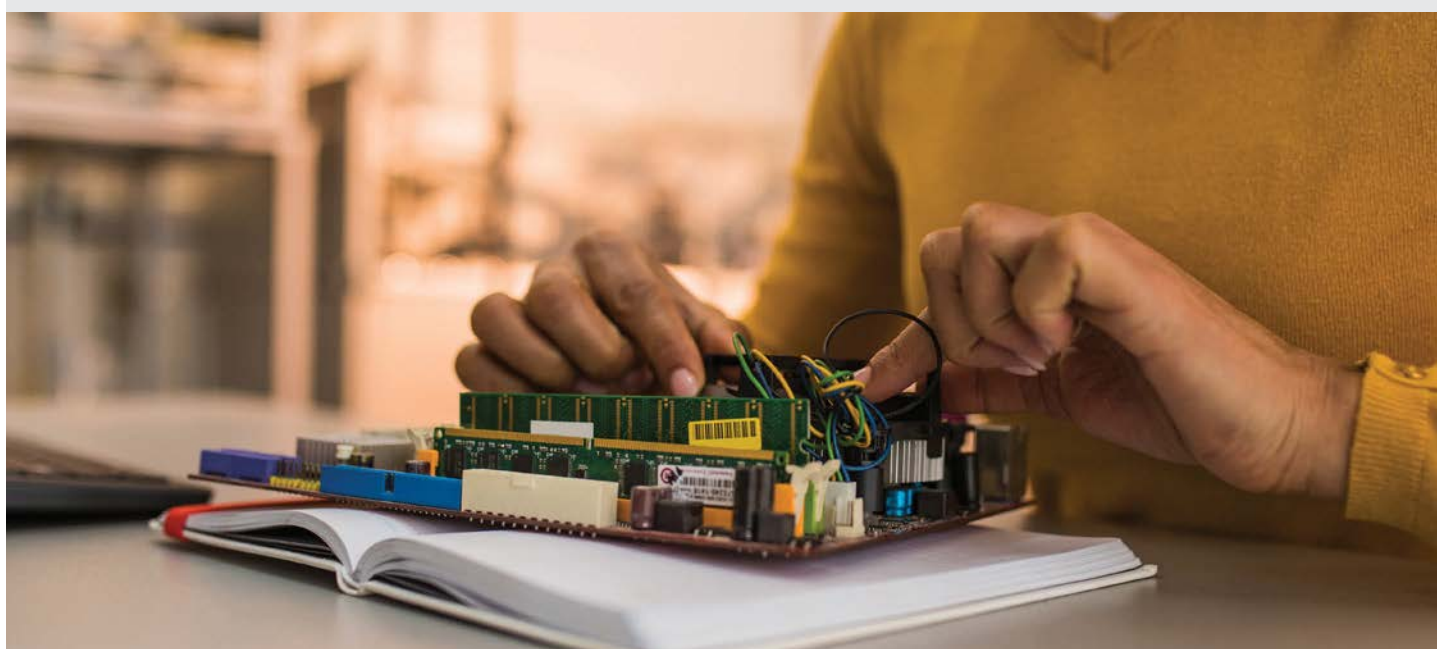
Disintermediation in the form of peer-to-peer lending and crowdfunding platforms such as PesaZetu (East Africa) has been slowly gaining momentum in Africa. These mobile and online platforms enable consumers to bypass the traditional role of banks and lend directly to individuals and businesses. The industry, however, is still in its infancy with several hurdles to overcome, particularly risk (e.g. default and fraud) and connectivity.

SSA leads the world when it comes to convergence between different sectors. Because of the unserved demand for financial services, fintech is becoming relevant for players in other sectors. The widespread use of mobile wallets, for example, is enabling companies that are already serving low- and middle-income segments to broaden their service offering to include other financial services, as evidenced by M-Kopa, which started out as a prepaid solar business but is now a consumer asset finance business.

An increasingly beneficial regulatory environment has also contributed to a positive outlook for bancassurance,<sup>31</sup> with many MNO's now offering embedded credit products providing life and health insurance. Finally, improvements in satellite technology are reducing the cost of providing weather-based crop insurance. As this technology matures and becomes more reliable and affordable, we expect more agricultural insurance products to be introduced in the market.

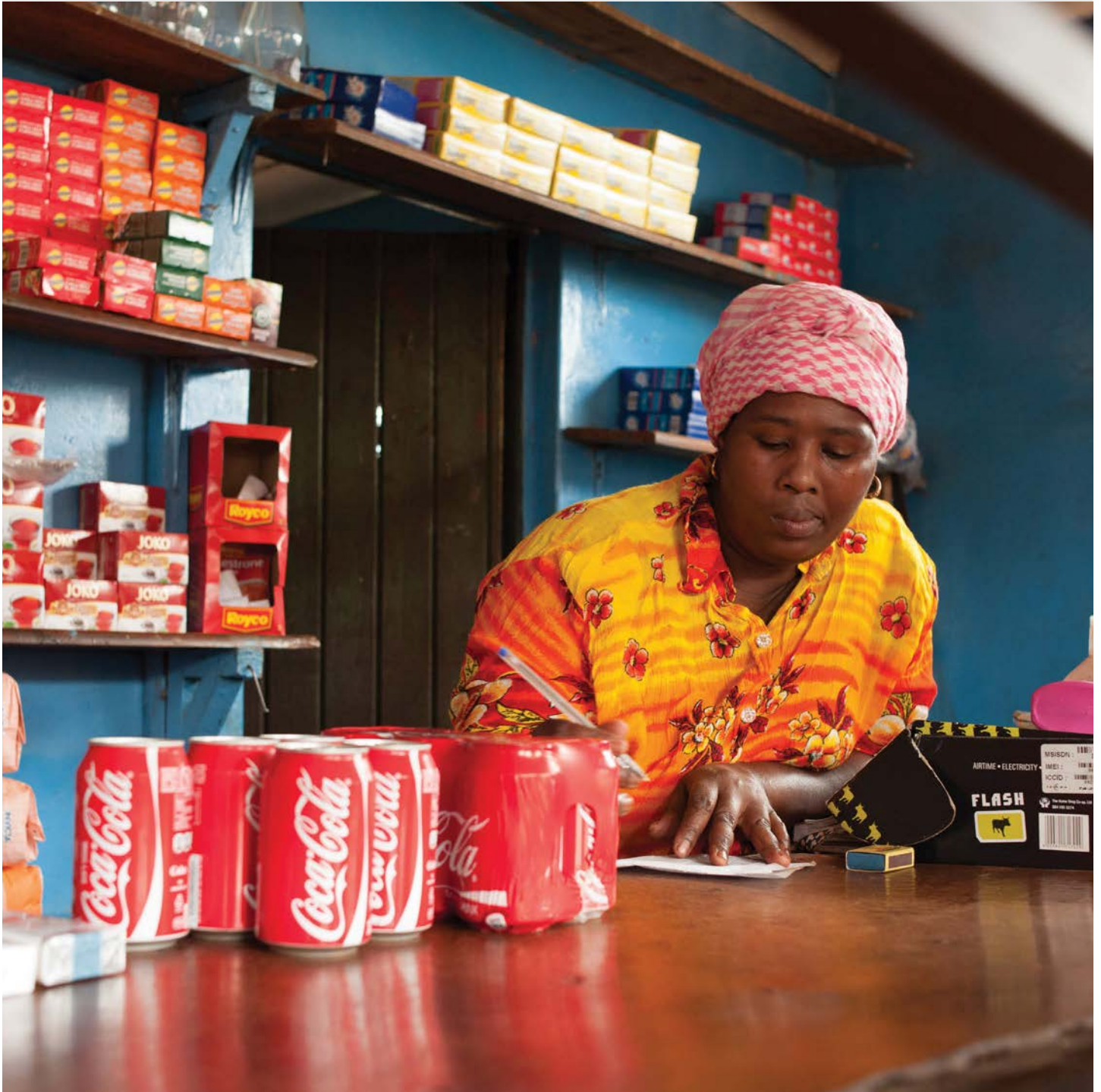
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31 Finaccord, 2014, Bancassurance in Sub-Saharan Africa



## 5. The impact of fintech solutions on women

**“Apart from providing a safe place to save, mobile financial services enable micro, small and medium enterprises and smallholder farmers -- which women account for more than half -- to access much needed microcredit.”**



In conducting this study, we found a significant gap in the level of data available on the uptake of fintech solutions by women, and equally, on the impact of fintech solutions on women. These gaps suggest a need for greater monitoring and impact evaluation in the fintech space. The findings presented in this section are based on a review of available literature, case studies, and the analysis team’s experience in SSA.

For the purposes of understanding the impact of fintech solutions on women, we use a three-way classification. Firstly, we classify innovations into those that transform the market—the “lift-all-boats” solutions— and explore how women have benefitted from these innovations. Secondly, we classify those that specifically target women, including those that affect services that are of most relevance to their livelihoods, or those that affect financial institutions (such as microfinance companies) that mainly serve women. Thirdly, we classify those that benefit microfinance institutions (MFIs) or other organizations that directly serve women.

## 5.1 Lifting all boats

Lift-all-boats solutions are those fintech solutions that serve and benefit the market in general without having a specific gender focus. Given the huge impact on financial inclusion of M-Pesa-style **mobile money products** in an increasing number of markets, we would certainly include M-Pesa in this classification. Equally important would be the emergence of M-Shwari and competing products in an increasing number of markets.

### Mobile financial services

A recently published study<sup>32</sup> on the long-run impact of mobile money on economic outcomes in Kenya provides some valuable insights. The study finds that increased access to mobile money has reduced poverty in Kenya, particularly among female-headed households. It estimates that the rapid expansion of mobile money has lifted an estimated 2% of Kenyan households (some 194,000) out of extreme poverty. It has also enabled 185,000 women to move out of subsistence farming and into business or sales occupations.

This evidence is supported by another study<sup>33</sup> which adds that women were much less likely to use their money when they saved it in M-Pesa compared to saving in their homes. The women also reported that in the past, their husbands often used their money for personal items and left them with no money for income-generating activities the following day. With their money saved in M-Pesa, their husbands no longer had easy access to it. Women were then able to save for more costly activities and purchases, helping their families or expanding their businesses, and more importantly, sending their children to school, and spending on health care and better nutrition.

Apart from providing a safe place to save, these mobile financial services (such as M-Shwari and Uganda’s Mo-Kash) enable micro, small and medium enterprises and smallholder farmers—which women account for more than half of—to access much needed **micro-credit**. Evidence suggests that microcredit, especially when provided to women, increases household consumption expenditures, assets, income-generating activities, and children’s school attendance.<sup>34</sup>

**“With their money saved in M-Pesa, their husbands no longer had easy access to it”**

32 Tavneet Suri and William Jack, 2016, The long-run poverty and gender impacts of mobile money

33 Oumy Khairy Ndiaye, 2014, Is the success of M-Pesa empowering Kenyan rural women?

34 Asli Demirguc-Kunt, Leora Klapper, Dorothe Singer, 2017, Financial Inclusion and Inclusive Growth: A Review of Recent Empirical Evidence

## Box 1: Fintech assisting smallholder farmers

Given the importance of agriculture, fintech solutions delivered through mobile phones are improving financial access for smallholder farmers. Much of their benefit comes from improving the amount of data available for smallholder farmers. For example:



**FarmDrive** uses mobile phones, alternative data, and machine learning to close the critical data gap that prevents financial institutions from lending to creditworthy smallholder farmers. FarmDrive collects and aggregates alternative datasets (e.g. social data, agronomic data, environmental data, satellite data, etc.) to build credit scores for smallholder farmers.



**MyAgro** is a mobile savings system enabling farmers to pay for crucial inputs like seed and fertilizer in pre-paid instalments.



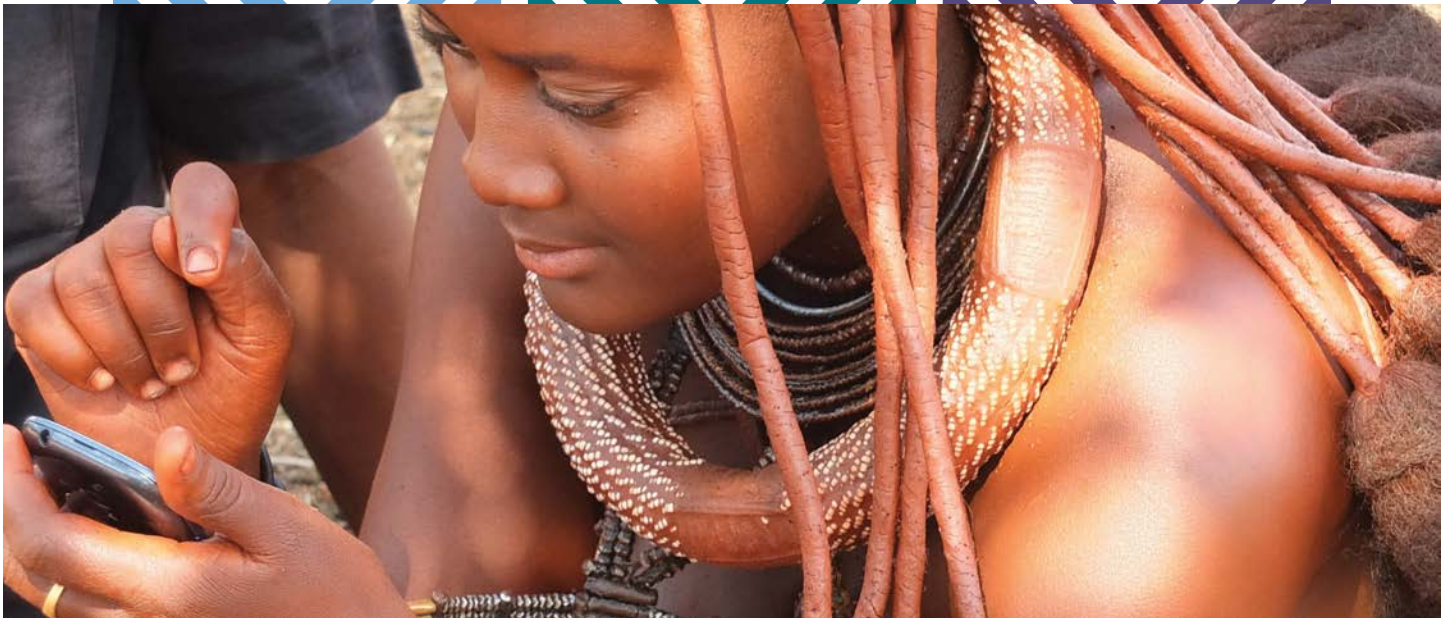
**Agrilife** is a cloud-based technology platform designed to use mobile phone and web platforms as the channels to enable smallholder farmers in groups to access financial services, markets, and other relevant services. Agrilife collects key data on the farmers and farmer groups, such as bio-data, produce data, and farm status data, which helps in making the farmers visible.

GIZ and software company SAP initiated a mobile phone ICT-based solution for facilitating product and financial flow information among the actors. With the **Rural Sourcing Management Tool**, coffee bags are recorded on delivery and all subsequent transactions, including cash advances, warehousing, hulling, selling to exporters, and final payments, are digitally synchronized in a central database by the lead firm. The smallholder farmers can also receive SMS transaction confirmations, prices, weather, and technical updates and information at any time

There is limited evidence on the effects of these types of agricultural fintech solutions on women. However, the impact is expected to be positive given the population size of women smallholder farmers.

**Mobile insurance** has continued to expand. According to GSMA, by 2015, mobile insurance was available in 33 emerging markets, predominantly in SSA (58%), South Asia (19%), and East Asia and the Pacific (18%). This has increased with new services launched since then. These products are showing signs of positive impact, especially in the lives of women. For example, Orange launched a mobile insurance product (Tin Nogoya) in Mali which activates automatically when a savings balance reaches about USD66. It provides a payout in the event of death or permanent disability of about USD260. Early results show that 97% of its female users had never been insured, and 98% of surveyed users wish to continue saving to reach the insurance activation threshold.<sup>35</sup> These results are very positive and show that mobile insurance is able to penetrate new segments for insurance which had previously been un/underserved.

35 GSMA, 2015, Case Study Orange Mali: Reaching Women Customers with Mobile Savings and Insurance



### Agency banking

Low-income women in rural areas often face barriers to accessing a safe place to save due to mobility and time constraints. Thus, the innovation of **agency banking**<sup>36</sup> using handheld mobile, point-of-sale (POS) devices, or roaming staff, to link clients directly to the financial institution can reduce the risk, distance, and indirect cost of women's financial participation. Formal financial institutions have also achieved success with in-field account opening, doorstep collection services through traveling agents, and partnerships with existing savings groups. For example, NMB Bank Tanzania significantly increased its client numbers with an affordable and instant access account called ChapChap ("FastFast" in Swahili). The ChapChap sales team opens accounts for clients through campaigns in urban and rural areas. Client information is captured via POS and smartphone, and clients receive a starter kit with a pre-registered debit card linked to mobile banking.

In summary, these lift-all-boats solutions can have a positive impact on the lives of women in a number of ways. They can, for example:

- Improve women's household decision making by increasing their control over money;
- Improve their financial resilience by helping them accumulate emergency funds and insuring them against adverse events;
- Increase their investment in education and income-generating activities such as agriculture;
- Improve their spending on health care; and
- Reduce the burden of accessing formal financial services by increasing proximity to service touch points and reducing the account opening process.

This impact, however, is dampened by the prevailing barriers women face, including their lower rates of financial literacy, mobile network connectivity, and phone penetration, and by household dynamics that undermine their decision-making. Beyond these barriers, however, there is a broader need for the fintech industry to give greater recognition to the role of women in the economy. This is based on the limited evidence of how women's specific needs and contexts are factored into design and outreach. These need not translate into different product features, since it can't really be argued that women need different credit from men, for example.

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<sup>36</sup> The word "banking" here is used loosely to also include microfinance deposit-accepting institutions which have approval from the Central Bank to roll out agents.



However, they could change the way products are marketed and packaged for women – such as by embedding technology tutorials, involving male spouses in community campaigns, or timing SMS communications to match women’s daily routines.

One of the ways to better reflect women’s needs is by increasing the number of women involved in the fintech industry who can provide insight on ways to improve access for women. According to an Innotribe report, only 5% of leadership positions in fintechs are filled by women, compared with 15% within the tech industry as a whole.<sup>37</sup> Fintech is in a position to drive change given the disruptive impact it has on the broader financial sector. Therefore, addressing diversity within fintech can in turn generate diversity across the entire playing field, as well as drive success.<sup>38</sup>

## 5.2 Gender-targeted fintech solutions

An alternative lens is to consider how fintech is having an impact on areas of economic activity dominated by women, or of particular concern to them. This could include education and health, given women’s disproportionate care-giving role in the household, or social transfers, given women’s greater eligibility for social grants due to their income levels. It should be noted that thus far most fintech innovations in SSA have been of the “lift-all-boats” variety; there have been very few fintech innovations targeting women specifically. As stated by Women’s World Banking: *“the current form of financial services is not necessarily designed to meet women’s needs and a comprehensive digital financial service model that effectively serves low-income women at scale has yet to be developed.”*<sup>39</sup> That said, there are a few examples of solutions tailored for women that have had a positive impact.

**“Only 5% of leadership positions in fintechs are filled by women, compared with 15% within the tech industry as a whole.”**

### Health

As in other developing regions, health care for women is significantly underdeveloped in SSA. Developing countries accounted for approximately 99% of global maternal deaths in 2015, with SSA countries accounting for about 66%.<sup>40</sup> This is because of several challenges, including poor medical infrastructure, a high prevalence of HIV/AIDS, lack of affordability for low-income households, and a lack of awareness and information around preventative measures and treatment.<sup>41</sup>

Mobile phones, though still a barrier among women, have opened up opportunities for pioneering innovations in their health care. This includes innovations such as Access Bank’s Better Mama, Better Pikin (BMBP) in Nigeria—a country ranked 169 out of 176 countries in terms of conditions for childbearing. BMBP is a mobile wallet that offers micro savings along with health and life insurance services for expectant mothers. The woman is only required to save a minimum of about USD3 per month. The “premium” gives her medical insurance coverage of up to about USD125 per annum and life insurance cover of up to about USD312 in case of death or permanent disability. BMBP offers expectant mothers a structured prenatal and postnatal training programme. The one-month pilot of this initiative has helped reduce infant and maternal mortality by 2% across participating government institutions.<sup>42</sup>

37 Innotribe, 2015, Power Women in Fintech Index: Bridging the gender gap

38 McKinsey, 2015, Why Diversity Matters

39 Mondato, 2017, Mobile money: OTT and Fintech at the gates

40 UNICEF, 2015, Trends in Maternal Mortality: 1990 to 2015

41 Gilbert Dechambenoi, 2016, Access to health care in sub-Saharan Africa

42 EFMA, 2016, Retail Banking in Africa: Digital Transformation

In Kenya, the M-Tiba innovation provides a healthy savings “e-wallet” linked to M-Pesa (Box 2).

### Box 2: Targeted e-wallet health savings

M-Tiba is a mobile phone service launched by Safaricom and PharmAccess that allows anyone in Kenya to send, save, and spend funds specifically for medical treatment. Money stored in M-Tiba can only be used to pay for treatment and medication at a network of partner clinics and hospitals. The biggest impact of M-Tiba has been on children under five and pregnant women. Before M-Tiba, pregnant women would only go to the clinic once they were approaching their due dates. Now they go in their first trimester, which has made it possible to “avoid obstetric complications, screen the mothers for HIV and TB, and look for congenital abnormalities.”\* Clinics also receive payments on time—something that wasn’t always the case before.

\* Kathy Matsui, 2013, *The Economic Benefits of Educating Women*

### Education

Though fintech has improved access to education, this has been more a result of the lift-all-boats type of innovation rather than any specific effort to address the gender bias in access to education. Solutions such as Student Finance Africa (a Kenya-based start-up that determines creditworthiness by collecting data from educational institutions, its mobile app, and its online loan applications) are likely to increase access to education, but mainly for males. This is because poor families will still decide to school their sons over their daughters, if they have to decide between the two.

Educating young girls is one of the best investments that can be made by a nation to break the cycle of poverty, improve health, and increase economic growth.<sup>43</sup> Better educated women tend to be healthier, participate more in the formal labour market, earn higher incomes, have fewer children, marry at a later age, and enable better health care and education for their children.<sup>44</sup> All these factors combined can help lift households, communities, and nations out of poverty (Box 3).

43 Kathy Matsui, 2013, *The Economic Benefits of Educating Women*

44 World Bank, 2013, *Girls’ Education - Context*

### Box 3: Increasing education for rural girls

Camfed is a non-profit organisation providing funding to educate rural girls. They do so by, among other activities, providing funds to cover essential school-going costs for vulnerable children at risk of dropping out. Camfed recently transformed its operations through the use of FinancialForce and Salesforce technology to enhance how it serves girls in rural Africa. Through this partnership, Camfed now has a management information system (MIS) that provides a holistic view of each client. The data includes a pupil’s family situation and attendance record, which help Camfed identify girls at risk of dropping out, so immediate action can be taken. Camfed has also been able to achieve scale, increasing from 30,000 to 220,000 records of pupils.\* By paying close attention to young girls’ life situations, Camfed is able to tackle the social challenges and keep them from falling off the education journey.

\* Salesforce, 2017, *Camfed scales girls’ education with Salesforce*

**Box2 and box 3 source:** *The Guardian, 2017, The mobile ‘e-wallets’ bringing healthcare to Kenya’s uninsured*

## Social transfers

Irregular, ad-hoc, and short-term responses to hunger and vulnerability tend to be neither cost efficient nor particularly effective in terms of building long-term resilience to shocks. Recognition of this led to the development of a number of government cash transfer programmes and organizations such as the Hunger Safety Net Programme (HSNP) in Kenya and the Social Security Agency in South Africa. The programmes are based on the acknowledged need to provide regular and predictable assistance in the form of cash transfers to the poorest—who tend to be women, children, and elders. The cost and the integrity of these social transfers has been enhanced by the development of biometric technology and the increasing availability of bank agents in remote areas.

By using digital channels, beneficiaries are given a biometric smartcard which they use to collect their cash from a range of paypoints (mainly fast-moving consumer goods shops and convenience stores). This reduces the risk and cost of transporting the large amount of cash to remote areas. Evidence from an impact evaluation of HSNP shows that the benefit of these cash transfers has been two-fold.<sup>45</sup> Firstly, because the card was registered in a woman's name, there was a positive, albeit limited<sup>46</sup>, improvement in her financial decision-making. Secondly, the cash transfer improved the potential for a woman to undertake income-generating activities, as the cash can be used as working capital.

### 5.3 Institutions serving women

Financial access data shows that women are more inclined to participate in informal savings groups and to be the focus of **microfinance institutions** than men. These are areas in which the impact of fintech has thus far been more limited. Most MFIs have struggled to succeed with agency banking (which benefits large commercial banks and microfinance deposit-accepting institutions), and have often faced increased competition from large banks in community areas as a result. Despite some early successes, most MFIs now recognise that they lack the scale and technological capabilities to compete with mobile network operators in providing mobile banking services, and instead focus on partnering with them by integrating with their platforms.

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45 UNICEF, 2016, From evidence to action: The story of cash transfers and impact evaluation in Sub-Saharan Africa

46 According to the study, male family members in many families insisted on maintaining control of the funds.

Several innovators have therefore tried to address the operating and technical capacity constraints of MFI's by developing shared service models. Musoni offers an interesting example of one such operational innovation applied to a product aimed at women (Box 4).

#### **Box 4: Using fintech to strengthen microfinance services for women**

Microfinance institutions are an important provider of finance to women in rural areas. But MFIs tend to have poor operational capabilities and low financial sustainability. Given their small balance sheets, most MFIs can hardly afford, maintain, or develop their IT and MIS systems. To address these challenges, Musoni developed a low-cost, cloud-based core banking system to help microfinance providers improve efficiency, reduce costs, and expand outreach.

Musoni pioneered the use of new technology in microfinance, and as such is integrated with multiple mobile money transfer services, including M-Pesa. This includes an SMS module for sending automated payment reminders, a tablet app that loan officers can use for offline data capture, a mobile banking app for clients, and credit scoring to improve lending decisions. Musoni therefore helps MFIs to leverage technology at a fraction of the cost associated with traditional banking systems.

The benefits of integrating with Musoni have been reported by multiple MFIs. The Mama Bahati Foundation (MBF), a Tanzanian institution providing microfinance to women entrepreneurs, is a good example. Within less than two years after integrating with Musoni, MBF expanded by more than 100%, with portfolio quality improving at the same time. MBF saw a significant reduction in cash handling, alongside the introduction of more efficient processes. These improvements have freed staff to concentrate on recruiting and helping clients rather than on administrative tasks, enabling the business to scale up its operations.\*

\* Musoni, 2015, Mama Bahati Foundation support women entrepreneurs in Tanzania using the Musoni System

**Savings groups** have also proved difficult to digitize, given both the engagement model and the location of many of the groups. Traditional products offered to groups do not always suit their needs. Linking to savings groups may require bespoke savings products that have reduced or no fees. Many groups also expect interest to offset the cost of travelling to the bank and to ensure their savings are growing. Additionally, due to a lack of experience with banking and low levels of literacy, groups often need additional help from bank staff to complete the account opening process, and busy staff may lack the required time and incentive to help.<sup>47</sup> In Kenya, FSD Kenya attempted to improve the quality of record keeping at groups by developing an electronic-recording app for a low-cost smart-phone (see Box 5).

47 Plan and Care, 2015, Linking Savings Groups to Banks What Works, What Doesn't, What's Next

### Box 5: Digitizing savings groups' transactions\*

Savings groups spend a lot of time recording, collecting, verifying, consolidating, reporting, and reviewing their data. It starts at the group level with ledgers, and while groups learn to record savings quickly, tracking loans and calculating share-outs are much more difficult. In fact, these transactions are often beyond the capacity of groups and require a significant amount of hand-holding and training. In addition, the process of collecting this data and consolidating it into a useful database is expensive, error-prone, and time-consuming.

To address these challenges, FSD Kenya partnered with Software Group to develop an Android-based app called e-Recording to improve the quality and speed of data capture while enhancing transparency and security of the data. This convenient and reliable app is used to record all the transactions of a savings group. It also captures some sections of the group constitution, especially those that relate to financial transactions, as well as recording group and member details. The application also does all the calculations—including share-out—reducing the time spent and errors associated with manual calculation. The groups using the e-Recording app expressed, among other benefits, reduced time when holding meetings, easy computation of share-out at the end of the cycle, accuracy of records, respect for their constitution (fines, leverage, etc.), back-ups, and protection of records against tampering.

This is a positive step towards digitizing the money itself. However, the operational features of savings groups and the challenges of creating a valuable proposition will continue to be a constraint for financial services providers.

\* FSD Kenya, 2013, FSD Updates: No more tears, issue 08 – September 2013

## 6. Increasing the impact of fintech solutions for women

**“A more holistic approach is required from governments, financial institutions, and donors to address not only supply-side issues, but also regulatory, societal, and market infrastructure constraints.”**



To a degree unimaginable several years ago, mobile networks have transformed and disrupted the financial inclusion landscape across Africa: most households now have access to a basic, mobile-based account into which funds can be deposited or withdrawn, and mobile-based micro-credit and insurance have addressed many basic cash flow needs.

The evidence in this paper shows that these innovations have the potential to make a positive impact on the lives of women. It is important to note the limited nature of evidence found, which points to a need for more research on the impact of fintech. The examples provided in this paper highlight that these solutions can make women more financially resilient, by supporting their economic activities, and improving their levels of confidence and independence. However, most of these innovations have been largely introduced within a business and social context that **still contains**

**significant gender bias.** As a result, low-income rural women continue to face barriers in accessing these products, particularly if they lack access to a mobile phone.

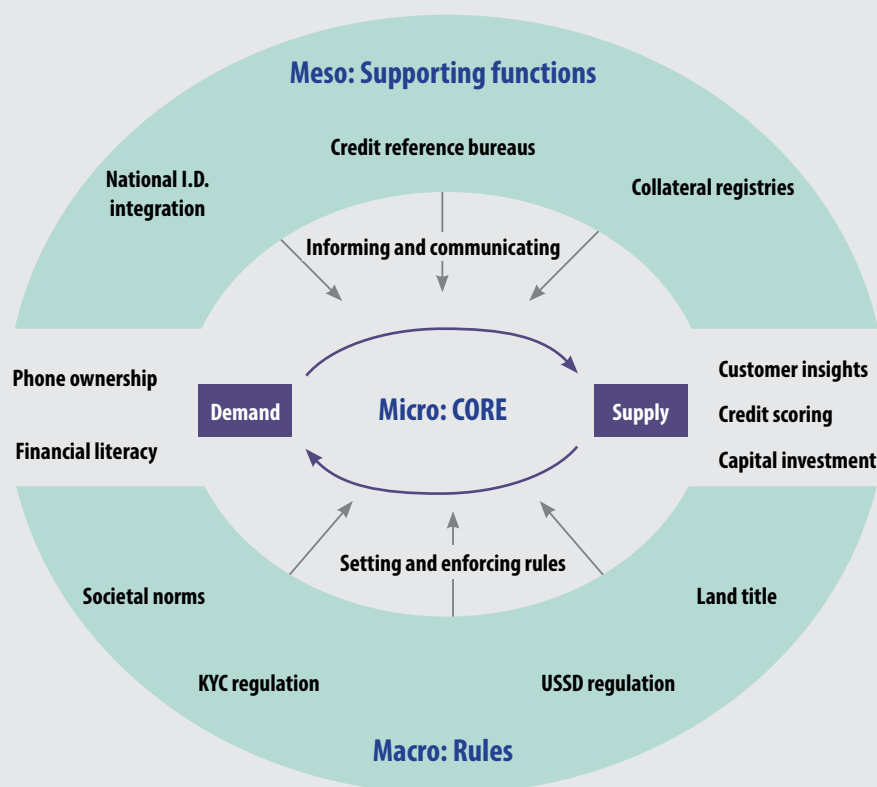
A chief consideration for the future is therefore how these innovations can be harnessed further or adapted to address women's livelihood challenges. Going forward, it seems there should be an increased focus on **solving challenges in critical sectors** that are key to women, such as **agriculture, education, and health.** There is also great potential for innovation to strengthen those institutions on which women depend—such as through shared back-end platforms for co-operatives and savings group applications.

**“Access alone does not lead to livelihood improvement for women if they continue to face the same systemic challenges”**



Access alone does not lead to livelihood improvement for women if they continue to face the same systemic challenges. A more holistic approach is required from governments, financial institutions, and donors to address not only supply-side issues, but also regulatory, societal, and market infrastructure constraints. This is analogous to the “making markets work for the poor” (M4P) approach, which postulates that the most effective way to create inclusive and sustainable markets is to address constraints at different levels of the market.

**Figure 6: Priority areas for women's financial inclusion in SSA**



**Figure 6** above uses the M4P “donut” to summarize the priority areas that need to be addressed in order to increase financial inclusion and have a long-term impact on the lives of women. The Meso level relates to market infrastructure and supporting functions that enable financial transactions to take place. The Macro level is the regulatory and policy environment which sets the rules for all market players. The micro level is the direct interaction between suppliers and users of financial services.

On the demand side: Financial literacy is a barrier for uptake among women. Therefore, their demand for financial services can be supported by efforts to improve their awareness and understanding of financial services and the value that they can provide.

Equally important is the lack of phone ownership among women which acts as a first-step barrier to accessing digital financial services. GSMA recommends a number of actions that could address the lack of phone ownership. These include: leveraging alternative financing mechanisms and channels; promoting the mobile phone as an effective development tool that creates education, health, and business opportunities; and helping to identify culturally relevant and acceptable ways of promoting mobile phone ownership amongst women and youth.<sup>48</sup>

48 GSMA, Women & Mobile: A Global Opportunity - A study on the mobile phone gender gap in low and middle-income countries





**The USSD/STK watershed:** Lack of smartphone ownership presents further challenges for fintech companies. It forces them to try and engage customers through Unstructured Supplementary Service Data (USSD) codes or to convince mobile networks to add their solution to the Sim Toolkit (STK) menu on the SIM card and/or offer services in partnership with the MNOs. There are a number of ways to address these challenges. Firstly, fintech partners need better legal advice and support when entering into contractual obligations with an MNO that clearly defines the rights and redress if the MNO decides to compete with their erstwhile partners. Secondly, behavioural economics can be used to design products that address consumers' inability to remember USSD codes, increasing the likely success of such solutions. Equally importantly is the need to support investigations on the regulation of the pricing of USSD services to level the competitive playing field.

**Regulation and policy:** Women face a number of legal constraints which affect their ability to interact with financial services. This includes stringent KYC requirements and restrictive land tenure legislation. These constraints call for more work in the advocacy space to adopt more favourable standards specifically targeted at improving access among women.

**Market infrastructure:** Information asymmetries affect the provision and access to financial services, particularly among women and women-owned SMEs. For example, banks in some instances demand signatures from spouses. Similarly, credit risk assessment is still fraught with process weaknesses as lenders lack behavioural data. Adopting risk-based KYC and broadening the range of data available in the credit reference bureau (CRB) will help reduce this burden for women-owned SMEs. These should be supported by linking the national I.D. database, the account opening systems of financial service providers, and CRBs together to create a streamlined process of identification and assessment for new clients.

Likewise, in the absence of fixed collateral (such as land), women stand to benefit from the introduction of movable collateral registries (as in Ghana and Uganda) which enable them to pledge movable items as collateral for productive loans.

**Informal rules:** Societal and cultural norms across SSA continue to pose a significant barrier for women—especially as they relate to decision-making in the household and choice of economic activities. These barriers are difficult to address, and require engagement from not only governments but also financial institutions and donors. This can be done through gender sensitization training and other interventions at a community level. Government is particularly important as this requires significant financial investment over the short to medium term. In the short term, donors and financial institutions can embed gender sensitization modules within the communities in which they operate.

**Consumer insights:** One of the foundational assumptions for many development interventions is that private institutions misjudge the business opportunities in low-income markets due to a lack of information, or launch products that fail because they don't understand low-income consumers' needs and behaviour. This can be addressed by investing in knowledge products that provide informational data sets (such as the Financial Diaries outputs published by Bankable Frontier Associates). These enable better analysis of market opportunity and improve how partners understand consumer behaviour and design products accordingly. Such datasets can be hugely influential but need to be more widely disseminated.

**Finding a balance sheet:** Despite the amount of funding that has been raised globally, many fintech companies that provide credit products (loans) continue to struggle to raise the capital to grow their balance sheet, and many promising solutions fail at this point. This challenge can be addressed with support from donors through grants, impact investing, and other mechanisms that fund the development of demonstration asset portfolios. Secondly, donors can use their networks in the market and also attract private capital through guarantees, technical assistance, and knowledge outputs to fast track a fintech's connection with the right funder. It then remains for them to develop a realistic perspective on the cost and scale of financing available from different providers.



# Conclusion

This paper has explored what we know about the gender dimension of financial inclusion, and the impact of financial innovation on women. By reviewing the evidence of the gains of financial innovation (in terms of their potential benefits to women), the paper presents a framework for thinking about the gender dimensions of financial innovation, and suggests avenues for further research and engagement.

According to the available evidence, fintech innovation has had a positive but limited impact in the lives of women. Mobile financial services in particular have made it possible to improve and enable women's household decision-making, financial resilience, income-generating activities, and investment in their children's education and health care. Overall, however, fintech solutions continue to be gender-blind and are not tailored to the specific context of women in SSA. As a result, women still face more barriers to accessing financial services than men.

These findings suggest that the supply of financial services is not by itself the panacea for women's financial inclusion. Ultimately, there needs to be a more holistic approach which not only addresses the design of products, but also the specific constraints that women face. This includes intervening (by governments, donors, and financial institutions) at a macro level to create an enabling regulatory environment; at a meso level to enhance market infrastructure; and at a micro level to address issues such as financial literacy and increase the number of women in the fintech industry.

Lastly, a major gap was identified in the amount of evidence available on the level of uptake of fintech among women and the impact that fintech has had. This represents a lost opportunity as these insights could be used to inform policy and product design. Therefore, more investment is needed in conducting monitoring and impact evaluation of fintech solutions.

## Annex: Examples of key fintech solutions in Africa

Category	Solution	Description
Dematerialisation	Zoona	Offers emerging entrepreneurs a platform to provide money transfer and other services to unbanked consumers.
	3G Direct Pay Group	Online solution for e-commerce, providing merchant services to thousands of travel-related and other businesses, accepting all major credit cards, mobile money and e-wallets.
	InterSwitch	An integrated payment and transaction-processing company that provides technology integration and advisory services.
	Yoco	Provides merchants with a mobile point-of-sale application and card acceptance solution. The Yoco solution includes the mobile app and either a plug-in card reader or a wireless card reader.
	Paystack	Helps Nigerian businesses accept payments online with Mastercard, Visa, and Verve cards from anyone, anywhere in the world.
Disintermediation	Lendico	Transparent loan marketplace. It connects borrowers with investors directly, bypassing many of the high costs of traditional banking.
	RainFin	Online lending marketplace that connects borrowers seeking transparent, cost-effective loans with lenders wanting higher returns.
	M-Pesa	A subsidiary of Vodafone, and one of the earliest mobile phone-based money transfer and microfinancing services in the world.
Disruption	M-NAIRA	Value-sharing and money transfer services platform that interconnects all Nigerian bank accounts, mobile wallets, and billing systems to deliver instant global remittance services to Nigeria. M-NAIRA allows people to make real-time money transfers from debit or credit card to Nigerian bank accounts, and from mobile money wallets all over the world to registered mobile money users and bank accounts in Nigeria.
	WeChat Wallet	Enables mobile payment management. It allows users to add debit or credit cards, receive money transfers, and pay for goods and services at SnapScan merchants across South Africa. Users can also buy airtime, electricity, and any of the services in WeChat's ecosystem.
	Branch	Uses technology to eliminate the challenges of getting a loan by using the data on a user's phone to create a credit score.
	Aella Credit	Building platforms that make it easier for individuals in Africa to gain access to financing (alternative lender).
	FarmDrive	Offers financial institutions a suite of products and services to efficiently acquire clients, assess and mitigate risk, and manage the entire loan process, from application to repayment. For smallholder farmers, FarmDrive offers access to financial institutions, loans, and insurance—all through a mobile phone.
Convergence	Musoni	Leverages ICTs heavily to manage its microfinance operations much more efficiently than peer organizations and to scale rapidly as it delivers better services to clients.
	InVenture	Innovative, fast-paced mobile technology start-up that provides credit scoring.
	Awamo	Mobile, biometric banking platform and credit bureau for microfinance in Africa. Awamo enables microfinance lenders to digitize their business operations with minimal cost and effort.
	Esacco	Cloud microfinance and savings and credits co-operative (SACCO) software system engineered to comprehensively serve microfinance institutions, SACCOs, community banks, credit organizations, chamas, self-help groups and banks, among other financial institutions.