

# Mobile Money in Ethiopia: Advancing financial inclusion and driving growth

June 2023



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Established in 2021, FSD Ethiopia is an agency that aims to support the development of accessible, inclusive and sustainable financial markets for economic growth and human development. Its vision is to contribute to a thriving financial system that delivers real value to the broader economy and the people of Ethiopia.



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## Acronyms and abbreviations

<b>ATM</b>	Automated Teller Machine	<b>MMP</b>	Mobile Money Provider
<b>B2P</b>	Business-to-Person	<b>MNO</b>	Mobile Network Operator
<b>CICO</b>	Cash-In Cash-Out	<b>NBE</b>	National Bank of Ethiopia
<b>DFS</b>	Digital Financial Services	<b>P2G</b>	Person-to-Government
<b>GDP</b>	Gross Domestic Product	<b>P2P</b>	Person-to-Person
<b>G2P</b>	Government-to-Person	<b>POS</b>	Point of Sale
<b>KYC</b>	Know Your Customer	<b>SACCO</b>	Savings and Credit Cooperative Organisation
<b>LSMS</b>	Living Standards Measurement Survey	<b>USSD</b>	Unstructured Supplementary Service Data
<b>MFI</b>	Microfinance Institution		

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# Executive summary



## Ethiopia's mobile money landscape has undergone a seismic shift over the past three years that could transform financial inclusion in the country.

Ethiopia has lower levels of formal financial inclusion than its East African neighbours. Less than half of the adult population have an account at a financial institution. The revised National Financial Inclusion Strategy (NFIS 2021–2025) aims to increase financial inclusion from 46% to 70% of all adults by 2025, in part by scaling digital payments through mobile money services. Ethiopia also aims to increase the use of digital payments from 20% of all adults in 2020 to 49% by 2025.

Although mobile banking services have been offered by banks and micro-finance institutions since 2015, they have not achieved scale. In 2020, the Ethiopian government moved to liberalise the telecoms sector and adapted regulations to allow non-banks to offer mobile money services. This included mobile network operators (MNOs), which have had phenomenal success in increasing financial inclusion through mobile money in other parts of Sub-Saharan Africa.

Recently, Ethio Telecom, the state-owned mobile operator and the only MNO in the market until 2022, launched a mobile money service, telebirr. The MNO Safaricom entered the Ethiopian market in September 2022 and received its mobile money licence in May 2023. The government also aims to privatise 45% of Ethio Telecom and invite one more MNO into the market to stimulate investment and introduce competition to the sector. If all goes to plan, Ethiopia should have three mobile money services offered by MNOs by 2025.

### What are the estimated macro and socio-economic benefits of high adoption of mobile money in the country?

Given the growth trajectories of mobile money in other markets in the region, there is an opportunity for Ethiopia to also see high levels of adoption, provided certain enablers are in place. Because market liberalisation is still underway and mobile operator-led mobile money services are currently being delivered by a single organisation, Ethio Telecom, it is difficult to predict how mobile money will scale.

Under a **high adoption scenario**, which GSMA projects as almost **60% of Ethiopian adults adopting mobile money by 2030**, there would

be remarkable gains in poverty reduction, GDP growth, the tax base and household resilience to shocks.

**Mobile money services could lift 700,000 people out of poverty, add \$5.3 billion to Ethiopia's GDP, increase tax revenue by \$300 million and provide a cushion for the economic shocks experienced by almost 40% of Ethiopian households.**

### What will it take to support mobile money adoption to advance financial inclusion and growth?

**Enabling policy and regulations, better payments interoperability, sufficient and widespread access points and high-quality agent networks are key factors that will determine whether Ethiopia sees high levels of adoption of mobile money services.**

**KYC**, and in particular an efficient digital national identity scheme, will be a key enabler for mobile money adoption as more robust identity verification is needed to help mobile money providers (MMPs) offer a wider suite of financial products. Better **cybersecurity** and stronger implementation of cybersecurity laws will reduce the risk of fraud and build confidence in mobile money services. A **personal data and protection legislation** will also help build consumer trust while guiding service providers on how to ensure personal data protection.

While there has been significant progress in **payments interoperability** and a well-functioning national payments system exists, a key area for advancement is payment aggregators and gateways, which are still lacking in Ethiopia. And finally, there are currently insufficient mobile money access points for the population; more agents are needed to cover underserved areas. A **trained and incentivised agent network** is essential to advancing financial inclusion and the deployment of patient capital is needed in Ethiopia to build this. The **recruitment of female agents** can be particularly effective in enabling the financial inclusion of women and should be prioritised.

In addition to these enablers, adoption of mobile money will also depend on reliable connectivity, the awareness, relevance and affordability of services, sufficient literacy and digital skills to navigate interfaces, and confidence that mobile money is safe and secure to use.

The availability of **diverse payment use cases** and relevant **credit, insurance and savings products** that are tailored to the needs of different financially excluded segments of the population will be crucial to sustain uptake.

In the short run, early-stage mobile money transactions such as cash-in/cash-out (CICO), person to person (P2P) transfers and airtime top ups will dominate. Digitising government-to-person (G2P), person-to-government (P2G) and person-to-business (P2B) payments are viable opportunities in the shorter term. As

the ecosystem matures, mobile money will also become a viable option for international remittances, merchant, agricultural and humanitarian payments.

As most Ethiopians save at informal institutions and have low access to credit and insurance products, the development of tailored microfinance products is likely to support greater financial inclusion, especially for agricultural communities and micro-entrepreneurs who are more likely to be excluded.

**To accelerate mobile money adoption, the following enablers are needed:**

<p><b>Regulations</b></p> 	<ul style="list-style-type: none"> <li>- A reliable national-level identification for know your customer (KYC) verification to reduce the risk of fraud.</li> <li>- A personal data privacy and protection act to provide guidelines on data protection to organisations and build customer confidence.</li> <li>- Stronger implementation of cybersecurity laws and consistent upgrading of cybersecurity systems to limit cyberattacks and curb the risk of fraudulent activity.</li> </ul>
<p><b>Infrastructure</b></p> 	<ul style="list-style-type: none"> <li>- Provision of off-grid pay-as-you-go energy products paid via mobile money to solve for energy needs while encouraging adoption.</li> <li>- Innovative services that create demand for mobile money in rural areas, incentivising investment in connectivity infrastructure.</li> </ul>
<p><b>Payments interoperability</b></p> 	<ul style="list-style-type: none"> <li>- Payments gateways to enable seamless transactions between different payment providers.</li> </ul>
<p><b>Access points</b></p> 	<ul style="list-style-type: none"> <li>- Increased number of agents in underserved areas based on a mapping of existing agents' networks, and more active recruitment of female agents who are typically most successful at driving uptake among other women.</li> <li>- Faster KYC for agents and review of the criteria for onboarding, to balance quicker recruitment with ensuring integrity of the agent network.</li> <li>- Active training of agents to meet the needs of customers.</li> </ul>
<p><b>Agent networks</b></p> 	<ul style="list-style-type: none"> <li>- Deployment of patient capital to build a trained and incentivised agent network to increase subscriptions and encourage active usage.</li> <li>- Partnerships with third party organisations to use agent networks for other distribution services to enhance their profitability.</li> <li>- Simplified agent management with tools such as AI-enabled agent liquidity management solutions.</li> <li>- Active recruitment of female agents who are typically more successful at driving uptake among other women.</li> </ul>



**To accelerate mobile money adoption, the following enablers are needed:**

<p><b>Affordability</b></p> 	<ul style="list-style-type: none"> <li>- Manufacturing/provision of low-cost, smart feature phones tailored to the local market.</li> <li>- Handset-financing schemes.</li> <li>- Lower tariffs on mobile phone imports.</li> </ul>
<p><b>Literacy and digital skills</b></p> 	<ul style="list-style-type: none"> <li>- Upskilling programmes to scale up literacy, digital and financial skills in communities (e.g. through public private partnerships).</li> </ul>
<p><b>Safety and security</b></p> 	<ul style="list-style-type: none"> <li>- Awareness on measures end-users can take to protect against fraud.</li> <li>- Redress mechanisms where the liability is with the service provider.</li> </ul>
<p><b>Use cases</b></p> 	<ul style="list-style-type: none"> <li>- Diversification of payment use cases beyond basic mobile money services (Cash in-cash out, person-to-person transfers and airtime top-ups).</li> <li>- Market research and pilot programmes to understand end-user needs in digitalising merchant, agricultural and humanitarian payments.</li> </ul>
<p><b>Financial products</b></p> 	<ul style="list-style-type: none"> <li>- Tailored microfinance products relevant to the needs of rural and agricultural communities, micro-entrepreneurs and women.</li> </ul>

# 1. Introduction



## 1.1 Financial inclusion in Ethiopia

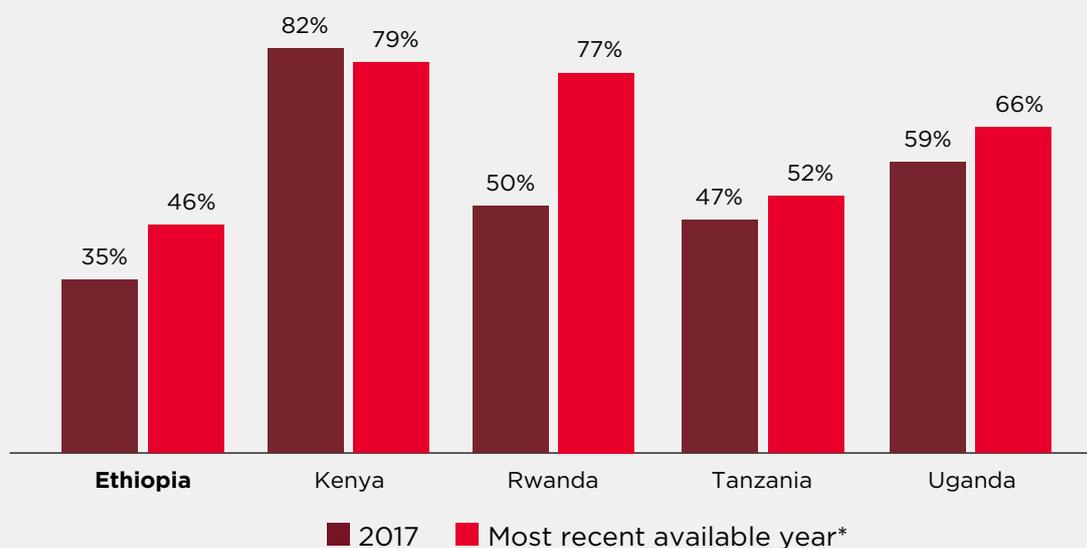
Formal financial inclusion is a key contributor to economic development and poverty reduction. It allows people to save for economic shocks and their long-term well-being, enables access to credit to establish and expand businesses or pay for education, and to obtain essential protection such as crop and health insurance. While the

percentage of the adult population in Ethiopia who have an account at a financial institution has steadily increased, from 22% in 2014 to more than 46% in 2022, formal financial inclusion remains significantly lower than in other East African countries (Figure 1).

**Figure 1**

### Formal financial inclusion in Ethiopia compared to other East African countries

(Percentage of the adult population)



\*2020 for Rwanda, 2021 for Kenya, Tanzania and Uganda, and 2022 for Ethiopia

Source: Global Findex (2021)<sup>1</sup> and Finscope (2020)

There is a large gap in financial inclusion between urban and rural areas, where more than three quarters of the population resides, as well as regional disparities in account ownership. Poorer and less literate Ethiopians, who are more likely to live in rural areas, also tend to be unbanked.<sup>2</sup> The Ethiopia Living Standards Measurement Survey (LSMS 2018–2019) conducted by the World Bank also found a rural-urban gap, with 59% of urban versus 18% of rural adults reporting having a bank account.<sup>3</sup> According to Global Findex data, only 39% of women versus almost 55% of men have an account at a formal financial institution.

There are more than 21,000 community-based Savings and Credit Cooperative Organisations (SACCOs) in the country that provide basic financial services to communities.<sup>4</sup>

Increasing financial inclusion is a priority for the government, as demonstrated by the publication of a new National Financial Inclusion Strategy (2021–2025).<sup>5</sup> The strategy aims to increase formal financial account ownership among adults to 70% by 2025. It also recognises the need to improve women's financial inclusion and aims to halve the gap in account ownership between men and women<sup>6</sup> by 2025.

1. The World Bank has recently published updated data for Ethiopia, collected in 2022. This was not available in the 2021 Global Findex Database. Findex provides updated indicators on access to and use of formal and informal financial services and digital payments by country.

2. According to the most recent Global Findex data, 85% of unbanked adults identify "insufficient funds" as the key reason for not having a bank account, which suggests that low-income populations do not perceive the value or relevance of financial services for their lives. Other reported barriers to financial inclusion include long distances to a financial access point and lack of identity documentation (ID) to register for accounts, cited by 33% and 29% of adults surveyed, respectively. In general, less educated, unemployed and lower income Ethiopians are less likely to own a bank account.

3. World Bank Microdata. (2020). *Ethiopia Living Standards Measurement Study (2018–2019)*.

4. Ibid. According to the World Bank Global Findex, in 2022, 23% of Ethiopians reported saving formally at financial institutions and 30% kept their savings with a person outside their family or an informal savings group. Similarly, while 5% of Ethiopians borrowed money from financial institutions, 30% borrowed from family or friends and 6% borrowed from a savings group.

5. Awaiting link to strategy (not publicly available).

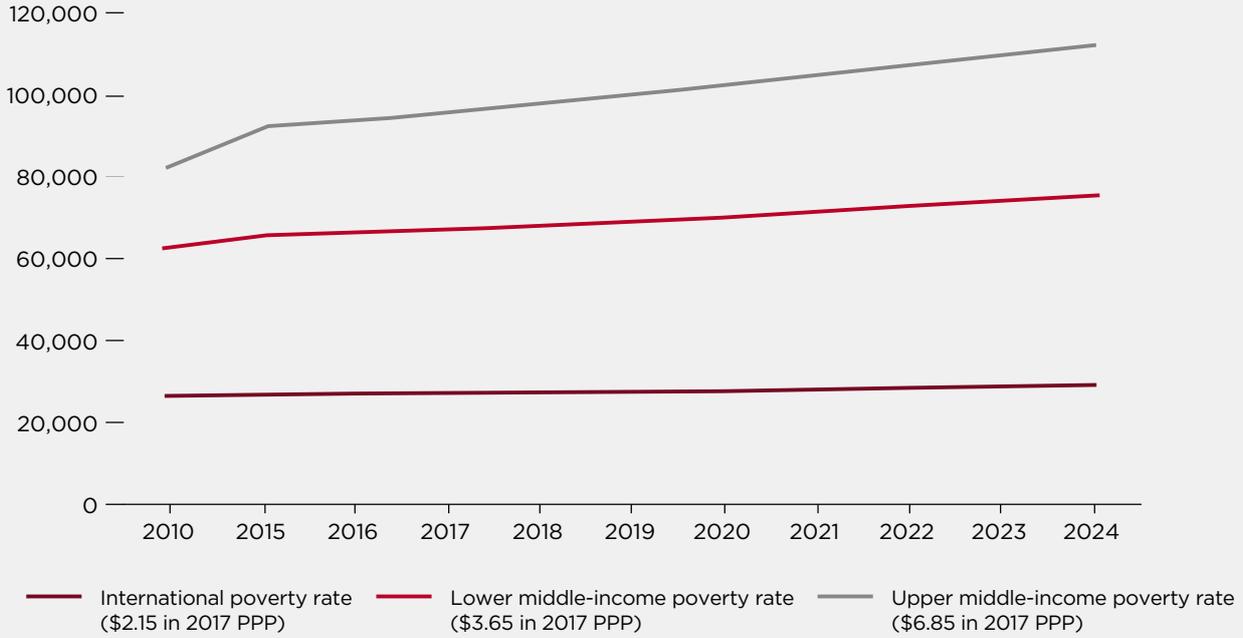
6. The gender gap indicates the difference in access to and use of formal financial services by men versus women.

**Figure 2**  
Macro-economic and poverty indicators

**Population:** 120m  
 Urban: 22%  
 Rural: 78%  
**Source:** World Bank Indicators 2021

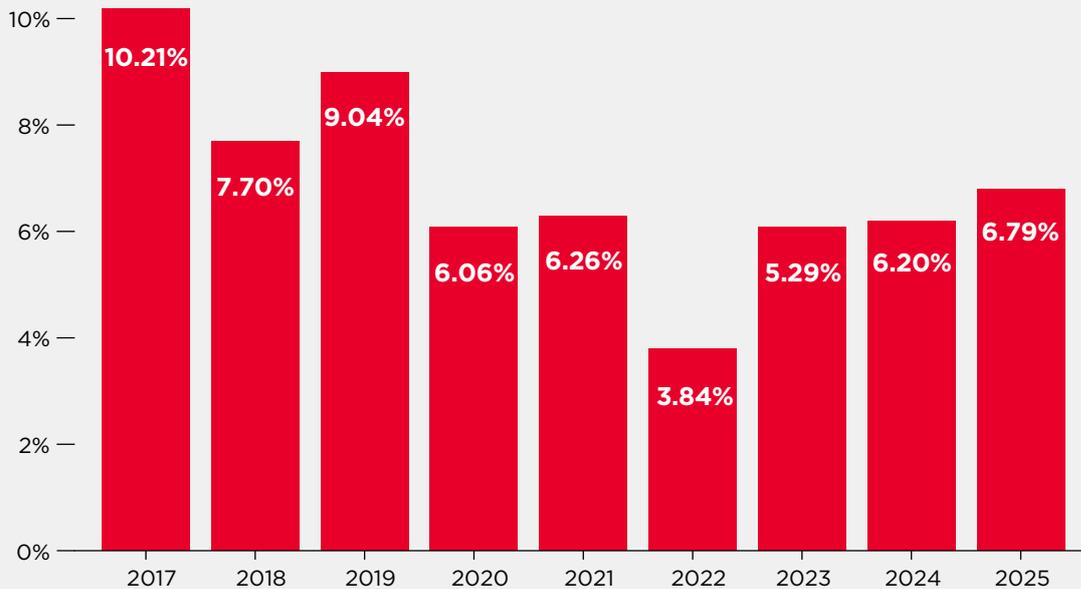
**Poverty rate:** 24.2% (2021-2022)  
**Source:** World Bank, Macro Poverty Outlook

**Poverty rate, 2010-2023 and projection to 2024**  
 (headcount in thousands)



**Source:** Global Poverty Working Group (GPWG) and Macro Poverty Outlook

**Real GDP growth, 2017-2022 and projection to 2025**  
 (% change from previous year)



**Source:** IMF

## BOX 1

## Macro and socio-economic development in Ethiopia

Ethiopia is Africa's second most populous nation, with more than 123 million people as of 2022.<sup>7</sup> Between 2004 and 2020, its economy had been one of the fastest growing in the world, led by capital accumulation through public infrastructure investments. High economic growth, in turn, contributed to both poverty reduction and human development.<sup>8</sup>

However, since 2020 Ethiopia's GDP growth has slowed. Foreign exchange shortages and market distortions have negatively impacted structural transformation and left Ethiopia in danger of defaulting on its debt.<sup>9</sup> A combination of shocks – COVID-19, persistent droughts, civil war and plummeting commodity prices – have created significant challenges for socio-economic stability. Prolonged civil war in the north and other parts of the country in particular have slowed the economy and created a major humanitarian crisis, as well as negatively impacting infrastructure development.<sup>10</sup>

Almost a quarter of Ethiopia's population still lives below the international poverty line of \$2.15 per day, with rural areas experiencing higher rates of poverty.<sup>11</sup> Almost another quarter is in need of humanitarian assistance.<sup>12</sup>

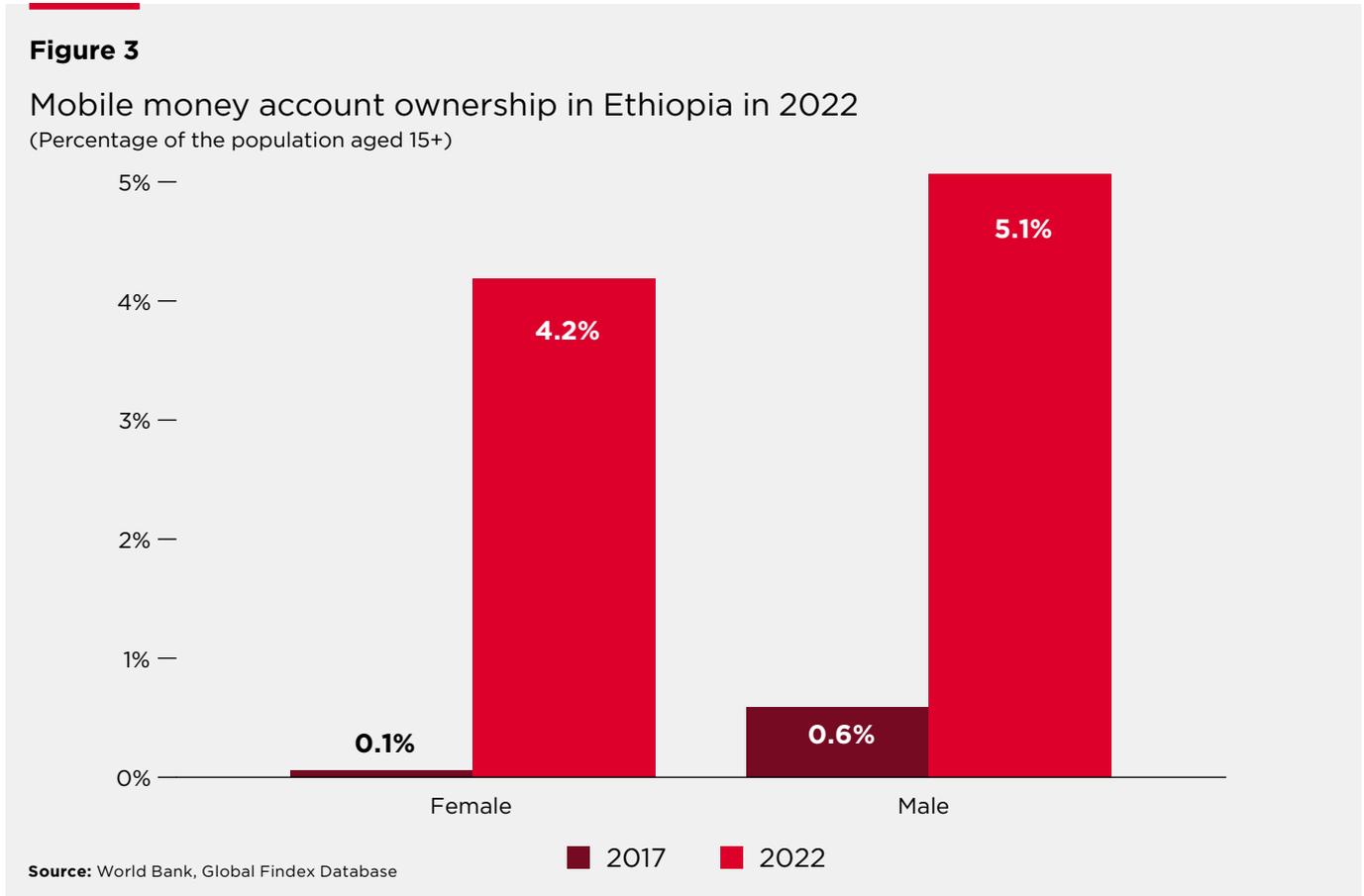
In 2020, the government launched a 10-year development plan based on the 2019 Homegrown Economic Reform Agenda,<sup>13</sup> which aims to shift the economy from state-led growth and investment to greater private sector participation and market orientation. It emphasises the need for efficiency and competition in key growth-enabling areas, such as telecommunications, energy and logistics.<sup>14</sup> In November 2022, following two years of conflict in northern Ethiopia, a peace agreement was signed between the two main parties – Ethiopia's government and the Tigrayan People's Liberation Front – which may enable Ethiopia to restore macro-economic balance and return to a high growth trajectory.<sup>15</sup>



7. World Bank Group. (2023). *"Ethiopia: Country Profile"*. *Macro Poverty Outlook for Sub-Saharan Africa*.
8. Bundervoet, T. et al. (2020). *Ethiopia Poverty Assessment: Harnessing Continued Growth for Accelerated Poverty Reduction*. World Bank Group.
9. World Bank. (2021). *Country profile and key facts on Ethiopia*.
10. CEPHEUS Research and Analytics. (2022). *Ethiopia Macroeconomic Handbook-2022*.
11. Ibid.
12. World Bank Group. (2023). *Macro Poverty Outlook*.
13. See *A Homegrown Economic Reform Agenda: A Pathway to Prosperity*.
14. World Bank Group. (2023). *Macro Poverty Outlook*.
15. Economist. (4 November 2022). *"A peace deal highlights the pointlessness of Ethiopia's war"*.

## 1.2 Mobile money for financial inclusion

Global Findex data shows that in 2022, 5% of adult men and just over 4% of adult women had mobile money accounts in Ethiopia (Figure 3).



Mobile money is a key element of the Ethiopian government’s strategy to advance financial inclusion. While mobile banking services were first piloted in Ethiopia in 2015 under a bank-led model, they have remained limited in scale. Regulatory reform in 2020 allowed non-bank organisations to offer mobile money services. This is a crucial development for financial inclusion in Ethiopia, as MNO-led mobile money services in other African countries, notably Kenya, Ghana and Uganda, have had enormous success in advancing financial inclusion in regions where traditional financial institutions have failed.

Until September 2022, Ethiopia had only one state-owned mobile operator, Ethio Telecom. However, the liberalisation of the sector has allowed private telecoms company Safaricom to enter the market and launch services. As part of market liberalisation, the Ethiopian government is aiming to sell a 45% share in Ethio Telecom. Meanwhile, in May 2023 the Ethiopian

Communications Authority (ECA) announced that it had finalised its preparation for issuing an international tender for an additional MNO to enter the market.<sup>16</sup> Competition between the incumbent Ethio Telecom and new entrants is expected to drive uptake of digital financial services (DFS) via mobile money and improve financial inclusion in the country.

The specific objectives of Ethiopia’s National Financial Inclusion Strategy (2021–2025) related to mobile money adoption are to expand agent networks to remote areas to deliver mobile money services, accelerate the use of mobile money for G2P/P2G payments and social protection/humanitarian payments, and increase awareness of mobile money services across the country, particularly in rural and remote regions that are currently underserved. The strategy also includes plans to improve interoperability between payment systems, which would enable mobile money services to scale faster.

16. Donkin, C. (16 November 2022). “Ethiopia moves to find third mobile operator”. *Mobile World Live*.

## 2. Research objectives and methodology



Given Ethiopia’s recent market liberalisation, this research:

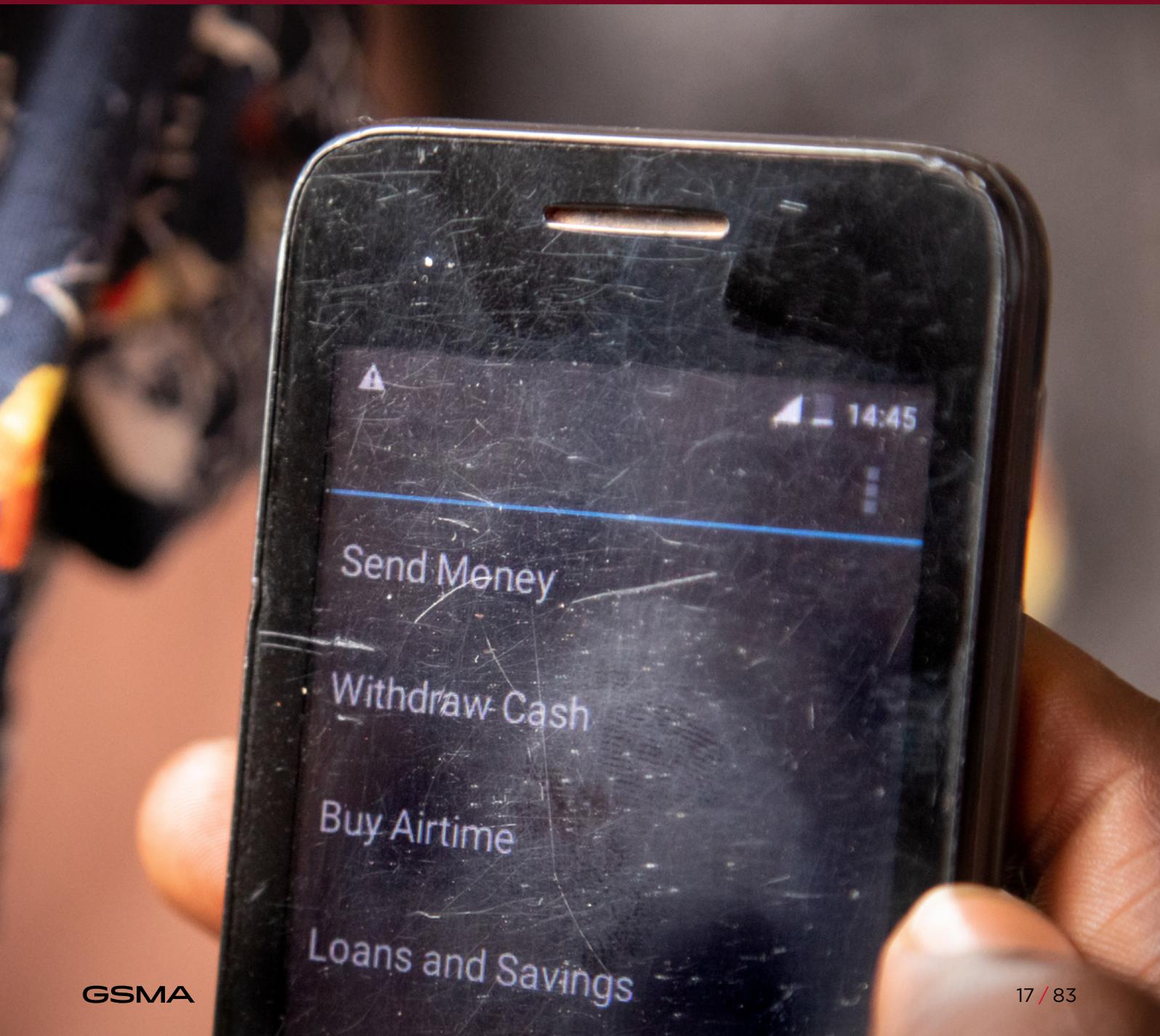
- Quantifies the impact that mobile money expansion could have on economic growth, poverty reduction, taxation and household resilience to economic shocks in the country.
- Discusses the challenges in advancing mobile money services and highlights opportunities for scale.
- Identifies enabling conditions for financial sector deepening and best practices in mobile money expansion, as seen in other mobile money markets that might hold lessons for Ethiopia.

The research used a mixed methods approach that included:

	<p style="text-align: center;"><b>Interviews</b></p> <p>Interviews with 22 experts in Ethiopia, including regulators and government agencies, financial and non-financial institutions offering mobile money services, fintechs and financial sector deepening institutions (Annex A).</p>
	<p style="text-align: center;"><b>Focus group discussions</b></p> <p>Six focus group discussions with 10 mobile money account owners each, in three regions of Ethiopia – Addis Ababa, Oromia and Somali – to assess their experience with existing services and to identify barriers to more active usage.</p>
	<p style="text-align: center;"><b>Quantitative modelling</b></p> <p>Modelled impacts of mobile money adoption on poverty reduction, economic growth, tax revenue and household resilience to economic shocks in Ethiopia (a detailed methodology is included in Annex C).</p>
	<p style="text-align: center;"><b>Literature review</b></p> <p>Review of key reports from development organisations and consultancies, donor organisations, academia and the media; recent financial inclusion- and mobile money-related policies; and relevant datasets and statistics from industry leaders (e.g. World Bank Findex, GSMA Consumer Survey).<sup>17</sup></p>

17. See: GSMA (2023). *State of the Industry report on Mobile Money 2023* and GSMA (2023) *The Mobile Gender Gap Report 2023*.

# 3. Mobile money and regulatory evolution



Historically, banks have provided DFS in Ethiopia to complement (typically urban) customers’ access to conventional bank accounts. Services included debit cards that could be used through ATMs and Point of Sale (POS) devices, and later mobile banking channels that enabled customers to view their balance, access statements and transfer money using USSD and mobile apps.

In 2012, the NBE issued the Licensing and Supervision of the Business of Financial Institutions Directive, which authorised licensed financial institutions in Ethiopia to offer mobile banking and use agent networks to expand their reach.<sup>18</sup> Under a bank-led model, banks and microfinance institutions (MFIs) were authorised to partner with technology providers to develop and deliver the service.

This regulatory reform led to the launch of Ethiopia’s first mobile banking service, M-BIRR, in 2015. A collaboration between five MFIs and Ethio Telecom, M-BIRR was successful in building the technology infrastructure needed to support mobile banking and digitalising G2P payments.

HelloCash is another mobile banking service that was launched by Lion Bank, the Cooperative Bank of Oromia and Somali Microfinance Bank around the same time. It was primarily used by the government to digitise social protection payments under the flagship Productive Safety Net Programme (PNSP).<sup>19</sup>

A key challenge in this early phase was that MFIs operated in a nascent ecosystem and lacked sufficient capacity to scale.<sup>20</sup> Banks also offered mobile banking services, but focused on low-volume, high-value products, such as lending in urban areas. Mobile banking services were peripheral to banks’ business models and suffered from limited investment and resources.

**“Even if the early mobile banking services in Ethiopia were not commercially successful, they were a win. In a very nascent ecosystem, the technology worked well even in rural areas”**

**Mobile banking provider**

In 2020, low rates of financial inclusion and mobile banking uptake prompted the Ethiopian government to shift from a bank-led mobile money model to a hybrid model. The introduction of the Payment Instrument Issuers Directive, the Payment System Operator Directive and the Use of Agents Directive (Box 2) allowed foreign investment in the telecoms sector for the first time and permitted non-financial institutions to offer mobile money services. It also supported the use of a broader range of channels for the delivery of digital financial services, such as POS, ATMs and payment gateways.



18. See: [Licensing and Supervision of the Business of Financial Institutions: Regulation of Mobile and Agent Banking Services \(Directive no. FIS/01/2012\)](#).  
 19. European Union (Capacity4Dev). (6 February 2014). [Productive Safety Net Program in Ethiopia](#).  
 20. As highlighted in our key expert interviews.



#### BOX 2

### Timeline of key regulations and directives

- **2011:** National Payment System Proclamation (No 718/2011)
- **2012:** Licensing and Supervision of the Business of Financial Institutions: Regulation of Mobile and Agent Banking Services (Directive no. FIS/01/2012)
- **2019:** Amendment to Banking Business Proclamation (Proclamation no. 1159/2019)
- **2020:** Use of Agents Directive (Directive no. FIS 02/2020)
- **2020:** Licensing and Authorisation of Payment Instrument Issuers (Directive no. ONPS 01/2020)
- **2020:** Amendment: Authorisation of MFIs to Convert to Banks (Directive no. SBB/74/2020)
- **2020:** Payment System Operator Directive (Directive no. ONPS 02/2020)
- **2023:** National Payment System Amendment (Proclamation no. 1282/2023)

Source: GSMA Mobile for Development

Regulatory reform has given impetus to mobile money in Ethiopia, reflected in the significant growth of mobile money accounts in the country. Ethio Telecom launched a mobile money service, telebirr, in 2021 and has rapidly grown its

mobile money subscriber base.<sup>21</sup> Since entering the market in November 2022, Safaricom has established a presence in 22 Ethiopian cities, covering 22% of the population by May 2023, when it received its mobile money license.<sup>22</sup>

21. In April 2023, telebirr had over 31 mln. subscribers. Active usage rates are not available.

22. See Safaricom Ethiopia [website](#).

# 4. Projected impact of mobile money services



#### 4. PROJECTED IMPACT OF MOBILE MONEY SERVICES

The impact of mobile money on individuals, households and businesses has been extensively analysed in a growing body of research and empirical evidence (Annex D). Most studies to date have focused on the microeconomic (household or consumer) level, with a smaller number addressing macroeconomic impacts, such as GDP and tax collection.

Globally, there is strong evidence that mobile money has an impact on smoothing consumption and the ability to cope with risk. Many studies demonstrate that mobile money fosters improved risk sharing to cope with large economic shocks that affect earnings. For example, a study in Kenya showed that consumption among M-Pesa<sup>23</sup> users is unaffected by negative income shocks, whereas non-users experience a 7% drop in consumption.<sup>24</sup> Another study in Tanzania found that the consumption level of villagers who were mobile money users was unaffected by climate shocks such as floods or droughts, whereas non-users saw a 6% to 11% decrease.<sup>25</sup>

In terms of the impact of mobile money on welfare, most studies show that mobile money increases consumption and can therefore reduce poverty. In Uganda, mobile money adoption increased total household per capita consumption by 7% to 10%.<sup>26</sup> A study in Kenya found that mobile money lifted 2% of households out of poverty and that long-term consumption grew by 8.5% among those living in areas with many mobile money agents.<sup>27</sup> It also found that poverty reduction was greater among female-headed households and that access to mobile money brought significant changes in occupation choice, largely among women, who moved away from agriculture to business and retail.

Recent research has also explored the potential of mobile money to promote the development of women-led microenterprises. In Mozambique, for example, providing mobile savings accounts and improving the financial management skills of female-headed businesses is associated with an increase in business performance, a narrowing of the gender profit gap and financial security for microentrepreneurs.<sup>28</sup>

Studies that have covered macroeconomic impacts suggest that mobile money can increase economic growth. An assessment by the International Monetary Fund (IMF) has found that digital financial inclusion can accelerate GDP growth,<sup>29</sup> while a study by Vodafone, Safaricom and the United Nations Development Programme (UNDP) found that countries with successful mobile money adoption experienced higher GDP growth compared to countries without mobile money.<sup>30</sup> Recent studies have shown that in markets with mobile money services versus those without, mobile money can increase tax revenue by increasing GDP per capita, improving institutional capacity and simplifying tax collection payment processes.<sup>31</sup>

Drawing on these empirical findings, we have modelled the projected impact that scaling mobile money in Ethiopia could have on:

- Poverty reduction
- GDP growth
- Taxation
- Household resilience to shocks

The modelling relies on some assumptions about how mobile money will develop over the next seven years. Given the uncertainty, we have developed three scenarios for Ethiopia that are informed by the evolution of mobile money in other Sub-Saharan African markets.<sup>32</sup> Figure 4 illustrates the three adoption scenarios for Ethiopia by 2030.

- **High adoption** – this scenario assumes that mobile money will develop in Ethiopia in a similar manner to successful mobile money markets, which are defined as those with greater than 50% adoption (e.g., Kenya, Ghana, Uganda).
- **Medium adoption** – this scenario assumes that mobile money will develop in a similar manner to mobile money markets with 30% to 50% adoption (e.g., Côte d'Ivoire, Benin, South Africa).
- **Low adoption** – this scenario assumes that mobile money will develop in a similar manner to countries with less than 30% adoption (e.g., Nigeria, Sierra Leone).

23. M-Pesa is the main mobile money service in Kenya.

24. Suri, T. and Jack, W. (January 2014). "Risk Sharing and Transactions Costs: Evidence from Kenya's Mobile Money Revolution". *American Economic Association*. Vol. 104, Number 1.

25. Riley, E. (November 2018). "Mobile money and risk sharing against village shocks". *Journal of Development Economics*. Vol. 135.

26. Matsumoto, T. and Munyegera, G.K. (March 2016). "Mobile Money, Remittances, and Household Welfare: Panel Evidence from Rural Uganda". *World Development*. Vol. 79.

27. Suri, T. and Jack, W. (9 December 2016). "The long-run poverty and gender impacts of mobile money". *Science*. Vol. 354, Issue 6317.

28. Batista, C., Sequeira, S. and Vicente, P.C. (March 2021). "Closing the Gender Profit Gap?". *NovaAfrica*.

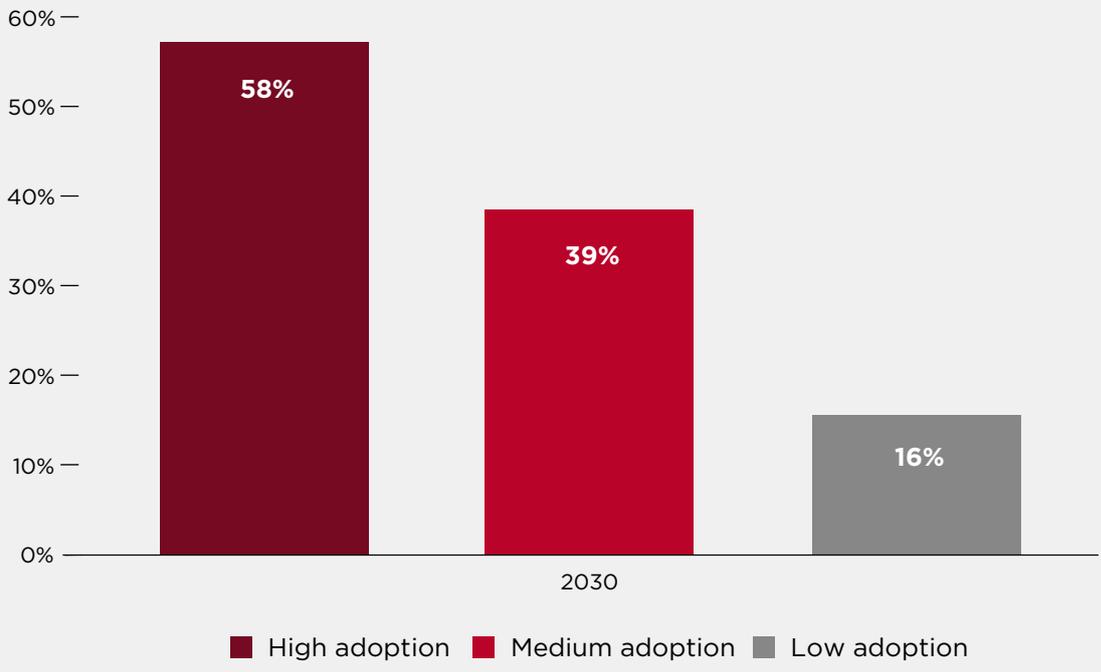
29. IMF. (2021). *Is Digital Financial Inclusion Unlocking Growth?*

30. Vodafone, Safaricom and UNDP. (2022). *Digital finance platforms to empower all; accelerating the SDG impact of digital financial inclusion in sub-Saharan Africa*.

31. Apeti, A.E. and Edoh, E.D. (March 2023). "Tax revenue and mobile money in developing countries". *Journal of Development Economics*. Vol. 161.

32. Based on the 2021 World Bank Global Findex survey.

**Figure 4**  
**Mobile money adoption scenarios for Ethiopia by 2030**  
 (Percentage of the population aged 15+)



Source: GSMA Intelligence analysis based on World Bank Global Findex data

Under the high adoption scenario, mobile money adoption in Ethiopia is expected to reach almost 60% of adults aged 18+ by 2030. Under the medium adoption scenario it would reach 39% and under the low adoption scenario it would reach 16%.<sup>33</sup>

**In a high adoption scenario, mobile money could lift 700,000 people out of poverty, add \$5.3 billion to Ethiopia's GDP, increase tax revenue by \$300 million and provide a cushion for the economic shocks experienced by almost 40% of Ethiopian households.<sup>34</sup>**



33. GSMA Intelligence analysis based on World Bank Global Findex data.

34. The 2018/2019 World Bank LSMS survey found that 39% of Ethiopian households experienced a financial shock and 27% reported being able to do nothing about it.

## Poverty reduction impacts

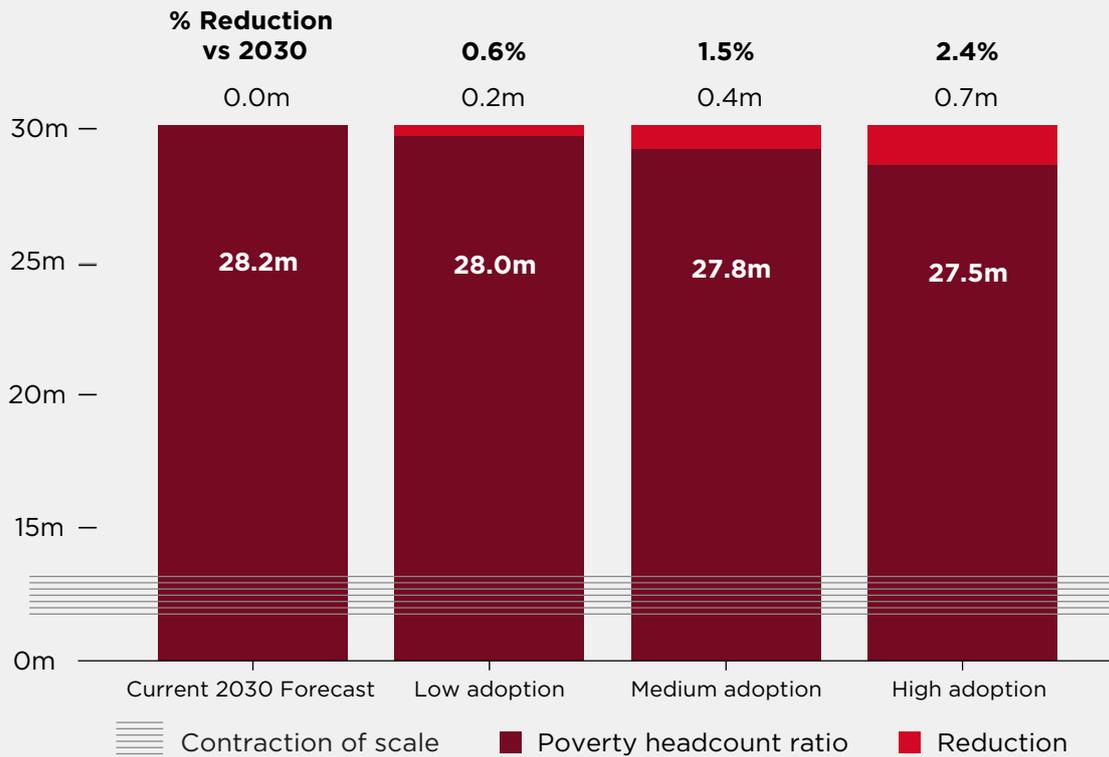
Mobile money adoption in Ethiopia could lift between 200,000 and 700,000 people out of extreme poverty by 2030 depending

on the level of adoption. In the high adoption scenario, this represents a 2.4% reduction in the national poverty headcount ratio<sup>35</sup> (Figure 5).<sup>36</sup>

**Figure 5**

Poverty reduction at the national level by 2030, generated by a 5% consumption increase due to mobile money adoption

(Forecast to 2030, headcounts in millions)



**Note:** "Poverty" is based on the international poverty line of \$2.15 per day.<sup>37</sup>  
**Source:** GSMA Intelligence

Given that the poverty level varies by region in Ethiopia, we applied the modelling framework to each region to identify where mobile money could have the greatest benefit. Figure 6 shows that, in absolute terms (based on the high adoption scenario), most of the individuals that mobile money could lift out of poverty live in the most populated regions, namely Southern Nations, Nationalities, and People's Region (SNNPR), Amhara and Oromia. However, the relative impacts (i.e., the percentage reduction in

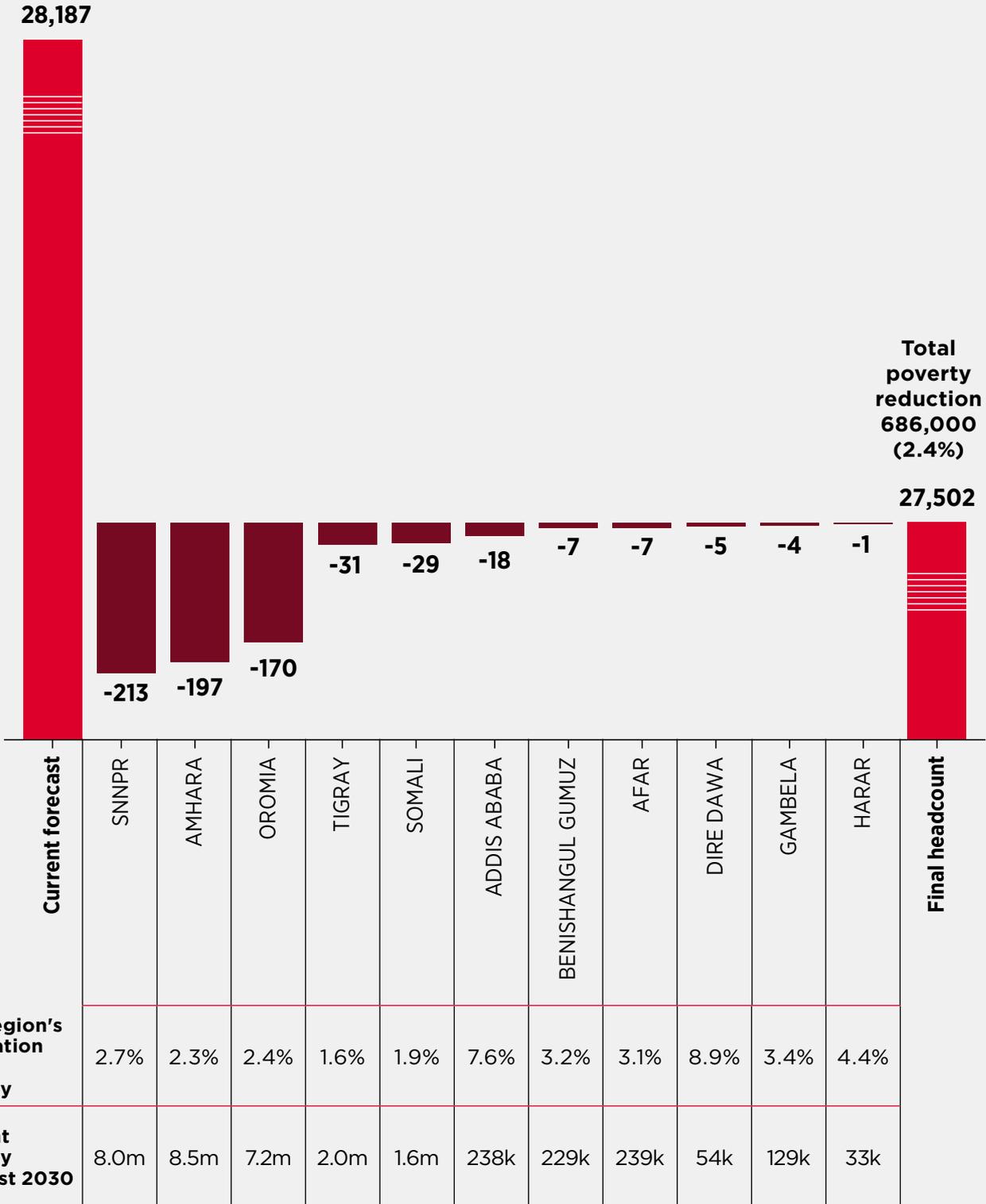
poverty that could be driven by mobile money) are notably higher in other regions, such as Addis Ababa and Dire Dawa where a greater proportion of those in poverty live within 5% of the poverty line (i.e., the poor are more likely to consume between \$2.05 and \$2.15 per day). In these regions, mobile money has the potential for a larger proportional reduction in poverty than in regions where a higher proportion of the poor are living well below the poverty line.

35. The national poverty headcount ratio is the percentage of the population living below the national poverty line. Source: [World Bank](#).

36. Given the uncertainty in the empirical literature, GSMA Intelligence have applied a conservative assumption regarding the consumption impacts of mobile money (assuming mobile money increases long-run consumption by 5%).

37. The World Bank revised its poverty line in 2022. The new international poverty line is set at \$2.15 using 2017 prices. This means that anyone living on less than \$2.15 a day is considered to be living in extreme poverty. About 648 million people globally were in this situation in 2019. See: World Bank. (14 September 2022). [Fact Sheet: An Adjustment to Global Poverty Lines](#).

**Figure 6**  
 Poverty reduction estimates of mobile money in Ethiopia’s regions by 2030  
 High adoption scenario (headcount in thousands)



 Contraction of scale

Source: GSMA Intelligence analysis

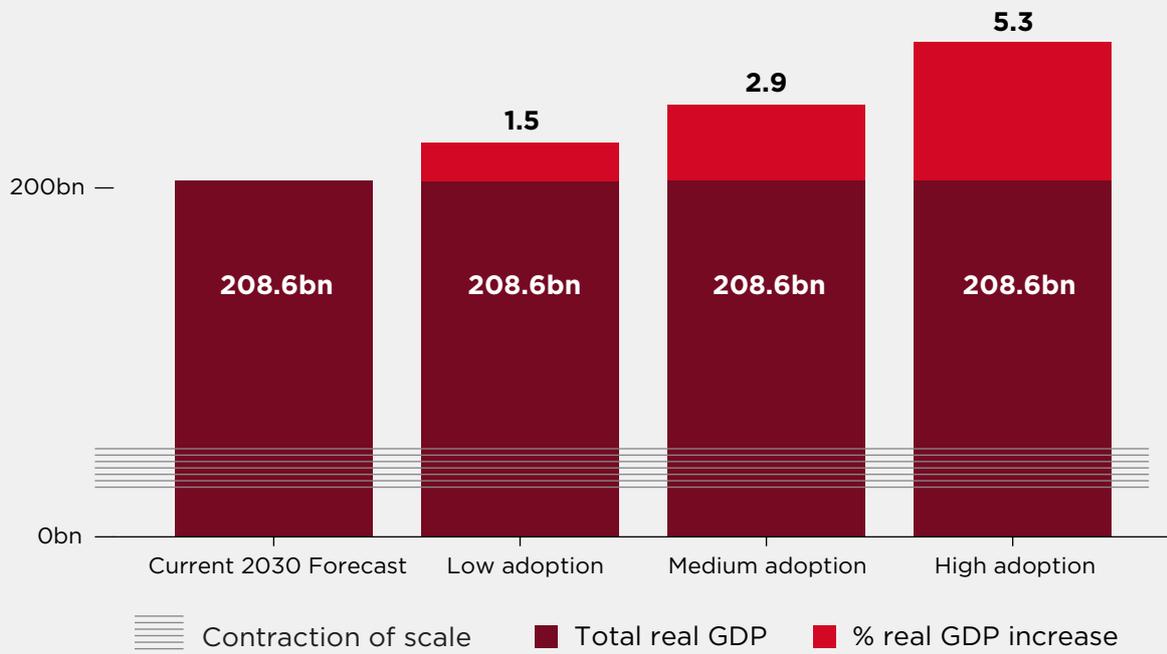
## GDP impacts

Digital financial inclusion can accelerate economic growth, as indicated by studies by Khera *et al.* (2021) for the IMF,<sup>38</sup> Apeti *et al.* (2023)<sup>39</sup> and Vodafone, Safaricom and UNDP (2022).<sup>40</sup> Our modelling suggests that,

depending on the level of adoption, mobile money adoption in Ethiopia could increase real GDP by 0.7% to 2.5% by 2030, which is equivalent to \$1.5 billion to \$5.3 billion in 2022 prices or 69 to 251 billion birr (Figure 7).<sup>41</sup>

**Figure 7**  
 Modelled GDP impact of mobile money growth  
 (Forecast 2030, USD Bn in 2022 prices)

<b>% real GDP increase</b>	0.7%	1.4%	2.5%
<b>Total real GDP</b>	210.1bn	211.5bn	213.9bn



Source: GMSA Intelligence/ IMF (Khera)

38. Khera, P., Ng, S. Y., Ogawa, S. and Sahay, R. for IMF. (2021). *Is Digital Financial Inclusion unlocking growth?*

39. Apeti, A.E. and Edoh, E.D. (March 2023). *Tax revenue and mobile money in developing countries*. *Journal of Development Economics*. Vol. 161.

40. Vodafone, Safaricom and UNDP. (2022). *Digital finance platforms to empower all: accelerating the SDG impact of digital financial inclusion in sub-Saharan Africa*.

41. It should be noted, however, that the literature on mobile money and GDP is not as robust as the microeconomic literature.

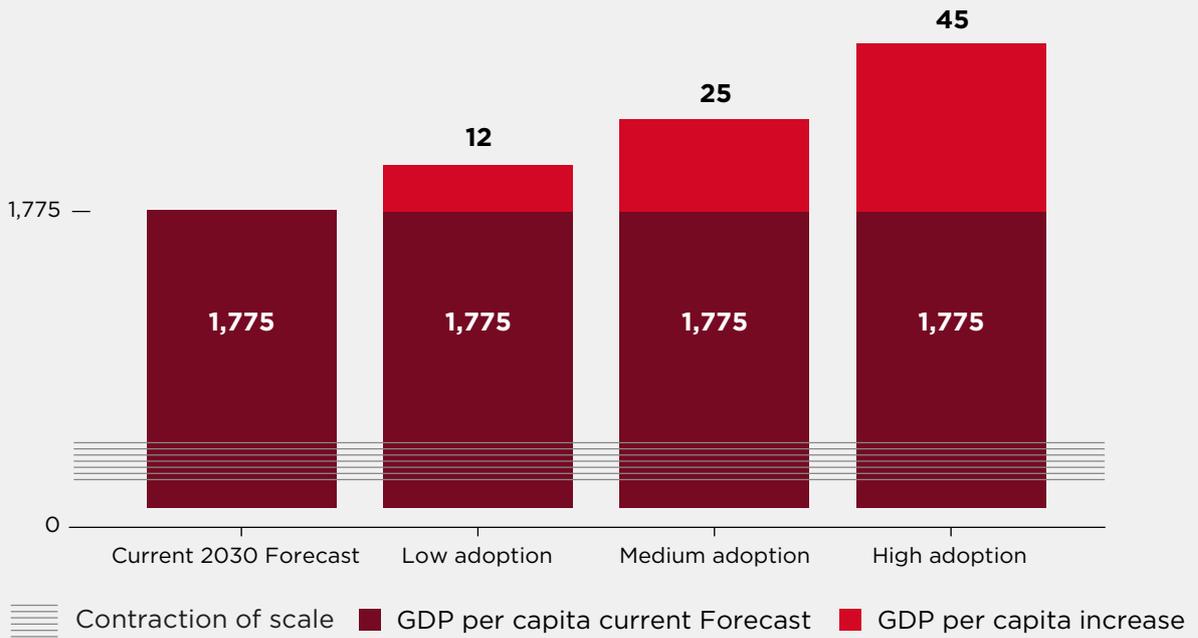
In the high adoption scenario, this would mean GDP per capita would increase by \$45 (Figure 8).

**Figure 8**

Real GDP per capita impact due to mobile money adoption

(Forecast 2030, USD 2022 prices)

<b>% GDP per capita increase</b>	0.7%	1.4%	2.5%
<b>Total GDP per capita</b>	1,787	1,800	1,820



Source: GMSA Intelligence/ IMF (Khera)



## Tax revenue impacts

Tax revenue collection in Ethiopia, which is 6.2% of GDP according to the World Bank’s 2020 assessment, is less than half the Sub-Saharan African average (14.4% of GDP) and well below the average in OECD countries (34% of GDP).

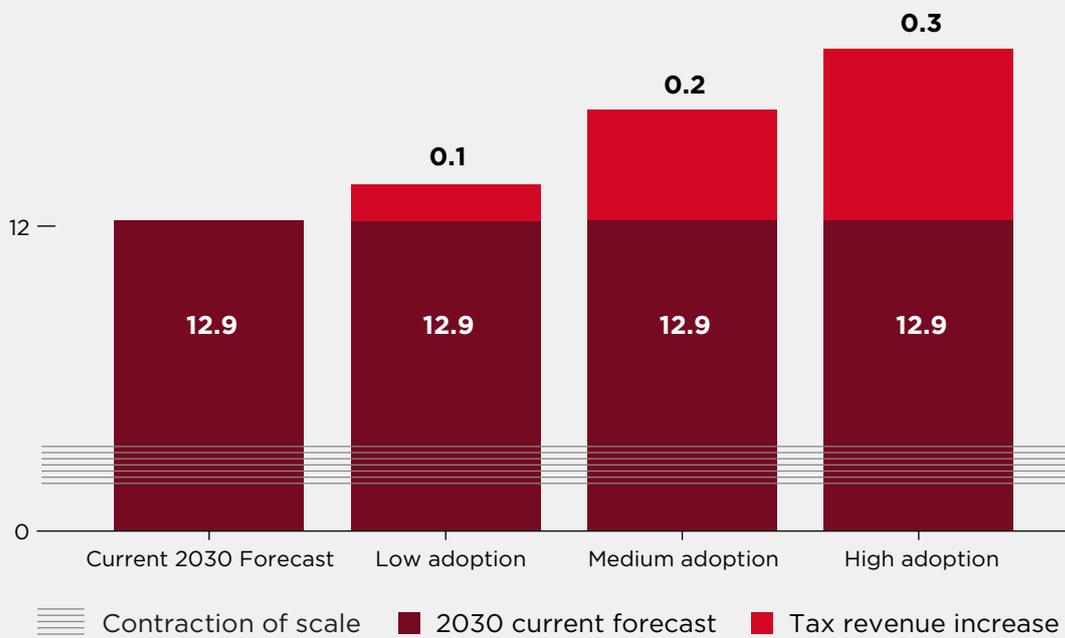
Mobile money adoption could help to increase tax revenue by up to 2.4% by 2030. This growth implies an additional accumulated tax revenue of \$100-\$300 million (5.4-16.3 billion birr) (Figure 9).

**Figure 9**

### Tax revenue increase due to mobile money adoption

(Forecast 2030, USD bn in 2022 prices)

<b>% Tax revenue increase</b>	0.5%	1.6%	2.4%
<b>Total tax revenue 2030</b>	13.0	13.1	13.2



Source: GSMA Intelligence / Apeti-Edoh

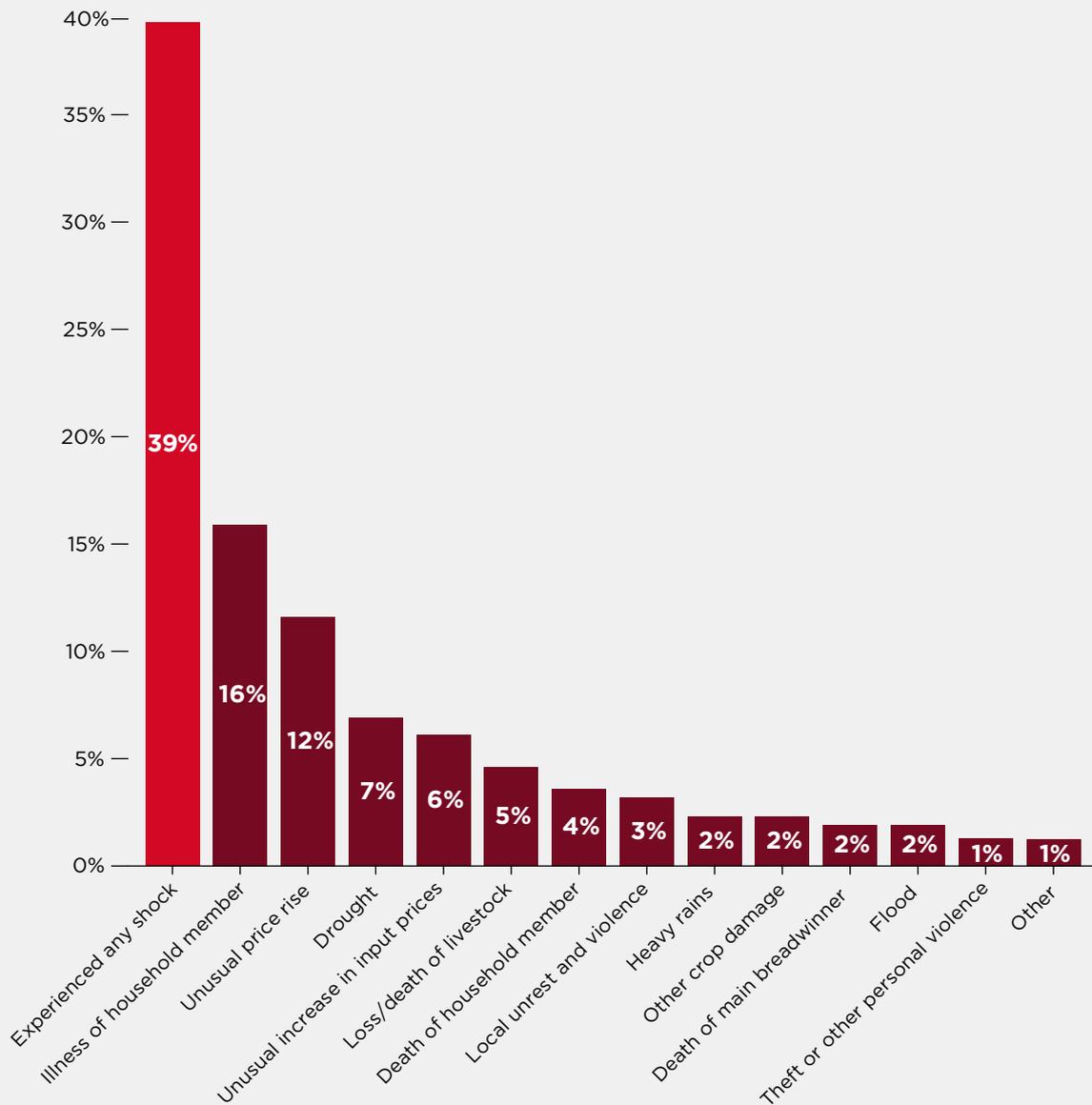
## Impacts on coping with risk and smoothing consumption

Although some of the potential impacts of mobile money in Ethiopia may not be well quantified, they are likely to be significant. Empirical research provides strong evidence that mobile money improves resilience to household shocks. The

latest survey evidence in Ethiopia<sup>42</sup> shows that almost two in five households experienced an economic shock in the preceding 12 months, most commonly the illness of a household member or a price increase (Figure 10).

**Figure 10**

Economic shocks experienced by Ethiopian households in previous 12 months  
(Percentage of respondents who reported experiencing an economic shock)



Source: Ethiopia Socioeconomic Survey (ESS) 2018/2019

42. World Bank. (2019). *Ethiopia Socioeconomic Survey (ESS) 2018/2019*.

#### 4. PROJECTED IMPACT OF MOBILE MONEY SERVICES

Most households in Ethiopia that reported the three most common shocks also reported a reduction in income and assets. The most common coping mechanism was drawing upon savings, followed by *not being able to do anything* (Table 2). Other coping mechanisms included selling livestock or crops, receiving

help from friends or relatives, obtaining credit and changing eating patterns. Households that can access mobile money effectively will be better able to cope with these shocks. The ability to smooth shocks is also linked to increasing consumption over the long term, which can help reduce poverty.

**Table 1**

Household shocks and coping mechanisms in Ethiopia

Coping mechanism	Illness of household member	Unusual price rise	Drought
Drew upon savings	27.3%	35.5%	22.4%
<b>Did not do anything</b>	<b>26.2%</b>	<b>24.8%</b>	<b>20.6%</b>
Sold livestock	13.7%	11.6%	25.7%
Received unconditional help from relatives or friends	6.6%	4.6%	5.6%
Obtained credit	6.4%	3.2%	4.5%
Changed eating patterns	3.8%	4.8%	4.3%
Sold crop stock	3.1%	0.9%	-
Received unconditional help from government	2.4%	3.4%	4.4%
Engaged in spiritual effort	2.4%	0.6%	1.8%
Sold agricultural assets	2.2%	5.5%	0.9%
Sold durable assets	1.5%	0.9%	1.9%
Unemployed adult household members had to find work	1.4%	0.6%	1.0%
Household members migrated	1.4%	1.3%	2.8%
Spent less on health and education	0.5%	0.1%	-
Received unconditional help from an NGO or religious institution	0.4%	0.7%	3.3%
Employed household members took on more work	0.3%	0.9%	-
Sold land or buildings	0.3%	0.5%	0.6%

Source: ESS 2018/19

Taken together, the potential impacts on poverty reduction, risk coping, economic growth and taxation make a compelling case for supporting the scaling of mobile money services in Ethiopia, especially with the projected simultaneous growth in mobile phone usage. In 2022, 60% of Ethiopian adults were using a mobile phone and this is expected to increase.<sup>43</sup> With financial inclusion at only 46%, there is a significant opportunity to increase financial inclusion through mobile money services.

Previous research and lessons from more mature mobile money markets indicate that multiple factors play a role in driving mobile money access and use. These include policy and regulation,

interoperable payment systems, access points and agent networks, as well as digital inclusion enablers such as access, affordability, awareness, relevance, knowledge and digital skills, safety and trust. These enablers need to be in place for Ethiopia to accelerate mobile money usage to the level needed to achieve the high adoption scenario, which will promote the greatest economic and social benefits.

The following sections provide an assessment of these key factors in Ethiopia and offer examples of mobile money development and use cases from other markets to propose ways to scale mobile money adoption and advance financial inclusion in the country.



43. In addition, in 2022, 20% of Ethiopian adults were using mobile internet. See: GSMA. (2022). *The Mobile Economy: Sub-Saharan Africa 2022*.

# 5. Key enablers for mobile money growth



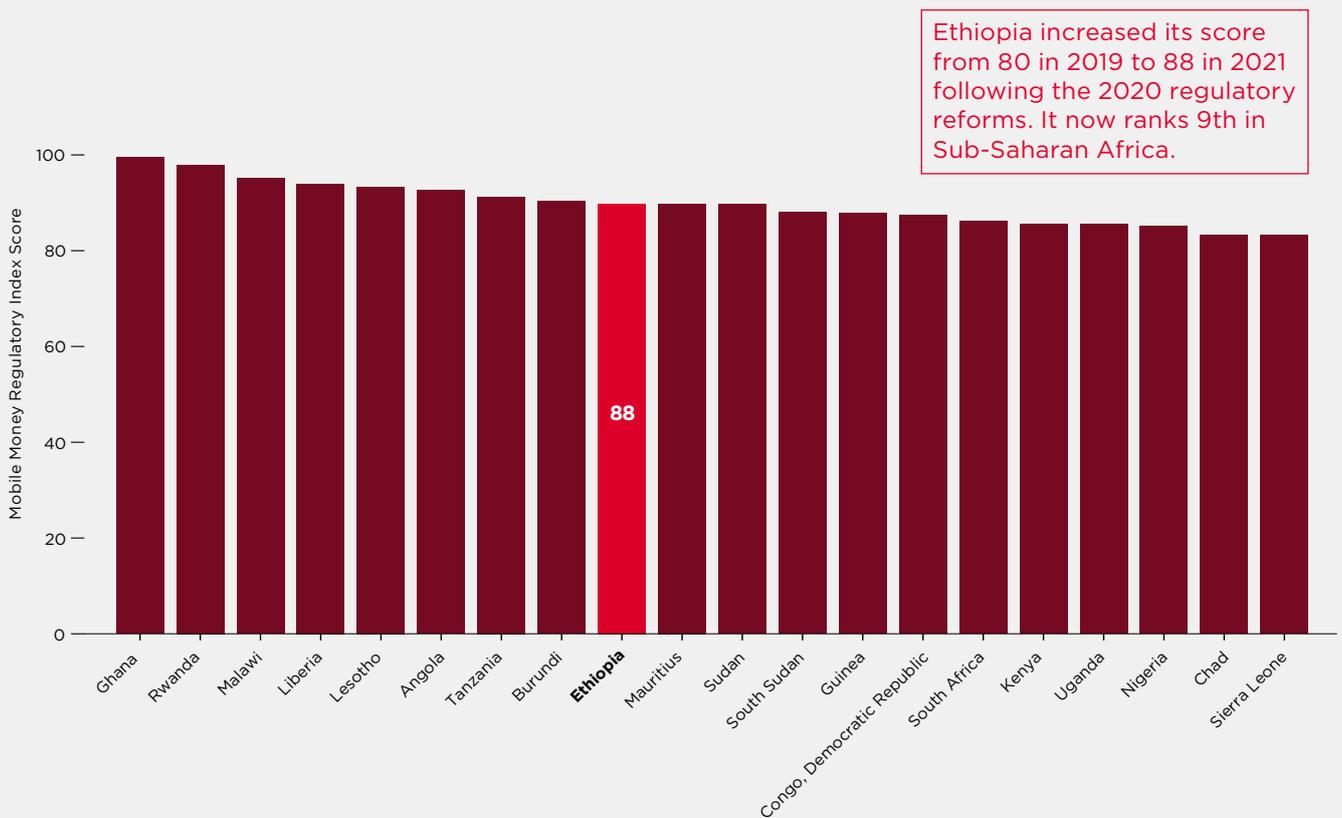
## 5.1 Policies and regulations

### Positive developments

The development of mobile money services has been given impetus by Ethiopia’s National Financial Inclusion Strategy (2021–2025), which aims to increase the use of digital payments from 20% of all adults in 2020 to 49% by 2025.<sup>44</sup> The Digital Payments Strategy (2021–2024) lays out strategic pillars in support of that main goal: developing a reliable, inclusive and interoperable infrastructure; championing the adoption of a wide range of digital payments; building a robust and consistent regulatory framework; and supporting innovation more broadly.

The Payment Instrument Issuers Directive<sup>45</sup> and Use of Agents Directive<sup>46</sup> in 2020 have helped to accelerate the development of the mobile money ecosystem and created a more enabling environment for financial inclusion via mobile money. These regulatory reforms have boosted Ethiopia’s score in the GSMA Mobile Money Regulatory Index (MMRI), from 80 to 88 between 2019 and 2021, with the country ranking ninth in Sub-Saharan Africa (Figure 11).<sup>47</sup> GSMA Intelligence research shows that an increase of 10 points in a country’s Regulatory Index score is associated with a three percentage point increase in mobile money use, with larger gains at higher scores.

**Figure 11**  
Mobile Money Regulatory Index scores in Sub-Saharan Africa



44. Forthcoming.

45. NBE. (2020). Directive on the *Licensing and Authorization of Payment Instrument Issuers No. ONPS/01/2020*.

46. NBE. (2020). Directive on the *Use of Agents No. FIS/02/2020*.

47. See *GSMA Mobile Money Regulatory Index*.

## 5. KEY ENABLERS FOR MOBILE MONEY GROWTH

Other regulatory developments that have driven the uptake of digital financial services include a change in the currency notes, introduced in 2020 by the NBE to combat counterfeit currency and hoarding, and restrictions on the amount of cash that can be withdrawn from banks on a daily and monthly basis.<sup>48</sup> In April 2023, in a push to increase digital transactions, the Ethiopian government announced that all fuel purchases must be made via digital channels.

Key informant interviews conducted for this report suggest that digital banks and payment instrument issuers find the regulatory framework supportive and forward looking. However, recent entrants in Ethiopia's DFS sector face some confusion over permissible and non-permissible activities and other regulatory requirements, which can stifle innovation.

The NBE could build confidence by greater engagement with newly licensed payment

instrument issuers and take specific actions, such as increasing the balances on mobile money accounts.<sup>49</sup> More generally, Ethiopia should focus efforts on scaling its national identity database to ease KYC processes and enforce cybersecurity and data protection regulations.

### Know Your Customer regulations

Formal financial inclusion depends on a reliable identity document for KYC purposes. Unlike many other low-income markets where national identities are severely lacking, most Ethiopians have a national identity document in the form of a Kebele ID card.<sup>50</sup> However, 29% of Ethiopian adults still highlighted the lack of ID as a reason for not having either a bank or mobile money account in 2022.<sup>51</sup> Also, while it is commonly used, the Kebele card is unreliable because it is easily duplicated. To make KYC easier for mobile money services, the NBE has introduced tiered KYC regulations (Table 2).

**Table 2**  
Tiered KYC structure for mobile money services in Ethiopia

Type of account	KYC requirements	Account limits
Tier 1	Full name, date of birth, place of birth, residential address, mobile phone number, recent photo, referral by another customer	Maximum balance: 5,000 birr Unlimited transactions
Tier 2	Full name, date of birth, residential or business address, mobile phone number, ID card	Maximum balance: 20,000 birr Unlimited transactions
Tier 3	Full name, date of birth, residential or business address, mobile phone number, ID card	Maximum balance: 30,000 birr Unlimited transactions
Walk-in user (Cash pick-up)	Same as Tier 2 account KYC requirements	Maximum daily transaction: 500 birr

Source: Telebirr website

48. See *Directive*.

49. In addition, the NBE could consider enhancing flexibility on the use of interest earned from the e-money float to make mobile money services more commercially viable.

50. Kebeles are the smallest administrative units in Ethiopia. Community-issued Kebele ID cards currently serve as the most used identity document.

51. World Bank Global Findex: Ethiopia (data for 2022).

While Tier 1 account mobile money subscribers are exempt from having an official identity document, to open a Tier 2 or Tier 3 mobile money account in Ethiopia, individuals must have an identity card with a name, address, date of birth and photo. In addition, while there are limits on the amounts that can be held in the accounts, the NBE has recently removed transaction limits to encourage more frequent use of the services.

Following India's Aadhaar<sup>52</sup> system (Box 3) the Ethiopian government has launched the Ethiopia National Identity Programme, Fayda. It aims to provide robust digital identification at the national level by offering real-time biometric authentication. The system generates a unique 12-digit identity number for each citizen, requiring basic information such as full name and date of birth, as well as biometrics including a photo, iris and fingerprints scan.<sup>53</sup> Fayda is being implemented in a phased approach with public and private sector partners, and had enrolled over

1.4 million people as of 2022 with plans to scale to 12 million by 2024.<sup>54</sup>

While roll-out is slow, once it reaches scale, the programme is likely to be a key enabler for mobile money adoption. It will allow for more robust identification of individuals and reduce mobile money fraud.<sup>55</sup> More robust identity verification will also help MMPs offer a wider suite of financial products to customers due a reduction of fraudulent accounts and transactions, which currently hinder adoption and usage.

Implementing digital identification that can operate as e-KYC (query a national ID system to authenticate or verify customers' identities) is a commendable move by the NBE, noting the current foundational identity gaps in the country. It also has the potential to reduce the cost of due diligence from \$15 to 50 cents and enable verification in seconds rather than days,<sup>56</sup> allowing for rapid and convenient account opening.

### BOX 3

## National identity systems and mobile money

### India

India initially launched the e-KYC Aadhaar programme to reduce duplication and fraud in social protection payments. Since its inception in 2009, Aadhaar has rapidly expanded. Starting with a digital identity layer that banks, telecoms companies and other organisations could use to rapidly verify identity, the digital infrastructure was expanded to incorporate a payments layer – a Unified Payments Interface (UPI) using open APIs so that private organisations, such as fintechs, could integrate with it and process a range of payments instantly, including remittances and merchant payments. The infrastructure has an additional layer to store electronic documents online. While there are growing data privacy concerns with the digital infrastructure, India Stack, it is viewed globally as a pioneering model for enabling digital payments.<sup>57</sup>

### Kenya

MNOs in Kenya can verify a customer's identity against the national database in real time, for a fee. Tier 1 accounts can be verified with the same information as SIM registration. Users of the M-Shwari<sup>58</sup> service, a savings and loans product available to Safaricom M-Pesa mobile money customers, can also verify their accounts with their national ID to increase their account limits and access credit.<sup>59</sup>

52. Aadhaar is a 12-digit individual identification number issued by the Government of India and is considered the largest digital identity program in the world. See Unique Identification Authority of India [website](#).

53. See Digital ID Proclamation No. 1284/2015, which was passed into law recently.

54. See the [NIDP website](#).

55. In 2022, the Federal Police Crime bureau warned of a surge in mobile account frauds; reportedly, 204 cases of mobile banking fraud were brought to court in just two months, linked primarily to the Commercial Bank of Ethiopia's mobile money service, CBE Birr. The Reporter. (June 2022). "[Federal Police warns increase in mobile banking fraud](#)".

56. GSMA. (2019). [Overcoming the Know Your Customer hurdle: Innovative solutions for the mobile money sector](#).

57. Financial Times. (20 April 2023). [The India Stack; opening the digital marketplace to the masses](#).

58. See Safaricom [website](#).

59. Ibid.

## Cybersecurity and data protection regulations

Mobile money is delivered through a complex system of financial transactions that are vulnerable to attacks. To boost mobile money adoption, it is important that governments enact the right regulations to deter cybercrime. Cybersecurity regulations need to include both punitive measures for prevention as well as response and recovery provisions.<sup>60</sup> In addition, both mobile money service providers and users need to ensure they are taking adequate security measures.<sup>61</sup>

In some mobile money markets, there are cybersecurity regulations specifically for MMPs. For example, in Kenya, risk management strategies and reporting requirements guidelines were implemented for MMPs in 2019.<sup>62, 63</sup>

According to the International Telecommunication Union (ITU), Ethiopia lags behind its neighbours in cybersecurity (Table 3). Clearer cybersecurity frameworks and strategies to protect the digital financial system could give Ethiopian mobile money users more confidence in mobile money services and lead to higher adoption.

**Table 3**

Cybersecurity Index scores in Ethiopia compared to other East African countries<sup>64</sup>

Country	Cybersecurity score	African ranking (out of 43)
Ethiopia	28	21
Kenya	82	5
Rwanda	80	7
Tanzania	91	2
Uganda	70	9

Source: ITU (2020)

MMPs hold a range of KYC and financial behaviour data on their customers. As the value of mobile money data for adjacent services, such as credit scoring for loans, continues to increase, and security threats become more likely with increased data traffic, it is critical that customers' privacy and confidentiality are protected. Laws for processing personal data must be in place to provide clarity on the collection, processing and sharing of this data.<sup>65</sup>

Ethiopia does not yet have a single legal instrument governing data privacy and protection, although a range of laws indicate that personal data should be protected. The

Ministry of Innovation and Technology has drafted a national-level Personal Data Protection Act that is still to be approved. Meanwhile, a Financial Consumer Protection Directive (No. FCP/01/202) has been in place since 2020.<sup>66</sup> The directive requires financial service providers (FSPs) to establish policies to ensure the confidentiality of data. While it is too early to assess the effectiveness of the directive, there is a perception that the development of data protection policies is currently fragmented and lacking in clarity. Implementation also appears to be weak, limiting customer confidence in subscribing to mobile money services.<sup>67</sup>

60. GSMA. (2019). Cybersecurity: *A governance framework for mobile money providers*.

61. Ibid.

62. Central Bank of Kenya. (2019). *Guideline on cybersecurity for mobile money providers*.

63. Rwanda and Tanzania have also demonstrated strong cybersecurity commitments and have clear national cybersecurity strategies. See: ITU. (2020). *Global Cybersecurity Index*.

64. The Global Cybersecurity Index measures the commitment of countries to cybersecurity along five pillars: legal measures, technical measures, organisational measures, capacity development, and cooperation. See: *Global Cybersecurity Index*.

65. GSMA. (2018). *Guidelines on mobile money data protection*.

66. See: *Financial Consumer Protection Directive (FCP 01/2020)*.

67. Currently, Ghana is the only country with a data protection legislation framework that governs the use, processing and archiving of personal data, and where cross-border transfer of data is permitted with no restrictions. See also: GSMA. (2019). *Guidelines on mobile money data protection*.

In Uganda, the passing of the Data Privacy and Protection Act (DPPA) in 2019, which regulates data collection, processing and use, has been instrumental in providing clarity on how personal data should be handled and making MMPs more vigilant about data protection. Since the

Act was passed, MMPs have deployed chief data protection officers to oversee compliance with personal data laws and ensure that mobile money agents who violate data protection laws understand that they can be penalised. These efforts have led to greater compliance.



## 5.2 Payments interoperability

In its simplest form, interoperability gives DFS users the ability to transfer money between two mobile money accounts at different MMPs or between a mobile money and a bank account.

The NBE, which oversees Ethiopia’s payment system, has been working towards a national interoperable payments system since 2009 when they instructed commercial banks to work together on interoperability. EthSwitch, which

is owned by all private and state banks in the country, was established in 2011 as the national switch for electronic payments, with the NBE and 18 commercial banks as shareholders. By 2016, these 18 banks were connected for interbank transfers via ATMs and POS devices and cards. However, by 2019 there was still no bank account-to-account (A2A), or mobile banking service interoperability, unless the service providers had collaborated to use the same technology provider (Figure 12).

**Figure 12**  
Payments interoperability in Ethiopia

 ATM	 POS	 E-banking	 Mobile wallets
<b>USE CASES</b>			
<ul style="list-style-type: none"> <li>✓ Withdraw cash from ATM of your banking institution</li> <li>✓ Withdraw cash from ATM of a different banking institution</li> <li>✓ Transfer funds within the same bank</li> <li>✓ Transfer funds across different banks</li> <li>✓ Check balance within the same bank</li> <li>✓ Check balance across different banks</li> </ul>	<ul style="list-style-type: none"> <li>✓ Pay with debit/credit card with same payment scheme as POS</li> <li>✗ Pay with debit/credit card with different payment scheme as POS</li> </ul>	<ul style="list-style-type: none"> <li>○ Transfer money digitally into a mobile wallet (yours or P2P transfer)</li> <li>✓ Transfer money into another account at same banking institution</li> <li>✗ Transfer money into another account at a different banking institution</li> </ul>	<ul style="list-style-type: none"> <li>✓ Pay with mobile money at a retailer with the same mobile wallet</li> <li>✗ Pay with mobile money at a retailer with a different mobile wallet</li> </ul>
<b>USER ISSUES</b>			
<ul style="list-style-type: none"> <li>• ATMs often out of service</li> <li>• Customers receive receipt and no money and/or are charged multiple times</li> </ul>	<ul style="list-style-type: none"> <li>• POS often out of service (due to telco or system issues)</li> <li>• Customers charged multiple times for a transaction</li> </ul>	<ul style="list-style-type: none"> <li>• Services not available 24/7 and often out of service</li> <li>• Balance is often inaccurate and requires bank validation</li> </ul>	<ul style="list-style-type: none"> <li>• Mobile wallet e-receipts are not accepted or recognized (e.g., can't be used to support payment disputes)</li> </ul>

✓ Fully interoperable    
 ○ Some interoperability    
 ✗ No interoperability

Source: National Payments Strategy 2021-2024



In 2021, EthSwitch piloted interoperability to enable transactions between mobile money wallets and between mobile money wallets and bank accounts. After authorisation from the NBE, EthSwitch launched these capabilities in the market.<sup>68</sup> Currently 28 banks, five MFIs, as well as the fintechs Addispay and Kacha Digital Financial Service are integrated with EthSwitch. Global payments providers are also being integrated. Last year, Mastercard announced a partnership with Oromia Bank and EthSwitch that enables Oromia Bank's ATMs to accept Mastercards.<sup>69</sup>

EthSwitch provides a well-functioning national payments system that can accelerate the use of DFS such as mobile money. However, payment aggregators and gateways are still lacking in Ethiopia, which means that both billing institutions and their customers need to hold accounts with the same financial institution

for payments processing. Due to the well-functioning switch, payments gateways such as Arifpay and Addispay have been established, and are developing advanced payment platforms that can integrate products beyond payment services, such as credit products.

While regulations stipulate that all payment service providers integrate with EthSwitch, including fintechs and MNOs offering mobile money services, telebirr has not yet done so, using their own payment processing system to integrate with other FSPs instead.<sup>70</sup> While this integration has been successful, telebirr may eventually be required to integrate with EthSwitch.

68. EthSwitch. (15 November 2021). [EthSwitch Enables Digital Wallet, Mobile and Internet Banking Interoperability](#).

69. EthSwitch. (17 November 2022). ["EthSwitch, Oromia Bank and Mastercard signed a historic agreement"](#).

70. Capital Ethiopia. (19 November 2022). ["Ethio Telecom goes solo in integrating Telebirr"](#).

## 5.3 Access points and agent networks

Financial services access points at brick-and-mortar outlets and mobile money agents are both crucial to advancing financial inclusion in the last mile. According to NBE data,<sup>71</sup> the number of access points in Ethiopia grew almost

200% between September 2021 and September 2022 (Table 4). With mobile banking and mobile money services expanding, the NBE estimates that as of September 2022, there were more than 185,000 agents in the country.

**Table 4**  
Financial access points in Ethiopia

Indicator	Sept 2021	Sept 2022	Growth
Number of bank branches	7,608	9,406	23.6%
Number of interest-free banking branches	N/A	101	
Number of insurance branches	649	703	8.3%
Number of MFI branches	2,195	1,038	-52.7%
Number of lease branches	54	54	0.0%
<b>Subtotal</b>	<b>10,506</b>	<b>11,302</b>	<b>7.6%</b>
Number of agents: banks	22,542	93,913	316.6%
Number of agents: telebirr	N/A	87,878	
Number of agents: MFIs	22,464	1,533	-93.2%
Number of agents: insurance	2,351	2,540	8.0%
<b>Subtotal</b>	<b>47,357</b>	<b>185,864</b>	<b>292.5%</b>
Number of POS	9,935	12,346	24.3%
Number of ATMs	6,466	7,075	9.4%
<b>Total access points</b>	<b>74,264</b>	<b>216,587</b>	<b>191.6%</b>

Source: NBE (September 2022).

Prior to this growth, access points were sparse, especially in rural and remote areas. The 2019 LSMS survey found that only 41% of people lived within 5 km of a financial services access point. Nearly 35% of bank branches, 50% of ATMs and 77% of POS machines were in the capital city of Addis Ababa alone. In 2022, over 18% of adults who did not have an account at a financial institution reported distance to an access point as the reason, according to Findex<sup>72</sup> – an indication that access to financial services remains low.

The development of MNO-led mobile money services provides an opportunity to leverage their large distribution networks to reach populations in rural and remote areas. Ethio Telecom has already developed an extensive network of more than 100,000 agents. The introduction of Safaricom's M-Pesa to the Ethiopian market is expected to accelerate the number of access points. Although they have yet to launch mobile money operations, Safaricom has already conducted significant branding at agent outlets across the 22 cities where its mobile services are available.<sup>73</sup>

71. National Bank of Ethiopia (last reported statistics in September 2022).

72. World Bank Global Findex: Ethiopia data for 2022.

73. See Safaricom Ethiopia [website](#).

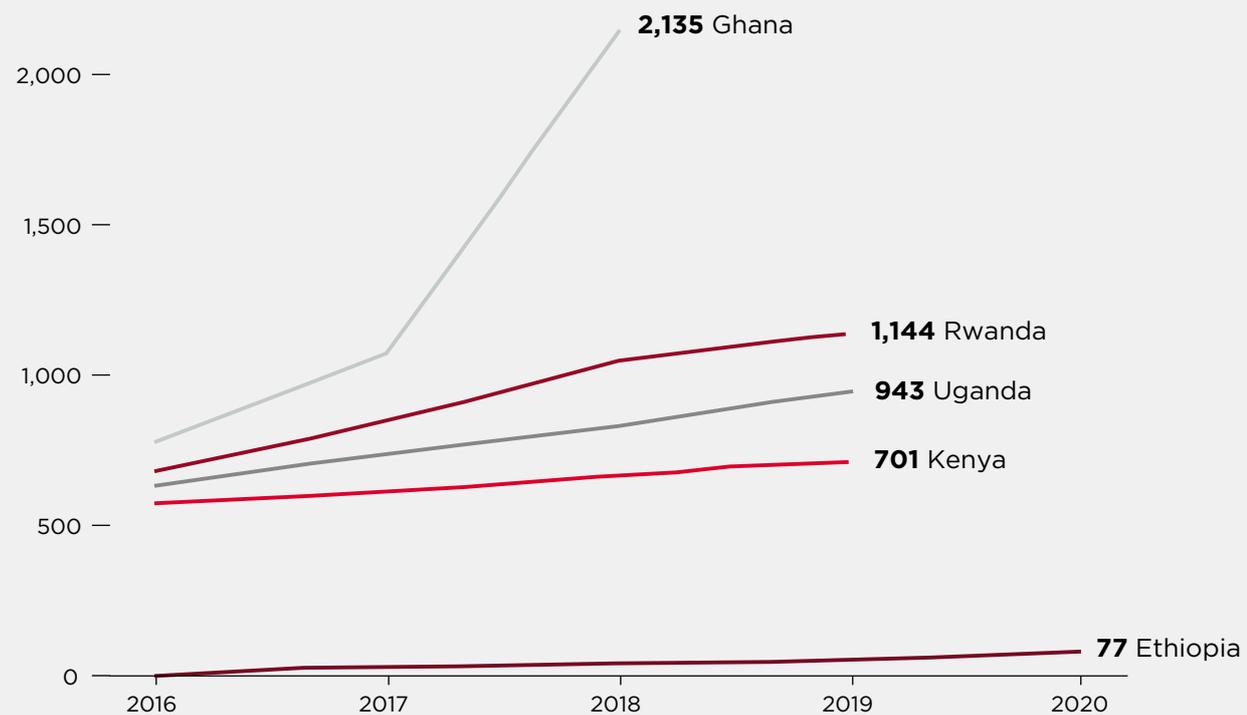
## Agent networks

Mobile money agents are responsible for on-boarding and training customers and are a key entry point to the mobile money ecosystem, offering a convenient channel to digitise cash and providing the first line of customer support. While critical to advancing financial inclusion and mobile money adoption, agent networks are expensive to build and manage and can account for 20% to 30% of the total expenditure of the mobile money business. This includes the cost of recruiting and training agents, investing in agent management software, and providing cash management and float rebalancing solutions. Whether agent networks are successful in reducing the financial inclusion gap depends on factors beyond the

geographical spread of distribution networks, such as the numerical and digital skills of agents, the trust they are able to build with underserved groups including women and rural end-users, regulations affecting their earnings, liquidity issues and demand for the service.

While agent networks are growing in Ethiopia, reportedly KYC requirements can be challenging to meet and on-boarding processes can be slow. For example, Ethio Telecom requires agents to have a registered business and premises. Agents who cannot meet these requirements opt to sell airtime vouchers rather than register for mobile money services.

**Figure 13**  
Number of agents in Ethiopia compared to other Sub-Saharan African markets  
(per 100,000 adults)



Source: NBE supply side and IMF Financial Access Survey.

While in more mature mobile money markets agent profitability depends on offering as wide a suite of products as possible, in Ethiopia, agents have tended to focus on one or two key products based on their location, for example top-up services for fuel purchases or ride-hailing apps,

for agents located nearby petrol stations or in busy urban areas. As use cases and mobile money adoption increase, a more profitable strategy for agents will likely be expanding the range of mobile money services they offer.

## BOX 4

## Highlights from agent interviews in Ethiopia

We conducted interviews with agents in Addis Ababa, Oromia and Somali to better understand their experience of delivering mobile money services. Agents provided the following insights:

**Trends/use cases**

Cash-in and cash-out (CICO) services were cited as the most common transactions in all three regions, followed by P2P transfers. These findings are in line with primary use cases for mobile money in emerging mobile money markets, where CICO and P2P transactions are initially prevalent.

**Challenges**

— The challenges faced by agents in Ethiopia reflect trends in other low- and middle-income countries (LMICs) with a nascent mobile money market. Liquidity was identified as a key challenge to running a mobile money business profitably. The inability to predict customer demand, lack of proximity to banks and insufficient working capital are the main barriers to effective liquidity management.

— Network-related issues were identified as a key issue by almost all agents we interviewed and reflect Ethiopia's relatively low score on the GSMA Mobile Connectivity Index for network quality (40/100).<sup>74</sup> Poor network performance means that transactions cannot be processed instantly, making mobile money less convenient and undermining customer trust.

— Although most agents indicated that providing mobile money services was an income-generating opportunity, many pointed to low commissions as a key barrier to profitability, as well as theft.

— Some agents indicated that mobile money and USSD apps were difficult to navigate and not user friendly.

Agents identified several areas for improvement, including higher commissions and more transactions, simpler mobile money apps and USSD processes, better network infrastructure for instant payments and access to more training.

It is essential to build a high-quality agent network to drive uptake of mobile money services. The quality and motivation of agents is particularly important in low literacy settings. Agents need to be well trained in the service they are promoting, understand how to troubleshoot when payments issues arise and be able to train and build the confidence of first-time users to encourage adoption of the service.

MNOs can incentivise the active use of accounts rather than just account opening by offering bonuses or rewards for conducting a transaction or series of transactions for a customer after they set up their account. For example, in one of the most successful mobile money markets

today, MTN MoMo Ghana initially signed up customers through aggressive acquisition campaigns, leveraging a network of agents who were remunerated based on the number of accounts they opened. While this was efficient in driving account ownership, activity rates remained low, making it necessary to improve customer education on mobile money and adjust incentives to increase active usage. As a result, MTN introduced a new commission structure for agents that depended on account subscribers completing not one but multiple transactions. With such strategies, MTN increased their 90-day active customer base from 3.5 million in 2016 to more than 14 million in 2022.<sup>75</sup>

74. See GSMA [Mobile Connectivity Index](#).

75. Awanis, A. (6 February 2023). "[Mobile money activity rates: What providers can do to boost usage](#)". *Mobile for Development Blog*.

## Liquidity management

As in other mobile money markets, liquidity management is one of the main agent management challenges for MNOs in Ethiopia. Box 5 highlights some innovative ways liquidity

has been managed in other markets, either through partnerships or outsourcing to third parties.

### BOX 5

## Insights from agent liquidity management in Sub-Saharan Africa

In Côte d'Ivoire, MTN has focused on consolidating their distribution network to increase mobile money usage. In early 2012, MTN decided to outsource the management of their distribution channel to Top Image, a field marketing agency with extensive experience in mobile money, having worked with MMPs like Safaricom in Kenya. Developing stronger recruitment criteria for agents, closely managing agent performance and increasing support for agent liquidity, all helped MTN to significantly increase the number of active agents. Very quickly, and without changing the commission structure, agent profitability quadrupled. In a few months, agents became more motivated and provided better service to customers at the POS.

In Zambia, the United Nations Capital Development Fund (UNCDF) partnered with Kazang, a DFS provider, and Mobicom, a business that facilitates the delivery and management of DFS through their agent management platform, to explore innovative models of delivering DFS to rural populations through non-exclusive agents.

Mobicom provides a shared agent banking platform across various banks and DFS providers, providing a pathway to agent interoperability. Agents are provided with

microcredit for liquidity management based on their daily transaction volumes and incentivised to transact in higher volumes with higher commissions.

The agent management platform has enabled agents to significantly increase their earnings. The initiative has also helped gaining more women and youth customers by targeting agents from these user groups.

Launched in Kenya in 2018 and now also operating in Tanzania and planning to expand to Uganda, Pesakit is a last-mile agent network platform providing liquidity management solutions and a suite of digital products to mobile money agents and small merchants. Agents and merchants registered on the Pesakit app can buy and sell airtime, process utility bill payments, access float loans and buy and sell microinsurance products through the app. Pesakit uses AI to enable merchants to understand and manage their liquidity needs for e-floats and cash by forecasting these needs using predictive analysis. It also generates creditworthiness scores for merchants, enabling them to borrow e-float when needed.

## Advancing the financial inclusion of women

The on-boarding of female customers in Ethiopia could be promoted by training and incentivising agents to sign up women in particular. There is also significant evidence that female agents are more appealing to women customers.<sup>76</sup> Hiring more women as mobile money agents would likely enable women's financial inclusion, as social norms and safety concerns can prevent them from interacting with male agents. Women agents also tend to have high performance levels

and can therefore benefit MMPs. Research by the IFC in the Democratic Republic of Congo, for example, found that women agents were much more successful than male agents in advancing mobile money, accounting for both higher transaction volumes and values.<sup>77</sup> Understanding the financial needs of women in households and female-run businesses is also key to delivering financial services that address their needs.

### BOX 6

## Enabling rural women to generate income through mobile money

Current KYC regulations by banks and telebirr have stringent requirements for becoming a mobile money agent that informal businesses and sole traders cannot meet; women, especially, are less likely than men to run formal businesses and therefore be able to meet KYC requirements. To overcome this recruitment challenge, Highlight Tradings,<sup>78</sup> a master agent in Ethiopia, has partnered with the international NGO The International Centre of Insect Physiology and Ecology (icipe),<sup>79</sup> to pilot a programme with two women's cooperatives that produce silk and honey. The pilot seeks to

recruit women from the cooperatives as mobile money agents as an add-on economic activity. Highlight Tradings, in coordination with Ethio Telecom, has successfully lobbied the government to allow community organisations such as cooperatives to be recognised as legitimate formal organisations that can provide mobile money services, as long as they are recognised by their districts. This move is likely to help women-led cooperatives in Ethiopia bolster their income while also enabling more women to use mobile money.



76. GSMA. (2020). *Reaching 50 million women with mobile: A practical guide*.

77. IFC. (2018). *Digital Access: The Future of Financial Inclusion in Africa*.

78. See Highlight Tradings [website](#).

79. See icipe [website](#).

# 6. Mobile money user journey



6. MOBILE MONEY USER JOURNEY

Previous research by the GSMA Mobile Money programme identifies progressive steps towards adoption and active use of mobile money services, as captured in the mobile money user journey (Figure 14).

**Figure 14**  
Mobile money user journey



Source: GSMA Mobile for Development

Factors critical to adoption include owning a mobile device, the awareness, relevance and affordability of mobile money services, the financial literacy and digital skills of end users

and trust in mobile money services. Active use of the service further depends on products and payments solutions that are relevant to the needs of end users.



## 6.1 Trends and drivers of mobile money adoption

According to the 2022 GSMA Consumer Survey, among mobile money account owners in Ethiopia, 51% had made a transaction in the last

30 days and 30% in the last week. Box 7 provides a brief overview of the key trends in mobile money use by active users.

### BOX 7

#### From adoption to usage – Highlights from focus group discussions with active users

Qualitative insights from our focus group discussions suggest that social networks, especially family and friends who are already using the service, play a central role in building awareness and trust in mobile money. Agents also play a prominent role in promoting the service and onboarding customers.

Active users reported convenience and security as the two key drivers of regular use. Cost and time-saving from reduced commutes to banking points, as well as the security that comes from not carrying cash, also featured as important considerations.

**“Mobile money saves me time and the cost of commuting to a bank branch. I also never feel safe carrying cash, but I don’t have that concern with mobile money.”**

**Female respondent, focus group discussions in Oromia**

In line with trends observed in other markets, in a nascent mobile money ecosystem, customers using entry-point person-to-person (P2P) payments and mobile service payments, such as airtime top-ups, are more likely to make frequent transactions than those using mobile money for more advanced services, such as merchant payments.<sup>80</sup>

**“I mostly use mobile money to make transfers to family and friends, and to settle utility bills.”**

**Male respondent, focus group discussions in Addis Ababa**

Mobile money users identified the following areas of improvement to deepen and broaden usage:

- Better connectivity
- Redress mechanisms for fraudulent and erroneous transactions
- Improved interoperability between accounts
- Wider range of use cases

As noted previously, only 5% of men and 4% of women had a mobile money account in Ethiopia in 2022 according to Findex. Findings from the

2022 GSMA Consumer Survey and focus group discussions highlight several blockers to the adoption and active use of mobile money.

80. Merchant payment is not a developed use case in Ethiopia. According to Global Findex data, only 2.5% of adults in Ethiopia have made a digital merchant payment.

## 6.2 From mobile ownership to mobile money awareness

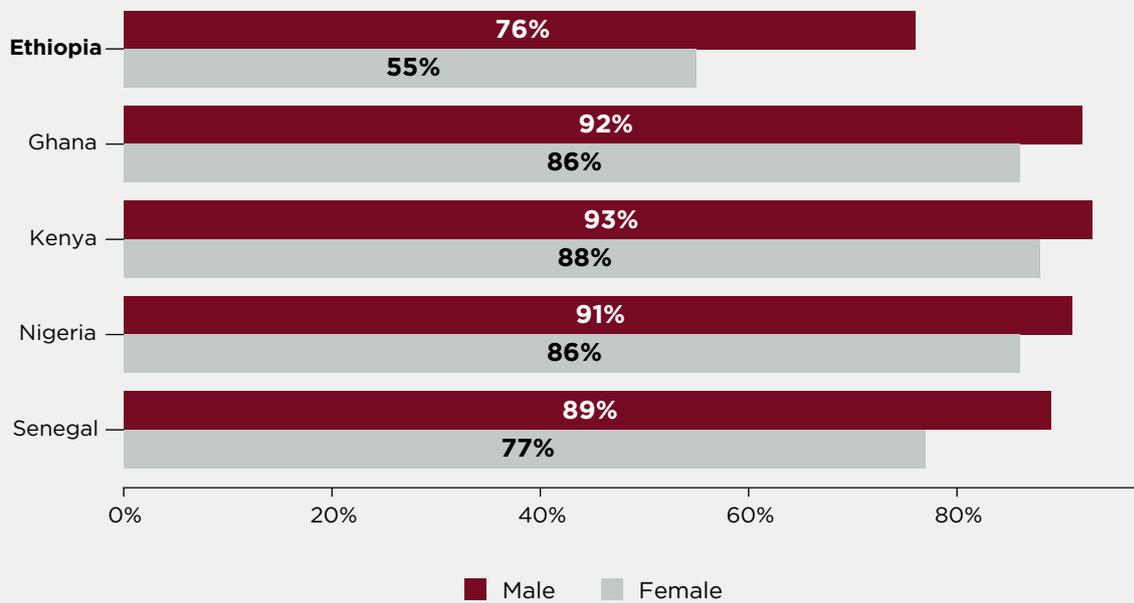
### Prerequisite: Mobile ownership

Mobile ownership, a prerequisite for mobile money adoption, is relatively low in Ethiopia, especially among women. In the GSMA Consumer Survey, 76% of men compared to 55%

of women, reported owning a mobile phone. Overall, mobile ownership in Ethiopia is lower than in other Sub-Saharan African countries (Figure 15).

**Figure 15**

Mobile phone ownership in Ethiopia compared to other Sub-Saharan African countries (Percentage of total adult population)



Source: 2022 GSMA Consumer Survey

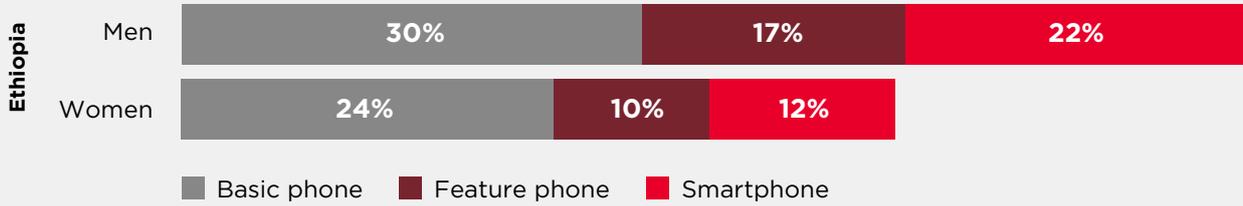
The affordability of mobile handsets and subscriptions is a major challenge to mobile money adoption in Ethiopia. According to the Alliance for Affordable Internet (A4AI), the cost of a smartphone is particularly significant, and represents almost 97% of average monthly income in Ethiopia compared to 34.36% in Kenya and 33.29% in Nigeria.<sup>81</sup> Current inflation at over

30% and heavy taxes levied on imported mobile phones have compounded the affordability challenge. In addition, the manufacturing of local phones, which gained some momentum in 2016, has been crowded out by a shadow market for cheap phones. As a result, those who have a mobile phone tend to have a basic or feature phone (Figure 16).<sup>82</sup>

81. Alliance for Affordable Internet. (2021). *Device pricing*.

82. GSMA. (2023). *The Mobile Money Gender Gap Report 2023*.

**Figure 16**  
Share of the population by type of handset owned  
(Percentage of total adult population)



Source: 2022 GSMA Consumer Survey

In driving affordability to boost mobile ownership, it is important to support users in adopting both low-cost, basic and feature phones that enable mobile money access via USSD channels, and data-enabled handsets that allow users for a rich and more compelling experience.

Recent research by the GSMA identifies two viable strategies to lower handset costs: improving the cost-efficiency of handset manufacturing and expanding access to handset financing for end users.<sup>83</sup> The most promising approaches to drive down the costs of mobile phones include developing lower-end internet-enabled handsets, optimising component costs, refurbishing phones, and reducing procurement, distribution and marketing costs.

Following examples in Africa such as Orange Senza, MTN Smart T, Techno T091 and Vodacom Smart Kitochi, there is an opportunity for Ethiopian MNOs to provide access to more affordable smart feature phones, with the additional benefits of longer battery life, greater resilience and relevant pre-loaded apps and content. In parallel, financing schemes that use alternative data for credit assessments, or accept a handset as collateral, present an opportunity to boost mobile ownership by reducing the upfront cost. In Ethiopia, offering flexible payment terms such as daily micro-repayments, could be a viable strategy to drive mobile ownership of those who earn income on a daily basis.<sup>84</sup>



83. GSMA. (2022). *Making internet-enabled phones more affordable in low- and middle-income countries.*

84. Ibid.

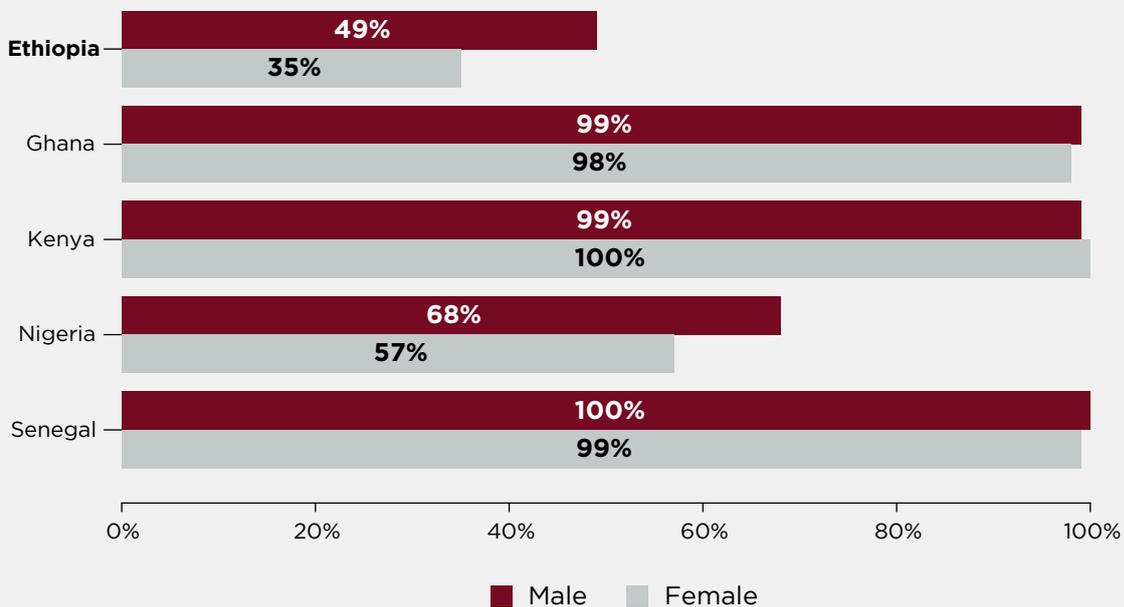
### Prerequisite: Awareness of mobile money

Awareness of mobile money services is a critical step in the mobile money user journey. Key drivers include the maturity and competitiveness of the local market, the presence of extensive agent networks and the robustness of mobile and mobile money infrastructure. As expected in a nascent mobile money market, mobile money awareness in Ethiopia is limited, and women and

those living in rural areas in particular tend to have lower awareness compared to men. In the GSMA Consumer Survey, only 35% of female respondents reported being aware of mobile money compared to 49% of male respondents. This is significantly lower than other Sub-Saharan African markets (Figure 17).

**Figure 17**

Mobile money awareness in Ethiopia compared to other Sub-Saharan African countries (Percentage of total adult population)



Source: 2022 GSMA Consumer Survey



Owning a handset and being aware of mobile money does not necessarily translate into owning a mobile money account, particularly for women.



In Ethiopia, among all adults that have used a mobile phone and are aware of mobile money, only



**18%**

OWN AN ACCOUNT



## 6.3 From mobile money awareness to account ownership and usage

Mobile ownership and awareness of mobile money services are not a sufficient criteria for the adoption of mobile money. In the GSMA 2022 Consumer Survey, mobile handset owners who

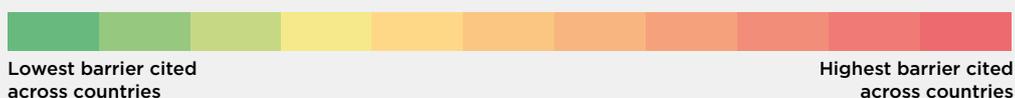
were aware of mobile money but not subscribers to the service identified the following reasons for non-adoption (Figure 18).<sup>85</sup>

**Figure 18**

Barriers preventing men and women mobile money owners from having a mobile money account in Ethiopia

(All mobile owners who are aware of at least one mobile money service but do not have an account)

		Male	Female
Relevance	Preference for cash	41	49
	Alternatives to transfer money	28	36
	Friend/family has mobile money account I can use	3	8
	Use over-the-counter	14	9
	Lack of money	50	50
Knowledge/skills	Don't know how to use mobile money	53	48
	Difficulties using a handset/might make errors	36	41
	Literacy	19	23
Affordability	Cost-effectiveness	23	22
Access/enablers	Unreliable network	25	15
	Lack of access to agents	33	26
	Lack of access to electricity	27	18
	Lack of necessary documentation	5	6
Safety/security	Safety and trust	17	9
	Don't trust agents	10	6
Other	Mobile money agents don't have cash	14	8
	Family does not approve	2	2
	Other	5	2



Source: 2022 GSMA Consumer Survey

85. It is important to note that barriers that prevent mobile owners who are aware of mobile money from opening an account are similar to those preventing mobile money subscribers from being more active users.

## Relevance

Among mobile owners who are aware of mobile money, the main barriers preventing them from owning an account was the lack of perceived relevance of the service to their everyday financial activities. 50% of both men and women in the Consumer Survey reported insufficient funds to warrant opening an account and more than 40% of men and women reported a preference for cash. Similarly, in focus group discussions conducted for this report, many mobile money account owners indicated a preference for cash, especially for small-value transactions, finding it more convenient and quicker to pay than via mobile money, suggestive of a perceived lack of relevance of mobile money for many daily payments.

**“I personally have a resistance to digital payments, I prefer to use cash, and so do my parents. Using mobile money is not worth it for small transactions and reaching in my pocket to get cash is just easier than logging into a mobile money application.”**

**Male respondent, focus group discussions in Addis Ababa**

**“I have telebirr but I use it to buy voice and internet packages. Most merchants either do not accept mobile money or do not advertise it, so I don’t even ask and use cash instead.”**

**Female respondent, focus group discussions in Addis Ababa**

Mobile money service providers will need to expand payment use cases and offer products that are targeted and relevant to end-users to incentivise a shift towards mobile money; these are discussed in section 7. While mobile money is often adopted for simple and secure CICO and P2P transactions, providing a wider range of payment services and adjacent use cases will incentivise more active use.

Crucially, relevance is related to the availability of services in local languages. While Oromo and Amharic are spoken by the majority, Ethiopia has approximately 88 languages. For users to be able to use services, they need to understand them. While telebirr is offered in five different languages, users from minority linguistic groups risk being excluded or face challenges in using the full suite of functionalities of mobile money.

## Knowledge and skills

Approximately half of Ethiopian men and women in the Consumer Survey indicated not knowing how to use a mobile money service as a barrier. Between 30 and 40% were concerned about making errors or indicated difficulties with using a handset.

In focus group discussions, many participants indicated that mobile money applications are not user friendly and require several steps before making a payment. Several participants indicated needing support to use mobile money, especially for unfamiliar transactions.<sup>86</sup>

**“I spend a significant amount of time training and showing customers how to operate their mobile phone, including those who already have basic skills.”**

**Mobile money agent**

Previous research by the GSMA Mobile Money programme highlights the importance of education for individuals to use DFS safely and confidently, including basic and financial literacy. Almost half of Ethiopian adults do not have basic literacy and, at the national level, 57% of men and 43% of women are literate.<sup>87</sup> Adults in Ethiopia have less formal education than those in most other countries in Sub-Saharan Africa, and children are expected to spend less time in formal education than in most other Sub-Saharan African countries. In the Mobile Connectivity Index, Ethiopia’s score stands at 40 out of 100 for Basic Skills.<sup>88</sup>

86. A notable number of participants were also concerned about the irreversibility of transactions made in error.

87. World Bank LSMS (2018/2019).

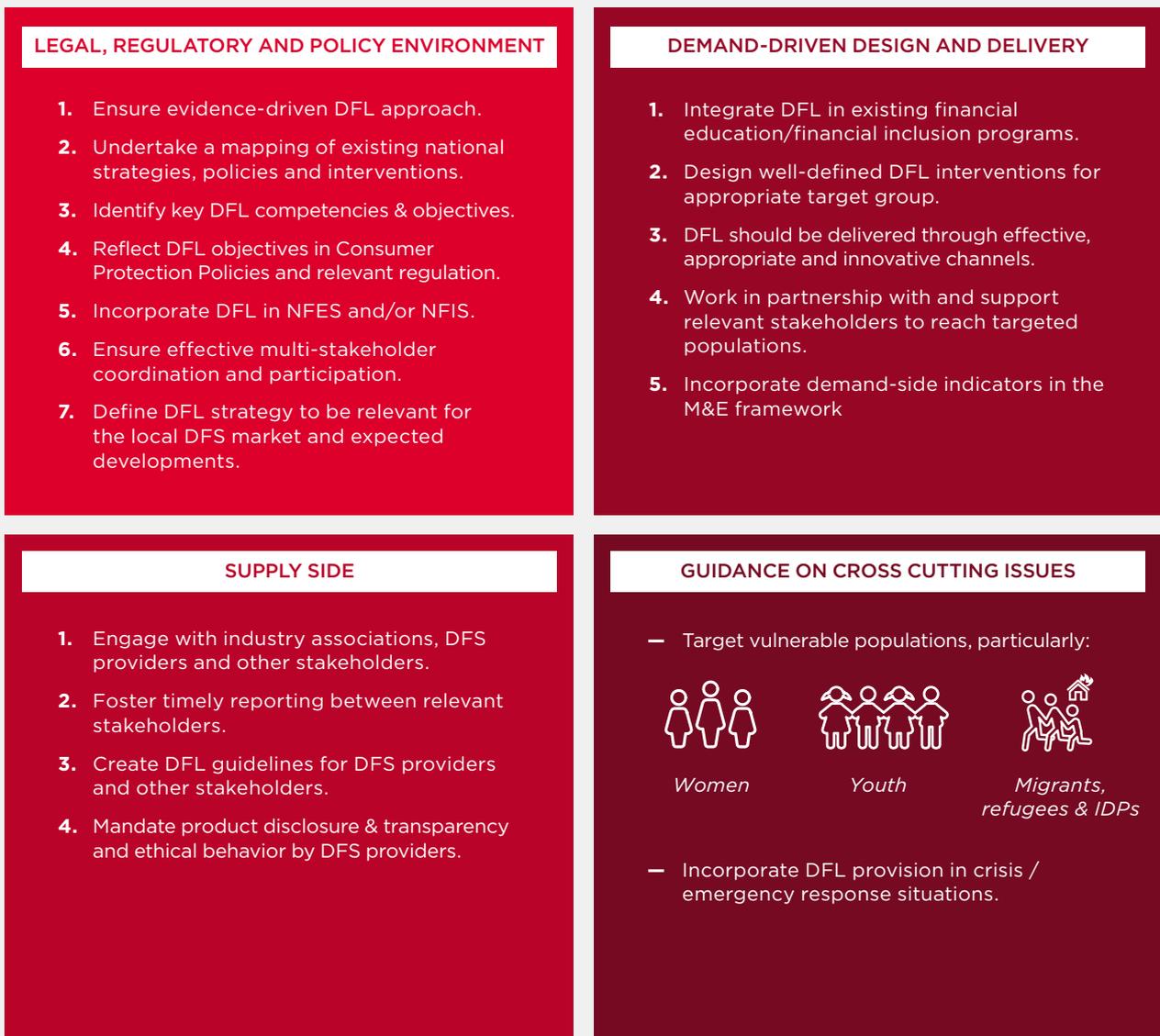
88. See [Mobile Connectivity Index](#).

While mobile money providers have tried to overcome some literacy barriers by offering services that use simpler interfaces and local languages, scaling mobile money will require targeted upskilling strategies and training in rural areas. Improving digital and financial literacy and skills will be critical to drive mobile money adoption and usage.<sup>89</sup>

Beyond improvements in literacy and digital skills, targeted training and information on digital financial literacy would help build consumer

confidence through better understanding of products and associated fees and greater awareness of risks. The Alliance for Financial Inclusion (AFI) has published a toolkit for policymakers and financial sector regulators to incorporate digital financial literacy in national financial inclusion strategies (NFIS) or develop stand-alone digital financial literacy initiatives.<sup>90</sup> Such guidelines may help Ethiopian policymakers and regulators implement the digital financial literacy objectives of the NFIS (Figure 19).

**Figure 19**  
Guidelines for developing a digital financial literacy strategy



Source: AFI<sup>91</sup>

89. According to the UN, Ethiopia has an internally displaced population of 4.2 million and more than 800,000 refugees. Recognising that members of refugee communities in Uganda engaged in agricultural activities and small businesses but were not using any digital payment solutions, in 2019, the GSMA Mobile for Humanitarian team and Grameen Foundation created a [digital literacy and training guide](#) for mobile money agents to introduce displaced communities, and particularly women, to mobile money services.

90. Digital financial literacy is defined by AFI as “acquiring the knowledge, skills, confidence and competencies to safely use digitally delivered financial products and services, to make informed financial decisions and act in one’s best financial interest per individual’s economic and social circumstance.” See AFI [website](#).

91. AFI. (May 2021). [Guidelines for Digital Financial Literacy](#).

One pathway forward to delivering literacy and digital skills at scale is via public-private partnerships. A best practice example is MNO group Airtel Africa, which has been working to improve financial literacy among youth and women under the age of 35. They have done this by building partnerships with private corporations, foundations and multilateral donors to increase investment in literacy. The MNO group has also partnered with local NGOs to implement digital skills initiatives and measure their impact on consumer trust and confidence in using mobile money services.<sup>92</sup>

## Affordability

In the GSMA Consumer Survey, between a fifth and a quarter of men and women who have a mobile phone and are aware of mobile money services but do not use them indicated that the cost of mobile money services is a deterrent to use. Several focus group participants also mentioned the affordability of mobile money services as a barrier.

The price of mobile services, including mobile data, is lower in Ethiopia as compared to its neighbours, but the cost of mobile services in Africa is much higher as a proportion of the GDP/capita as compared to other regions (Table 5).

**Table 5**

Mobile services prices in Ethiopia compared to other East African countries and other regions  
(Gross national income per capita, 2022)

Country	Mobile Cellular low usage basket (70 min + 20 SMS)	Mobile data and voice low-consumption basket (70 min + 20 SMS + 500 MB)	Mobile data and voice high-consumption basket (140 min + 70 SMS + 2 GB)
Ethiopia	1.1	2.3	4.9
Kenya	3.5	2.9	6
Tanzania	1	3.2	6.9
Uganda	4.3	4.6	10.9
Region			
Africa	3.3	6.2	9.3
Europe	0.4	0.5	0.6
Asia and Pacific	0.8	1.5	2.2

Source: ITU<sup>93</sup>

Notwithstanding the challenge presented by the cost of mobile data, it is important, especially in the early days of mobile money, to ensure that a variety of well-designed and intuitive USSD services are available to provide to the needs of users relying on basic and feature phones. While the cost of transactions is indicated as

a challenge by respondents in the Consumer Survey, knowledge and skills to use mobile money, and relevance of the service are notably bigger barriers to adoption (Figure 18).<sup>94</sup> As the market develops, increased competition is likely to bring a wider variety of services and offers, with potential to bring prices down, especially for core services.

92. GSMA. (2022). *Mobile Money and Consumer Financial Health*.

93. See ITU. *ICT Price Baskets*.

94. See GSMA. (2023). *The State of the Industry Report on Mobile Money*.

## Access

Around 30% percent of mobile owners who are aware of mobile money but do not have an account cited lack of access to agents as a challenge (Figure 18). As previously discussed, agent networks play a key role in enabling access to DFS, especially in rural areas. Although they are growing, agent networks remain out of reach for many of those living in rural areas.

Lack of electricity was also reported as a barrier by 27% of men and 18% of women (Figure 18). Only around half of Ethiopians have access to electricity, mostly in urban areas: 93% of urban residents have access to electricity compared to 39% of rural residents.<sup>95</sup> This has a significant impact on mobile money uptake as around three-quarters of the population live in rural areas.

Similarly, unreliable connectivity was cited as an important barrier to account ownership in the Consumer Survey. Ethiopia benefits from relatively good network coverage<sup>96</sup> but network quality varies, especially in rural areas. Focus group discussions participants reported disrupted transactions due to erratic connectivity as a key barrier to usage.

**“Mobile money makes my life easier, but sometimes the network is not good, and I have to try multiple times to make a transaction successfully.”**

**Male respondent, focus group discussions in Oromia**

## Safety and security

Issues of safety, security and trust are intertwined. Consumer Survey respondents and focus group discussions participants commonly cited safety and trust as key barriers to both account ownership and usage.

A significant number of focus group participants who were inactive mobile money subscribers identified the concern with being defrauded as the reason. Lack of trust in mobile money is partly linked to low digital and financial literacy, which increases vulnerability to theft and scams. Trust is also undermined by poor network quality in rural areas, which makes transaction errors more likely. In addition, some focus group participants voiced concerns that loss of their mobile phone could compromise their mobile money account. Many participants, especially those based in urban areas where banking services are easily available, therefore indicated having a higher trust in banks than in mobile money services, depositing only small amounts in their mobile money wallets to minimise any losses from fraud.

Lack of trust in agents was also reported as a barrier. The perception that agents may not be well-trained to handle transactions and might make mistakes creates mistrust. Focus group discussions participants highlighted the need for better handling and communication of errors by agents when using mobile money.

**“I trust banks more, it is difficult to trust agents since there is no set system where you can report if you face issues like losing erroneous transfers.”**

**Male respondent, focus group discussions in Addis Ababa**

95. World Bank. (2022). *Tracking SDG 7: The Energy Progress Report 2022*.

96. Ethio Telecom currently estimates their 3G network coverage at 97% of the country. The MNO has announced the expansion of their 4G network to 181 towns nationwide, and is planning to launch pre-commercial 5G networks in six sites around Addis Ababa. In addition, Safaricom, which launched mobile services in Ethiopia in October 2022, has 847 network sites in 22 cities as of January 2023. See: Safaricom (15 February 2023). [Safaricom PLC Investor Day](#).

## 6. MOBILE MONEY USER JOURNEY

Digital financial literacy and targeted campaigns to make customers aware of the risks can reduce incidents of fraud and empower consumers to use mobile money with more confidence. MMPs can also establish clear redress mechanisms for victims of fraud where the liability lies with them. They should adapt these solutions to the need of excluded groups such as women and rural residents. Tokenisation, a process by which a mobile phone number is replaced with a unique string of numbers for a mobile money transaction, enables women to keep their mobile phone number private, feel more secure and reduce the chances of harassment and scams.<sup>97</sup>

Given the central role of agents in advancing financial inclusion, building a skilled and trustworthy network of agents must be a priority for Ethiopia. Qualitative research with mobile money agents in Uganda in 2022 indicated that agents played an important role in promoting consumer protection and limiting fraud by advising their customers to not share their PIN and to change it frequently, displaying MNO marketing collateral on safety and security at their outlets and even installing cameras to deter fraud.<sup>98</sup> To drive adoption and active usage of mobile money, Ethiopian MMPs will need to find innovative ways to prevent fraud and network disruptions and build consumer trust.



97. The GSMA Inclusive Tech Lab, the GSMA Connected Women programme and MTN Ghana have been collaborating to trial mobile tokenisation for women. See: Kumire, J. (10 January 2022). ["Protecting women's identities through mobile tokenisation"](#). *Mobile for Development Blog*.

98. Valenzuela, M., Medine, D., Sood, S. and Aadil, A. (14 December 2022). ["How are mobile money agents protecting customers' data in Uganda?"](#) *CGAP Blog*.

# 7. Diversifying use cases to drive usage



Mobile money services require patient capital due to hefty infrastructure, marketing and agent management costs. Given that mobile money relies on high levels of adoption for profitability and transactions are typically small, reaching scale is essential for success. With urban areas often saturated with competing financial service providers, it is important to reach rural areas with use cases that are relevant to the market.

As in other mobile money markets, airtime top-up is a common entry point to mobile money adoption in Ethiopia. Telebirr offers bonus airtime for top-ups via USSD or their app and has linked microcredit for airtime to a minimum number of mobile money transactions to further incentivise use.

Although P2P payments are another popular mobile money use case, in urban areas they face competition from traditional banks that use their mobile banking channels for free P2P transfers within the same bank and for a small fee across banks. In this context, MMPs may struggle to monetise P2P transfers.

More advanced payment use cases include G2P/P2G transfers, retail/merchant payments, international remittances, humanitarian aid disbursements and agricultural payments. Adjacent, non-payment use cases include savings, credit and insurance. The relevance of these products and services to underserved segments in Ethiopia and market readiness for adoption are discussed in the following sections.

## 7.1 G2P/P2G payments

The Ethiopian government plays a major role in the national economy, which until recently was based on a state-led development model. Since state-owned enterprises have significant investments and ownership in economic activities, G2P and P2G use cases are critical to boosting mobile money adoption and transactions.

The government recognises the role that G2P/P2G use cases can play in financial inclusion and has been digitalising P2G payments such as for traffic violations, and mandated digital-only payments for fuel purchases. The Ministry of Trade is also adopting telebirr to enable traders to pay for services like commercial registration, trade licences and trade name-related service fee payments.

### Bill payments

Only 3% of Ethiopians used a mobile phone or the internet to pay bills in 2022. In the case of utility bill payments to the government, in 2022,<sup>99</sup> the Ethiopian Information Network Security Administration (INSA) integrated its water and sewage payments service, Derash<sup>100</sup> with telebirr, making it possible for residents of seven townships to make payments through mobile money. As of March 2023, Derash had integrated with 17 municipal water service providers.<sup>101, 102</sup> While these services are available, there is a need to encourage usage as most Ethiopians still pay their bills in person and in the form of cash, which can be time-consuming and inconvenient.

Digital financial service providers, including MMPs, are working on facilitating bill payments such as airline ticket purchases with Ethiopian Airlines, payments for TV subscriptions and school fees. However, because of lack of payment gateways, currently each mobile money service must be integrated with each billing organisation to process payments. Investment in payment aggregators would help facilitate more convenient bill payments through mobile money.

99. World Bank Global Findex: Ethiopia data for 2022.

100. See: [Derash website](#).

101. Source: Ethio Telecom [Telebirr App](#).

102. Derash aims to become a bill aggregator and bring billers and payment providers onto a single platform, providing a more convenient mobile money payment solution.

## Tax collection

Another important P2G use case is tax collection. Ethiopia currently lags its neighbours in tax revenues as a percentage of GDP (Table 6).

Small, medium and large enterprises are the primary source of tax revenue and 770 large taxpayers accounted for 70% of tax collection in 2019.

**Table 6**  
Tax collection in Ethiopia compared to regional peers

Country	Tax revenue (% of GDP)	Year
Ethiopia	6.2	2020
Kenya	14.3	2020
Rwanda	15.1	2020
Tanzania	11.7	2018
Uganda	11.4	2020

Source: World Bank

Under a high adoption scenario, mobile money could improve tax collection by 2.4 percent by 2030, by widening the tax base. This has been evidenced in Kenya where tax payments through mobile money averaged \$1.1 million per month and collections increased by 95% in 2019/2020 compared to the previous year.<sup>103</sup>

The increased digitalisation of tax collection is already resulting in more payment compliance<sup>104</sup> in Ethiopia and the Ministry of Revenue has introduced E-Tax, an electronic payment scheme, to collect revenues.<sup>105</sup> In February 2023, the Ministry of Revenue announced a partnership whereby the telebirr app and USSD interface can be used to pay taxes, and merchants can pay taxes directly on sales. Piloted by the Addis Ababa Revenue Bureau to collect taxes from selected businesses, a federal roll-out is planned with the support of foreign investment.<sup>106</sup> In addition, in April 2023, Ethio Telecom announced a partnership with the Ethiopia Customs Commission (ECC) to process customs payments through the telebirr app as well as USSD interfaces.<sup>107</sup>

## Social protection

In 2005, the Ethiopian government launched the largest social protection programme in the region, the Productive Safety Net Programme (PSNP),<sup>108</sup> which offers support to between seven and eight million households suffering from food insecurity via bi-annual payments. The mobile banking services M-Birr and HelloCash were utilised for part of these disbursements between 2016 and 2020, though later switched to disbursements via bank accounts.

Safety net payments to 1.5 million underserved households that are part of the PSNP are currently disbursed using bank transfers while the bulk remain cash-based. Ethio Telecom is aiming to conduct a pilot with the PSNP in partnership with the Ministry of Agriculture to deliver assistance via mobile money, in order to reach millions of households more conveniently and transparently.

103. Fiscal year 2019/2020 saw a 95% increase in tax payments via mobile money from the previous fiscal year. OECD and Kenya Revenue Authority. (2021). [Leading country example: Kenya-Digital tax.](#)

104. Bloomberg Tax. (27 April 2022). [E-Tax roll-out in Ethiopia: a challenging road to renaissance.](#)

105. Ethiopian Business Review. (June 2023). [E-tax goes live.](#) See also [Derash.](#)

106. FurtherAfrica.com (10 February 2023). [Ethiopia teams up with Ethio to collect taxes via telebirr.](#)

107. Ethio Telecom. (April 2022). [Ethio Telecom and the Ethiopian Customs Commission sign a strategic partnership agreement to collect tax and customs payments via telebirr.](#)

108. Capacity4Dev. (2014). [Productive Safety Net program in Ethiopia.](#)

## Public sector wages

Salary and pension payments for nearly half a million public sector employees offer an opportunity for mobile money G2P payments.<sup>109</sup> Only 0.3% of all people who work in the public sector and receive any money from the government reported receiving it using a mobile phone.<sup>110</sup>

The Ethiopian government is driving the digitalisation of G2P/P2G payments in partnership with Ethio Telecom, which is an opportunity to drive financial inclusion. However,

the exclusive or primary use of telebirr for G2P/P2G payments puts the expected gains of market liberalisation – fair competition and better-quality services and products – at risk.

Moreover, interoperability remains limited due to a lack of payment aggregators. For G2P/P2G payments, both parties must currently have accounts with the same service provider, which is a barrier to scale.

## 7.2 International remittances

Remittances are an increasingly prominent mobile money use case. Globally, the GSMA found that the number of international remittances sent and received via mobile money grew by 48% in 2021, reaching \$16 billion,<sup>111</sup> and the World Bank's Remittance Price Worldwide survey found that in the first quarter of 2022, the average cost of sending \$200 in international remittances using mobile money was 2.77% compared to the global average of over 6% using all available channels.<sup>112</sup>

Ethiopia has a large diaspora population, estimated at approximately 2.5 million. The UNCDF estimates that 1.3 million migrants send close to \$5 billion to Ethiopia every year, accounting for 5% of GDP and a quarter of foreign exchange earnings.<sup>113</sup> Mobile money can be used to facilitate these remittances quickly and securely. Providers such as Western Union, MoneyGram, Dahabshiil and World Remit, all offer mobile money transfer services to Ethiopia.

The National Digital Payments Strategy (2021–2024) prioritises the use of digital payments for international remittances, and in 2021 the Government of Ethiopia issued an International

Remittance Service Directive (FXD 74/2021)<sup>114</sup> to enable MNOs to provide remittance services in partnership with international remittance service providers.

Mobile banking and mobile money providers such as telebirr, CBE Birr, Amole and HelloCash are incentivising the use of mobile money accounts to receive remittances. Telebirr, for example, offers a 5% bonus to customers who use mobile money to receive remittances. The use of mobile money for remittances would be an important revenue stream for service providers, both from balances held in accounts and from foreign exchange commissions.

However, regulatory restrictions on outbound remittances via mobile money services act as a barrier. The disparity between the official and underground exchange rates on foreign currency in Ethiopia also has an impact on remittance flows. Nevertheless, Ethio Telecom announced that they have processed more than \$1.95 million in remittances from 44 countries through the telebirr, an indication that remittances should be a priority for new market entrants.

109. FSD Kenya. (2023) *Kenya launches QR code standard to improve digital payments*.

110. Source: [World Bank Data portal](#).

111. GSMA. (2020). *Digitising payments in agricultural value chains: the revenue opportunity to 2025*.

112. Ibid.

113. Singh, S.N. (2022). *Coffee Value Chain in Ethiopia: A Case Study*. Financial Markets, Institutions and Risks, 6(4), 76-100.

114. National Bank of Ethiopia. (2021). *International Remittance Service Directive FXD 74/2021*.

## 7.3 Merchant payments

Merchant payments are another major use case with potential to scale. For MMPs, they are commercially more attractive than basic services such as airtime payments, which generate limited revenue. Also, the transaction data generated by mobile money merchant payments can be extremely valuable in developing tailored in-house and third-party products and better serving retailers and their customers. MMPs in Ethiopia have yet to reach the retail market and most transactions are still cash-based.

Almost all banks in Ethiopia are offering retail payments through card payment and mobile banking platforms. Payment integrators such as Chapa Pay, which launched the first payment gateway in 2022, are also enabling Ethiopian businesses to process their payments both nationally and internationally.

However, according to the latest Global Findex data, only 2.5% of adults in Ethiopia have made a digital merchant payment. Adoption has remained low for several reasons. First, mobile money transactions incur a cost compared to using cash – a deterrent for low-income populations. Second, mobile money transactions can only be conducted when the merchant and customer are using the same mobile banking service, due to limited interoperability.<sup>115</sup> Finally, where network quality is poor, transactions may fail to be completed or take time. These challenges disincentivise merchants from adopting mobile money payments.

While there is no systematic study of the impact of using mobile money on the profitability of micro, small and medium-sized enterprises (MSMEs) in Ethiopia, anecdotal evidence suggests significant positive impacts on the profitability and resilience of MSMEs that adopt mobile money services.<sup>116</sup> Ethiopia has approximately 800,000 registered MSMEs but this number is significantly higher when the informal sector is taken into account.<sup>117</sup> A targeted approach to digitalising mobile money payments for formal and informal vendors with tailored products could be a win-win for both mobile money services and MSMEs.

Lessons from other markets suggest that digitalising merchant payments requires a considered, localised strategy (Box 8), and is likely to be a medium-term opportunity requiring patient capital.

115. EthSwish is in the process of standardising QR codes for payments, so that merchants can accept digital payments using a single QR code for every payment service provider.

116. UNCDF. (2018). *Mobile money doubled my number of customers in just 3 years*.

117. Development Alternatives Incorporated (DAI). (2020). *Transforming Financial Service Markets for micro, small and medium enterprises through direct technical assistance to financial institutions*.

## BOX 8

## Digitalising merchant payments

Recognising the commercial significance of merchant payments, in 2014 Vodacom Tanzania leveraged their market share to launch a tailored product for merchants, Lipa Kwa M-Pesa. Initially, uptake was low. While more than 40,000 merchants tried it, very few adopted it. Merchants viewed it as an alternative payment system but did not see any reason to switch to it from cash, especially with the levy on transaction fees. In addition, switching to a system that not all customers would be able to use (Vodacom was one of many MMPs in the market) was not compelling.

Market research led Vodacom to change their strategy, making the service interoperable, removing fees and tailoring products to merchants' needs. Recognising that scale was needed and the focus had to shift to medium- to long-term gains, Vodacom's new strategy led to much higher uptake of the service.<sup>118</sup>

In 2019, the GSMA assessed the impact of the MoMo Pay mobile money service on Ghanaian entrepreneurs and their customers, particularly women merchants in open

markets.<sup>119</sup> Surveys with users in open markets indicated that women merchants were key in driving the adoption of mobile money services by female customers and educating them to use the services. Women entrepreneurs who were using MoMo Pay saw an average increase of 17% in transaction volumes and a 29% increase in transaction values. The case of MoMo Pay shows that on-boarding female informal market retailers to mobile money services can be a viable pathway to scale up merchant payments, also enhancing the profitability of micro enterprises.<sup>120</sup>

In Uganda, innovative payment solutions have emerged to facilitate informal businesses. In 2022, Airtel launched Airtel Micro Merchant, a product that enables retailers to separate personal and business account transactions by using a USSD code to generate a merchant till number that can be used for payments to the till account rather than the personal wallet. The funds can also be easily transferred from one account to the other. The product enables merchants to create merchant accounts without having to go to Airtel outlets and agents to fill out cumbersome registration forms.<sup>121</sup>

Quick Response (QR) codes are an opportunity area. The Central Bank of Kenya has established a standard for QR codes, with the collaboration of industry players, to enable merchants to accept digital payments more easily.<sup>122</sup> Merchants will be able to offer a quick and easy payments process to customers,

which is expected to increase uptake of digital payments. In Ethiopia, EthSwitch has indicated it is working on QR codes interoperability. However, since QR codes require a smartphone, currently unaffordable for a majority of Ethiopians, QR codes will likely facilitate merchant payments for only a subset of the market.

118. CGAP. (October 2019). [Tanzania: The Vodacom Turnaround Story](#).

119. GSMA. (2019). [MTN MoMo Pay Merchant Payments: Expanding Women's Mobile Money Use in Ghana](#).

120. Ibid.

121. See the [Airtel Uganda website](#).

122. FSD Kenya. (2023). [Kenya launches QR code standard to improve digital payments](#).

## 7.4 Agricultural payments

67% of Ethiopia's population depends on agriculture for their livelihoods.<sup>123</sup> With agriculture the backbone of the rural economy, digitalising G2P agricultural payments (e.g., agricultural subsidies) and B2P agricultural payments for the sale of crops from farmers to agribusinesses is an opportunity to drive mobile money growth in rural areas. The benefits of digitalising agricultural payments for MMPs include revenue from transaction fees, but also wider reach, increased use of the network and potential uptake of products such as agricultural insurance and loans. Meanwhile, farmers benefit from financial inclusion, time and cost savings and tailored products and services.<sup>124</sup>

The successful digitalisation of payments requires a range of enabling conditions, such as reliable networks in rural areas, an agent network that can inform and onboard farmers, and efficient liquidity management to ensure agents have cash at the time of agricultural payments. In most markets, digitalising agricultural payments has been most viable in formal agricultural value chains where a buyer, such as an agribusiness or cooperative, purchases and aggregates from smallholder farmers rather than in an informal value chain where there are many actors (e.g., middlemen) between the farmer and market.<sup>125</sup>

In Ethiopia, coffee is a prominent formal value chain and a major cash crop. It provides 25 -35% of the foreign exchange earnings and contributes about 5% to the country's GDP.<sup>126</sup> Nearly 95 percent of the coffee produced in the country is grown on smallholder farms, who are largely organised in cooperatives. According to the most recent data, there are over 15 million cooperative members in Ethiopia, with coffee representing the main cash crop. Digitising B2P payments, in the coffee and in other prominent value chains (e.g., cereals, pulses, oilseeds) could be a major opportunity to drive financial inclusion via mobile money.

Best practice examples exist from other African countries. In Rwanda, savings and credit cooperatives (SACCOs) have been successful in digitalising payments to tea farmers. According to a 2021 study by the Better than Cash alliance, mobile money led to an 87% reduction in the time it took for Rwandan farmers to get paid, while factories benefitted from a 10% reduction in worker costs and a 30% increase in productivity.<sup>127</sup>

In Tanzania, the GSMA supported Vodacom's product, M-Kulima, to digitalise the cotton value chain, enabling agribusinesses to pay farmers through mobile money rather than in person at payment centres.<sup>128</sup> From digitalising B2P payments, M-Kulima has expanded to offer digital agricultural advisory to farmers and is also providing credit scoring for loans.

Such solutions are helping both farmers and agribusinesses addressing the key pain point of handling cash in agricultural value chains. Importantly, for farmers digital profiles and digital payments are important steps in building transaction histories and economic identities, that can be used for credit scoring, opening up the possibility of accessing loans, credit, and insurance.<sup>129</sup>

123. Source: [World Bank Data portal](#).

124. GSMA. (2020). [Digitising payments in agricultural value chains: the revenue opportunity to 2025](#).

125. Ibid.

126. Singh, S.N. (2022). [Coffee Value Chain in Ethiopia: A Case Study](#). Financial Markets, Institutions and Risks, 6(4), 76-100.

127. Better than Cash Alliance. (2023). [Scaling up responsible digital payments in the Rwandan tea sector](#).

128. GSMA. (2 November 2021). ["Thinking Outside the Box: Vodacom Tanzania Agri Digitisation Journey"](#). Mobile for Development Blog.

129. GSMA. (2019). [Improving financial inclusion through data for smallholder farmers](#).

## BOX 9

## Digitalising payments in the coffee value chain

In East Africa, several examples exist of coffee value chain digitalisation. Kenya is, however, the only market where there has been significant uptake of mobile money payments. Juhudi Kilimo, a Kenyan MFI serving smallholder farmers and micro entrepreneurs in rural areas, has a platform that enables farmers to receive payments for their coffee directly into a digital wallet. Since 2019, the MFI has used M-PESA also for loan disbursements process. Kenyan agritech company iProcure has integrated digital payment functionalities into their systems. Farmers can sell their coffee online and receive payments directly to their bank accounts or mobile wallets.

In Uganda, there have been pilots since 2015, when both MNOs UTL and MTN started digitising coffee payments. MTN partnered with the United Nations Mobile Money for the Poor (MM4P) and exporter Kyagalanyi Coffee to digitalise the coffee value chain in two remote regions. Kyagalanyi was incentivised to digitalise payments to lower long-term costs, improve financial transparency and establish better connections with farmers. With support from UNCDF, MTN built a CICO agent network, on-boarding more than 20,000 customers and

managing to convert half of this base to 90-day active users.<sup>130</sup>

### Key lessons from these initiatives include:

- Agricultural value chains are structured and operate in different ways, and there is no one-size-fits-all strategy for digitalising payments. Strategies must therefore be tailored to production conditions (e.g., seasonality of payments and cash needs).<sup>131</sup>
- Digitalising agricultural payments requires complex partnerships and clear incentives for all actors involved, including agribusinesses, payments processors, MMPs, agritechs, NGOs and MFIs. Driving adoption requires significant patient capital.<sup>132</sup>
- Efforts must be put into building the knowledge and skills of farmers and in building the agribusinesses and cooperatives to adopt digital payments. Mobile money payments are likely to not be immediately perceived as more convenient, and rural users are more likely to face challenges related to basic digital and financial literacy.<sup>133</sup>



**A key issue affecting farmers is the presence of middlemen in the sales process, eroding the farmers' profits. Usage of mobile money by farmers is very nascent. Market linkages with potential buyers and digital payments could help significantly. We also need e-commerce platforms where smallholder farmers can sell their products and be paid digitally. And farmers need to be educated on the use of mobile money services by agents."**

**Key informant interview**



130. CGAP. (2018). *Digitising Agricultural Payments: Lessons from Uganda's coffee value chain*.

131. Ibid.

132. Ibid.

133. Ibid.

## 7.5 Humanitarian payments

Humanitarian transfers using mobile money refer to the use of mobile wallets for delivering cash transfers in response to humanitarian crises or emergencies, such as droughts, natural disasters, conflict or displacement. This approach leverages the existing mobile money infrastructure to disburse funds quickly and efficiently to affected populations, allowing them to meet their immediate needs for food, shelter and other essentials.

MMPs work with humanitarian organisations and donors to design and implement programmes that leverage the advantages of mobile money, including the ability to reach remote or hard-to-access areas, as well as transparency and accountability. By using mobile money for humanitarian transfers, organisations can also reduce the costs and risks associated with traditional delivery mechanisms such as physical cash or in-kind aid.

The GSMA identified 23 cash voucher assistance programs being delivered by non-governmental organizations (NGOs) in Ethiopia at the end of 2019.<sup>134</sup> The most notable of these included programs by World Vision, Save the Children, World Food Partnership and the United Nations Refugee Agency. Most programs chose to deliver assistance in cash while a few utilised bank accounts. The World Food Program's fresh food voucher project,<sup>135</sup> however, utilised mobile banking accounts. While the programme delivered positive results, disbursements via a mobile phone voucher scheme faced a number of challenges, including technical challenges in registration, transfer and redemption processes as well as an unreliable network.<sup>136</sup>

Mobile banking usage has remained low for humanitarian transfer partly because of the time that adoption tends to take, which is not feasible for projects that have short timelines. The absence of mobile money agents in rural and remote areas, and payment interoperability challenges have also made the delivery of humanitarian aid via mobile banking challenging.<sup>137</sup> The GSMA Mobile for Humanitarian team has identified three key progressive actions for humanitarian agencies looking to use mobile money for disbursement:

- Decide on a delivery mechanism based on end-users needs;
- Select a service provider that is appropriate for the specific intervention, and define clear service-level agreements;
- Implement with the roles and responsibilities of each partner clearly defined.<sup>138</sup>

While there is significant opportunity to leverage mobile money for aid disbursement, it requires complex coordination and longer term projects are likely to see more success.

134. GSMA. (2021). Humanitarian cash and voucher assistance programs in Ethiopia; context analysis and capability assessment of the mobile money ecosystem.

135. Nutrition for growth. Impacting Nutrition: The World Food Programme fresh food voucher program in Ethiopia.

136. World Food Programme. (27 October 2020). Ethiopia, Support for strengthening resilience of vulnerable groups: the fresh food programme expansion: Evaluation.

137. Ibid.

138. GSMA. (2021). *Humanitarian cash and voucher assistance programs in Ethiopia; context analysis and capability assessment of the mobile money ecosystem*.

## 7.6 Nascent opportunities

E-commerce, which is nascent in Ethiopia, offers a longer-term commercial opportunity. The Government of Ethiopia has drafted a proclamation governing e-commerce that is under review.<sup>139</sup> Lessons from other markets indicate that mobile money services can facilitate e-commerce payments, and that mobile money agents can additionally act as delivery points for e-commerce goods. In addition, mobile money transactions can generate valuable data that can be shared, whilst upholding the highest levels of personal data privacy and protection, which e-commerce companies can use to target their strategies, products and marketing efforts.

Transport payments also offer an opportunity for digitalisation and are beginning to be integrated with mobile money. For example, telebirr has partnered with RIDE, a local ride-hailing company, to enable payments via mobile money, while the mobile banking service E-Birr is working with the ride-hailing company Feres to enable mobile money payments.

Finally, as only around half of Ethiopians have access to electricity (and only 39% of the rural population), there is an opportunity to offer off-grid solar home systems via pay as you go (PAYG) models. PAYG can boost MMPs, revenues through increased mobile money transactions while serving as an entry point for financial inclusion (Box 10).

### BOX 10

## Advancing mobile money via PAYG energy services

Over the past decade, PAYG solar energy systems have emerged as an important use case in various countries across Sub-Saharan Africa. PAYG solutions can lower operational costs for service providers while allowing decentralised energy services to scale and reach more customers. Between 2010 and 2021, solar energy kits provided more than 490 million people with energy services.<sup>140</sup>

Evidence from a multi-country study on the value of PAYG for MNOs showed that around a fifth of mobile money customers

activated or reactivated their account when they subscribed to PAYG off-grid energy services. It also found that PAYG customers make significantly more, and more diverse, transactions than regular MNO customers.<sup>141</sup>

By providing solar home systems (SHS) through PAYG, many companies have developed expertise in asset financing for low-income consumers. Previously unbanked users have been able to build a credit history and get access to a wider range of products and financial services.<sup>142</sup>

To achieve sustainable growth and profitability, MMPs will need to look beyond payment use cases and offer more advanced financial services, such as savings, credit and insurance. These

advanced services have higher revenue margins and offer greater potential for differentiation and value-add for consumers.

139. International Trade Administration. (2022). *Ethiopia - Country Commercial Guide*.

140. World Bank. (2022). *Off-Grid Solar Market Trends Report 2022: State of the Sector*.

141. GSMA. (2020). *The value of Pay-as-you-go Solar for mobile operators*.

142. GSMA. (2023). *The State of the Industry Report on Mobile Money*.

## 7.7 Microfinance

Lessons from more mature mobile money markets indicate that low-income rural populations that are accustomed to a cash and informal savings culture see little value in using formal financial services that are not targeted to their needs. Yet, savings and the responsible provision of credit and insurance can provide pathways to better livelihoods, strengthen household and business resilience and cushion economic shocks. Traditional financial institutions, with challenging KYC processes, limited banking outlets and collateral demands that rural populations generally cannot meet, have historically limited the financial inclusion of rural communities.

However, MFIs, first launched in 1995 with a specific mandate to reduce poverty and support rural livelihoods via savings and credit, have had a strong presence across Ethiopia. Still, demand for MFI services, especially credit, has remained low, and rural populations have continued to prefer saving through informal savings groups.

The most recent Global Findex data shows that the number of people who saved any money decreased from 62% to 53% between 2017 and 2022, and only 46% of women and 60% of men reported saving anything in 2022 (Table 7), with a preference for informal savings mechanisms.

**Table 7**  
Savings channels in Ethiopia (2017 vs. 2022)

Year	Saved any money (15+)	Saved at a financial institution	Saved via mobile money	Saved using a savings club or person outside the family
2017	62%	26%	-	38%
2022	53%	23%	2%	30%

Source: World Bank Global Findex: Ethiopia data for 2022

Similar to informal saving trends, 40% of people borrowed money in 2022, with 30% borrowing from friends and family and just 5% from a formal financial institution. There are also few insurance products available in the market. Leveraging mobile money for tailored microsavings, microcredit and insurance products could help households in Ethiopia build financial capacity and resilience.

### Microcredit

When provided responsibly, credit can solve both short-term and long-term challenges. MSMEs can invest in their future while households can overcome the impact of unexpected financial shocks. Globally, credit has been the most prevalent non-payment financial service offered by MMPs.<sup>143</sup>

A recent study of agricultural loans in Ethiopia found that rainfall variability impacts the demand for credit by smallholder farmers due to the uncertainty of crop yields<sup>144</sup> and, therefore, their ability to pay back the loan. Crop insurance could stimulate the uptake of credit for agricultural inputs. Another factor impacting the uptake of credit is the time it takes for loan disbursements, but microcredit offered through mobile money services can tackle this problem. Long-term mobile money use also de-risks

**“There is a need for capacity building in the private sector. Private sector players need to identify financial products that will scale and address the needs of both men and women- more research is needed to develop relevant products.”**

**Key informant interview**

143. GSMA. (2023). *State of the Industry Report on Mobile Money 2023*.

144. Abay, K.A. et al. (January 2022). *“Does rainfall variability explain low uptake of agricultural credit? Evidence from Ethiopia”*. *European Review of Agricultural Economics*, Volume 49, Issue 1, pp. 182-207.

## 7. DIVERSIFYING USE CASES TO DRIVE USAGE

larger agricultural loans by enabling the use of transaction histories to assess credit risk.

Similarly, for many informal and small traders, microloans through mobile money services enable them to purchase stock that, once sold for a profit, can be paid back, even on a daily basis, supporting livelihoods.

**“Credit assessment is a challenge in Ethiopia. MFIs do have records but these are somewhat informal and dispersed. Banks are better able to provide credit assessments for their customers. National identity for credit provision is also a big challenge; the local Kebele card can be easily used for fraud. And finally, for MFIs, sufficient liquidity to provide credit has been a third challenge.”**

**Key informant interview**

Telebirr is disbursing microloans with their credit product, Mela, to enable small merchants to set up or expand their businesses. Customers with an

Ethio Telecom SIM and a three-month transaction history on telebirr can apply for a loan of 1,000–36,000 birr (\$18–\$660). Employees receiving salaries in telebirr accounts can also apply for a loan through the product. Telebirr states that it has already disbursed more than 600,000 microloans, much more than banks, indicating the viability of tailored financial products and the quick vetting and disbursement system that mobile money offers.

Women business owners would particularly benefit from access to microcredit, as they are less likely than men to have access to collateral to apply for loans. However, evidence from GSMA research with female microentrepreneurs in Ghana found that women tend to perceive mobile money services, including microcredit services, as being of less value than their male counterparts, due to lower awareness of, and confidence in the use of, these services.<sup>145</sup> Despite the benefit that access to more advanced services such as credit can bring, women tend to prefer engaging in more basic transactions such as sending and receiving money. Hence, products and strategies that target women entrepreneurs are needed to ensure inclusive uptake of mobile money services beyond payments and transfers.<sup>146</sup>

### BOX 11

## MTN Rwanda’s digital agricultural credit products

In Rwanda, MTN is designing a digital input credit product for farmers in partnership with NCBA, an FSP, with support from the GSMA AgriTech Innovation Fund. Building on the experience of MoKash, a digital savings and instant loan product for the mass market launched in 2017, MTN and NCBA aim to become relevant to farmers by offering bundled DFS, including savings, short-term loans and insurance. With a large customer base and trusted and recognised brand, MTN Rwanda is responsible for KYC verification, marketing and distribution, customer engagement and data collection. NCBA, meanwhile, has developed an in-house credit-scoring model for digital lending based on more than 160 mobile money variables, including the recency, frequency and monetary value of mobile money transactions.



145. GSMA. (2023). *Empowering women micro-entrepreneurs through mobile*.

146. Ibid.

## Microsavings

Savings are key to driving financial inclusion as they enable account holders to meet their business, household and educational needs, particularly when they are coping with irregular income or financial shocks during emergencies. An increasing number of MMPs are offering their customers savings accounts. As mobile money adoption scales in Ethiopia, providing a formal, safe and convenient savings solution via mobile money could enhance livelihoods.

According to a report by Ethiopia's Federal Cooperative Agency, there are more than 9,000 cooperatives and over 21,000 SACCOs in the country, with a membership of approximately 17 million men and 10 million women.<sup>147</sup> In Ethiopia, like elsewhere, informal savings groups tend to collect and store cash, which exposes them to the threat of theft, and paper records of financial transactions make recordkeeping less reliable. Community members must attend meetings in person to deposit savings or obtain credit. Ensibuuko,<sup>148</sup> a GSMA Innovation Fund grantee, is a successful example of a digital solution that formalises savings at cooperatives and SACCOs. Ensibuuko initially set up the Mobis platform to provide informal savings groups with a mobile-enabled solution to manage their records. It then partnered with mobile operators MTN and Airtel, connecting Mobis via an open API with Airtel's mobile money service so that informal savings groups and cooperatives registered on Mobis can use mobile money services to conduct digital financial transactions.

## Microinsurance

Microinsurance can have a transformative impact, as it can shield millions of people from economic shocks that would otherwise keep them locked in poverty. Many Ethiopians rely on alternative, informal coping mechanisms in times of need, such as loans from friends, family and community members, life savings and selling assets. With insurance, reliance on these coping mechanisms can be reduced, providing greater household security.

To be successful, insurance products must be not only highly tailored to the needs of users but also provide incentives to stimulate usage. The impact evaluation organisation 3ie<sup>149</sup> conducted a randomised control trial with over 8,000 farmers in rural Ethiopia, offering insurance against weather risks in partnership with the Oromia Insurance company. For one set of farmers, the product was promoted by iddirs, local community-based informal financial associations. For another, uptake was incentivised by an IOU model<sup>150</sup> and a binding contract, whereby farmers could pay post-harvest for the insurance. Both strategies were only somewhat successful independently. However, offering IOUs for premium payments with binding contracts and marketing via iddirs together increased uptake from eight to 30% with little risk of default.<sup>151</sup>

Lessons from other markets suggest that bundling microinsurance with other products may be a more successful strategy for adoption. In Zambia, digital hospital and life insurance product aYo is bundled with the purchase of MTN airtime, providing 30-day coverage for hospital stays (Box 12). However, it is important that customers clearly understand the product they are purchasing, including the cost and security provided.

147. International Cooperative Alliance-Africa. (2021). [Mapping: Key Figures Report](#).

148. See Ensibuuko website.

149. 3ie impact. (2020). [Improving trust and relaxing liquidity constraints to enhance uptake of weather insurance in Ethiopia](#).

150. An IOU, a phonetic acronym of the words "I owe you," is a document that acknowledges the existence of a debt to be paid at a later date.

151. 3ie. (2020). [Improving trust and relaxing liquidity constraints to enhance uptake of weather insurance in Ethiopia](#).

## BOX 12

## Health and life insurance via MTN

Originally launched in Uganda in 2017 and now in Ghana, Zambia, Côte d'Ivoire and Cameroon, aYo began as a microinsurance joint venture between the MNO MTN and FSP Momentum Metropolitan Holdings. aYo offers low-cost, mobile-enabled hospital and life insurance to low- and middle-income MTN subscribers via two products. The first is Recharge with Care (airtime- and mobile money-collected), which allows customers to purchase insurance every time they recharge their airtime. The second is Pay with Care, or Send with Care in some markets, which allows customers to buy insurance cover when they remit via mobile money.

Both products offer a hospital cash insurance benefit and a life cover benefit. The products are real-time, paperless, transaction-driven insurance with low cover amounts and premiums, providing flexible term policies. Customers can access their insurance via USSD and an app (usually zero-rated), submit claims via WhatsApp and receive claims payments into their mobile money wallet.

MTN's vision is to make aYo the largest digital insurer in Africa and ensure that excluded groups such as informal workers and the self-employed have access to affordable insurance and microfinance products and services.



# 8. Conclusions and recommendations



## 8. CONCLUSION AND RECOMMENDATIONS

Recent market liberalisation that has allowed MNOs to deliver mobile money services in Ethiopia could be transformative for financial inclusion. Though there is currently one state-owned MNO in the market, with Safaricom receiving its licence and additional entrants expected to enter the market, there is a significant opportunity to financially include millions of Ethiopians.

While regulations are enabling and payments interoperability has improved, signalling a

maturing digital financial services ecosystem, there are significant challenges to scaling adoption, which will require concerted and collaborative effort from the government and policy makers, public and private sector organisations, MMPs, donor and development agencies and local civil society organisations. These organisations should prioritise the following strategic actions to overcome challenges and increase financial inclusion through mobile money in Ethiopia (Table 8).

**Table 8**  
Recommendations to scale mobile money adoption in Ethiopia

Dimension	Suggested action	Actor
<b>Policy and regulations</b> 	<ul style="list-style-type: none"> <li>– Implement a personal data privacy and protection law to set standards for how financial institutions and mobile money providers should handle personal data, to build mobile money user confidence.</li> <li>– Strengthen cybersecurity regulations as well as its implementation to reduce fraud.</li> <li>– Ensure that market liberalisation is realised by creating an incentivised environment for all players and that no one service provider is advantaged.</li> <li>– Consider increasing the transaction and balance limits that can be held in mobile money accounts to improve the commercial viability of services.</li> <li>– Accelerate enrolment of the Fayda digital id program to make KYC faster, quicker and cheaper and decrease the chances of fraudulent activity.</li> </ul>	<ul style="list-style-type: none"> <li>➔ Policymakers/Regulators</li> </ul>
<b>Infrastructure</b> 	<ul style="list-style-type: none"> <li>– Increase electricity provision, especially in rural areas.</li> <li>– Partner with PAYG solar systems' providers to provide off-grid energy to households and businesses while encouraging mobile money adoption.</li> <li>– Innovate in services that can increase the demand for mobile money in rural areas (e.g., digital agriculture solutions, agri credit and insurance) to make investments in infrastructure more viable.</li> </ul>	<ul style="list-style-type: none"> <li>➔ Government</li> <li>➔ MMPs</li> </ul>
<b>Payments interoperability</b> 	<ul style="list-style-type: none"> <li>– Invest in fintech solutions such as bill aggregators and payment gateways to enable easier bill payments across mobile money and banking services and explore the potential of emerging channels such as QR codes for payments.</li> </ul>	<ul style="list-style-type: none"> <li>➔ Private sector and public-private partnerships</li> </ul>

Table 8 continued

Recommendations to scale mobile money adoption in Ethiopia

Dimension	Suggested action	Actor
<b>Access points and agent networks</b> 	<ul style="list-style-type: none"> <li>– Invest in building and scaling quality agent networks across all regions based on an assessment of market needs.</li> <li>– Explore partnerships with organisations that can leverage agent networks for their product distribution to enhance agent profitability.</li> <li>– Consider investing in fit-for purpose third party digital agent management solutions.</li> <li>– Actively recruit female agents to enable more uptake of mobile money services by women.</li> <li>– Fast-track KYC processes to register agents.</li> </ul>	<ul style="list-style-type: none"> <li>➔ MMPs</li> </ul>
	<ul style="list-style-type: none"> <li>– Invest in and partner with service providers to deploy, train and upskill agent networks.</li> </ul>	<ul style="list-style-type: none"> <li>➔ Development partners and NGOs</li> </ul>
<b>Affordability</b> 	<ul style="list-style-type: none"> <li>– Reconsider taxation on imported mobile phones.</li> <li>– Consider subsidising handsets for the most underserved and low-income groups.</li> </ul>	<ul style="list-style-type: none"> <li>➔ Government</li> </ul>
	<ul style="list-style-type: none"> <li>– Develop low-cost smart feature phones for the local market and strategise on competing against mobile phones sold in parallel markets.</li> </ul>	<ul style="list-style-type: none"> <li>➔ MMPs and technology manufacturers</li> </ul>
	<ul style="list-style-type: none"> <li>– Offer device financing.</li> <li>– Improve USSD services to solve for data costs.</li> </ul>	<ul style="list-style-type: none"> <li>➔ MMPS</li> </ul>
<b>Literacy and digital skills</b> 	<ul style="list-style-type: none"> <li>– Ensure services are designed around the needs of users, intuitive and delivered conveniently via USSD and in local languages, or with visual cues to make mobile money services as accessible as possible.</li> </ul>	<ul style="list-style-type: none"> <li>➔ MMPs</li> </ul>
	<ul style="list-style-type: none"> <li>– Implement basic digital skills training via agents at points of activation (e.g., leveraging the mobile money module in the GSMA Mobile Internet Skills Training Toolkit),</li> <li>– Wide-reaching literacy and digital skills training delivered in the most underserved communities.</li> </ul>	<ul style="list-style-type: none"> <li>➔ MMPs</li> <li>➔ Government</li> <li>➔ Donors, development partners and NGOs</li> </ul>

Table 8 continued

Recommendations to scale mobile money adoption in Ethiopia

Dimension	Suggested action	Actor
<b>Awareness, trust, safety and security</b> 	<ul style="list-style-type: none"> <li>– Build awareness and trust through targeted information campaigns and a reliable agent network.</li> <li>– Ensure robust cybersecurity and data protection measures.</li> <li>– Put in place redress mechanisms for fraudulent transactions where liable.</li> <li>– Find innovative solutions to fraud reduction, such as tokenisation for mobile money transactions.</li> </ul>	<ul style="list-style-type: none"> <li>➔ MMPs</li> </ul>
<b>Use cases diversification</b> 	<ul style="list-style-type: none"> <li>– Work with MMPs to digitise G2P/P2G payments while giving end-users sufficient time to switch from cash to mobile money payments.</li> <li>– Encourage international remittances through mobile money, which is cheaper and more convenient than other alternatives.</li> <li>– Re-assess the restrictions on outbound remittances.</li> </ul>	<ul style="list-style-type: none"> <li>➔ Government</li> </ul>
	<ul style="list-style-type: none"> <li>– Improve account-to-account interoperability to enable the digitisation of merchant payments in the medium term.</li> </ul>	<ul style="list-style-type: none"> <li>➔ Industry players</li> </ul>
	<ul style="list-style-type: none"> <li>– Partner to pilot and test tailored microfinance products.</li> </ul>	<ul style="list-style-type: none"> <li>➔ Government / Development Partners/ Private sector</li> </ul>
	<ul style="list-style-type: none"> <li>– Develop credit-scoring models to de-risk lending to groups that tend to be excluded (e.g., women, the elderly, MSMEs, smallholder farmers, internally displaced people). Provide micro-credit responsibly to these groups to enhance their livelihoods, as well as for other essential products such as device financing.</li> </ul>	<ul style="list-style-type: none"> <li>➔ MMPs in partnership with financial institutions</li> </ul>
	<ul style="list-style-type: none"> <li>– Explore opportunities with insurers to provide health and life insurance, as well as other valuable products such as crop insurance that enhance the value proposition for mobile money adoption by rural communities.</li> <li>– Invest in pilots that digitise agricultural, merchant and humanitarian payments to understand what works and identify opportunities to scale.</li> </ul>	<ul style="list-style-type: none"> <li>➔ MMPs in partnership with the government, agritechs, e-commerce platforms, retailers and humanitarian organisations and development partners</li> </ul>

# Glossary

<b>Agent outlet</b>	A mobile money agent outlet is a location where one or several provider-issued tills are used to conduct transactions for clients. The most important are cash-in and cash-out but, in many instances, agents also register new customers.
<b>Airtime top-up</b>	Purchase of airtime via mobile money, funded from a mobile money account.
<b>Application Programming Interface (API)</b>	For the mobile money industry, an API is the set of design principles, objects and behaviours for software developers to enable interactions between mobile money platforms and vendors.
<b>Automated Teller Machine (ATM)</b>	Computerised telecommunications devices that provide financial institution clients with access to financial transactions in a public place.
<b>Bill payment</b>	A payment made by a person from either their mobile money account or over the counter to a biller or billing organisation via a mobile money platform in exchange for services provided.
<b>Bulk disbursement</b>	A payment made by an organisation via a mobile money platform to a person's mobile money account. For example, salary payments made by an organisation to an employee's mobile money account, payments made by a government to a recipient's mobile money account or payments made by a development organisation to beneficiaries.
<b>Cash-in</b>	The process by which a customer credits their mobile money account with cash. This is usually via an agent who takes the cash and credits the customer's mobile money account with the same amount of e-money.
<b>Cash-out</b>	The process by which a customer deducts cash from their mobile money account. This is usually via an agent who gives the customer cash in exchange for a transfer of e-money from the customer's mobile money account.
<b>E-money</b>	Short for "electronic money," e-money is electronically stored monetary value held in the accounts of users, agents and the provider of the mobile money service that is accepted as means of payment by persons other than the issuer. Typically, the total value of e-money is mirrored in a bank account(s), such that even if the provider of the mobile money service were to fail, users could recover 100% of the value stored in their accounts.
<b>E-money issuer</b>	A financial institution (bank or non-bank) that is permitted to issue e-money funds, provide payment services or offer funds storage.

<b>Float</b>	The balance of e-money, physical cash or money in a bank account that an agent can immediately access to meet customer demands to purchase (cash-in) or sell (cash-out) electronic money.
<b>Formal financial inclusion</b>	When individuals and businesses have access to useful and affordable financial products and services (e.g., transactions, payments, savings, credit and insurance) through a formal financial institution, including a bank or regulated institution such as a credit union, microfinance institution (MFI) or mobile money service provider.
<b>Government-to-person (G2P) payment</b>	A payment by a government to a person's mobile money account.
<b>International remittance enabled by mobile money</b>	A cross-border fund transfer, generally from one person to another. This transaction can be a direct mobile money remittance or can be completed using an intermediary organisation.
<b>Interoperability</b>	The ability of customers to undertake money transfers between two accounts in different mobile money schemes or to transfer money between accounts in mobile money schemes and banks.
<b>Know Your Customer (KYC)</b>	Financial institutions and regulated financial service providers are obligated by regulation to perform due diligence to identify their customers. The term is also used to refer to the regulation that governs these activities. The Financial Action Task Force (FATF) recommends a risk-based approach to due diligence for anti-money laundering/combating financing of terrorism (AML/CFT) controls. Due to the lack of formal identity documents in some markets, solutions such as tiered KYC and adjusting acceptable KYC documentation can help mobile money providers (MMPs) facilitate customer adoption and increase financial inclusion, especially in rural areas.
<b>Liquidity management</b>	The management of the balance of cash and e-money held by a mobile money agent to meet customers' demands to purchase (cash-in) or sell (cash-out) e-money. The key metric used to measure the liquidity of an agent is the sum of their e-money and cash balances (also known as their float balance).
<b>Merchant payment</b>	A payment made from a mobile money account via a mobile money platform to a retail or online merchant in exchange for goods or services.
<b>Mobile financial services</b>	The use of a mobile phone to access financial services and execute financial transactions. This includes both transactional and non-transactional services, such as viewing financial information on a user's mobile phone. Mobile money, mobile insurance, mobile credit and mobile savings are all mobile financial services.

<b>Mobile money services</b>	Mobile money services include transferring money and making and receiving payments using a mobile phone. These services must be available to the unbanked through a network of physical transaction points, which can include agents, outside of bank branches and ATMs (cash-in/cash-out networks). The service should be widely available to all, and the agent network must be larger than the mobile money service's number of formal outlets. The services must offer at least one of the following products: domestic or international transfer; mobile payment, including bill payment, bulk disbursement and merchant payment; or storage of value. Mobile money services do not include card-based mobile apps or mobile banking.
<b>Mobile money account (registered/active)</b>	An e-money account that is primarily accessed using a mobile phone and held with the e-money issuer. In some jurisdictions, e-money accounts may resemble conventional bank accounts, but are treated differently under the regulatory framework because they are used for different purposes (for example, as a surrogate for cash or a stored value used to facilitate transactional services). An active mobile money account is one that has been used to conduct at least one transaction during a certain period (usually 90 days or 30 days).
<b>Over-the-counter (OTC) services</b>	Some mobile money services are offered primarily over the counter. In such cases, a mobile money agent performs transactions on behalf of the customer, who does not need to have a mobile money account to use the service.
<b>Pay-as-you-go (PAYG)</b>	Pay-as-you-go systems refer to services that are paid for before use and cannot be used for more than the amount paid.
<b>Payment system</b>	Set of instruments, procedures and inter-account fund transfer systems that enable the circulation of money, i.e., the technical infrastructure used to perform payments and other financial transactions between financial service providers.
<b>Payment scheme</b>	The entity that controls the payment system. It is usually owned by participating financial services providers and has rules in place that dictate how the system should be operated.
<b>Point of sale (POS)</b>	A retail location where payments are made for goods or services. A POS device is a specialised device used to accept the payment, for example, a card reader.
<b>Underbanked</b>	Customers who may have access to a basic transaction account offered by a formal financial institution, but still have financial needs that are unmet or not appropriately met.
<b>Unstructured supplementary service data (USSD)</b>	Part of the GSM protocols for second-generation digital cellular networks and devices. This communications channel was adapted to accommodate financial transactions by enabling customers to send defined instructions to mobile financial services providers along with their personal identification number (PIN) for authentication, while enabling the provider to send responses to clients and confirm transactions.

## **Annex A: Stakeholders consulted**

**AEMFI (Association of Ethiopian Microfinance Institutions)**

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**Agricultural Transformation Agency**

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**Arifpay**

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**BelCash**

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**GuzoGo**

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**Highlight Tradings**

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**IFPRI**

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**Kacha Digital Bank**

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**Lersha**

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**Ministry of Agriculture**

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**National Bank of Ethiopia**

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**National ID Program of Ethiopia**

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**Regional government bodies**

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**UNCDF**

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**University of Oxford**

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**World Bank**

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**Our thanks to the many organisations in Ethiopia that participated anonymously in this research.**

## Annex B: Summary of key DFS directives in Ethiopia

The primary policy and regulatory changes over the past few years that impact mobile money services in Ethiopia are summarised below.

**Relaxation of entry restrictions to the banking sector:** An amendment to the Banking Proclamation in 2019 lifted regulations prohibiting foreign nationals of Ethiopian origin from investing in banking, digital financial services and agent banking models. In addition, full-fledged interest-free banking (Islamic banking) institutions were allowed. As a result, more than 12 new banks have become operational, including interest-free banks.

**Allowing nonbanks to provide digital financial services:** The Payment Instrument Issuer Directive (ONPS/01/2020) and the Payment System Operator Directive (ONPS 02/2020) allowed nonbank entities to operate as financial institutions providing mobile money and payment processing services based on a set of requirements linked to registration, minimum capital, technology platform and other policies and procedures.

**New regulation allowing MFIs to become banks:** A new directive issued in 2020 (NBE Directive SBB/74/2020) permitted microfinance institutions to upgrade to full-fledged banks. As a result, Ethiopia's large regional state-affiliated MFIs are transitioning to banks with expanded product offerings and wider geographical coverage. The NBE will evaluate whether MFIs are eligible to become a bank based on their capital adequacy, asset quality, management, earnings and liquidity (also known as the CAMEL rating system).

Following these changes, Amhara Credit and Savings Institution (ACSI) has re-established itself as a bank under a new name, Tsedey Bank. Similarly, Oromia Credit and Saving Share Company (OCSCO) has transitioned to become Siinqee Bank. The NBE expects numerous other regional MFIs such as OMO Microfinance in the SNNP region and Dedebit MFI in the Tigray region to transition to banks.

**Demonetisation of currency and limits on cash transactions:** The NBE changed the Ethiopian birr currency notes in September 2020 to curb the illegal flow of cash outside the formal banking system and alleviate liquidity challenges facing commercial banks. Furthermore, a new set of

regulations limits the amount of cash that account holders can withdraw from financial institutions.

Accordingly, the amount of cash withdrawal has been set at ETB 50,000 per day and ETB 1 million per month for individuals. Businesses and other registered organisations can withdraw ETB 75,000 per day and ETB 2.5 million per month. Exceptions can be made for specific purposes.

**Launch of the National Digital Payments Strategy:** The NBE, with the support of the UNCDF/Better than Cash Alliance, has developed the first digital payments strategy to accelerate the shift from cash-based to digital transactions. One of the strategy's core pillars is prioritising scalable use cases for digital payments, with the digitalisation of government payments and collections a critical action item.

**Launch of the National Financial Inclusion Strategy (2021–2025):** The NBE, with the support of the Bill & Melinda Gates Foundation, has refreshed the NFIS issued by the NBE in 2017. The refreshed NFIS sets a target of formal financial account ownership among adults from 45% to 70% by 2025, with mobile money as a key channel for financial inclusion.

**Telecoms sector reform for liberalisation and partial privatisation of Ethio Telecom:** The Ethiopian government has opened the telecoms sector to add two more MNOs competing and operating alongside the state-owned Ethio Telecom. Following a licensing auction, a global consortium comprised of Vodafone, Vodacom and Safaricom was awarded a telecoms licence and commenced operations in the country in October 2022.<sup>152</sup> Another auction round is underway. Ethio Telecom is also set to be partially privatised, with 45% of equity planned for foreign investment.

**Financial sector liberalisation for foreign investment:** The Ethiopian government approved a policy on opening the banking sector to foreign investors in September 2022. According to a draft policy document prepared by the NBE, the policy will allow four models for the entry of foreign banks into Ethiopia, including acquisition of stakes in existing banks, setting up a subsidiary, opening of branches and opening of representative offices. The process of allowing foreign banks to enter

152. Endeshaw, D. (6 October 2022). "[Safaricom launches in Ethiopia in October 2022](#)". Reuters News.

will be a gradual process whereby the number of licences will be limited at the beginning.

Opening of the mobile money market to foreign investment: The government has amended the previous payment proclamation to allow foreign investment in mobile money. Foreign investors are now allowed to join the sector through investment in existing DFS providers or setting up a new business. The change paves the way for Safaricom

to apply for a licence to launch the M-Pesa mobile money service in Ethiopia. According to the draft directive, to amend the existing payment instrument issuers, foreign investors will be required to pay \$150 million as an investment protection licence fee, which it defines as the amount paid by foreign nationals who invest in businesses exclusively reserved for domestic investors or the government.

## Annex C: Modelling methodology

### Developing mobile money adoption scenarios for Ethiopia

To model the potential economic impacts of mobile money in Ethiopia to 2030, it was necessary to make some assumptions about how mobile money will develop over the next seven years. Given the uncertainty, we developed three scenarios that are informed by the evolution of mobile money in other Sub-Saharan African markets. Figure 27 shows which countries have developed each scenario. The “high adoption” scenario assumes that mobile money will develop in Ethiopia in a similar manner

to successful African mobile money markets, defined as those with greater than 50% adoption in 2021 based on the World Bank Global Findex survey. The “medium adoption” scenario assumes mobile money will develop in similar manner to other African mobile money markets that have achieved 30% to 50% adoption in 2021. The “low adoption” scenario assumes mobile money will develop in a similar manner to markets with less than 30% adoption.

**Figure 20**

Countries informing the mobile money adoption scenarios

High adoption	Medium adoption	Low adoption
Kenya	Senegal	Mali
Ghana	Tanzania	Mozambique
Gabon	Namibia	Burkina Faso
Uganda	Cameroon	Guinea
Zimbabwe	Zambia	Sierra Leone
	Côte d'Ivoire	Mauritius
	Democratic Republic of Congo	Nigeria
	Benin	South Sudan
	South Africa	
	Togo	
	Liberia	
	Malawi	

Source: World Bank Global Findex data

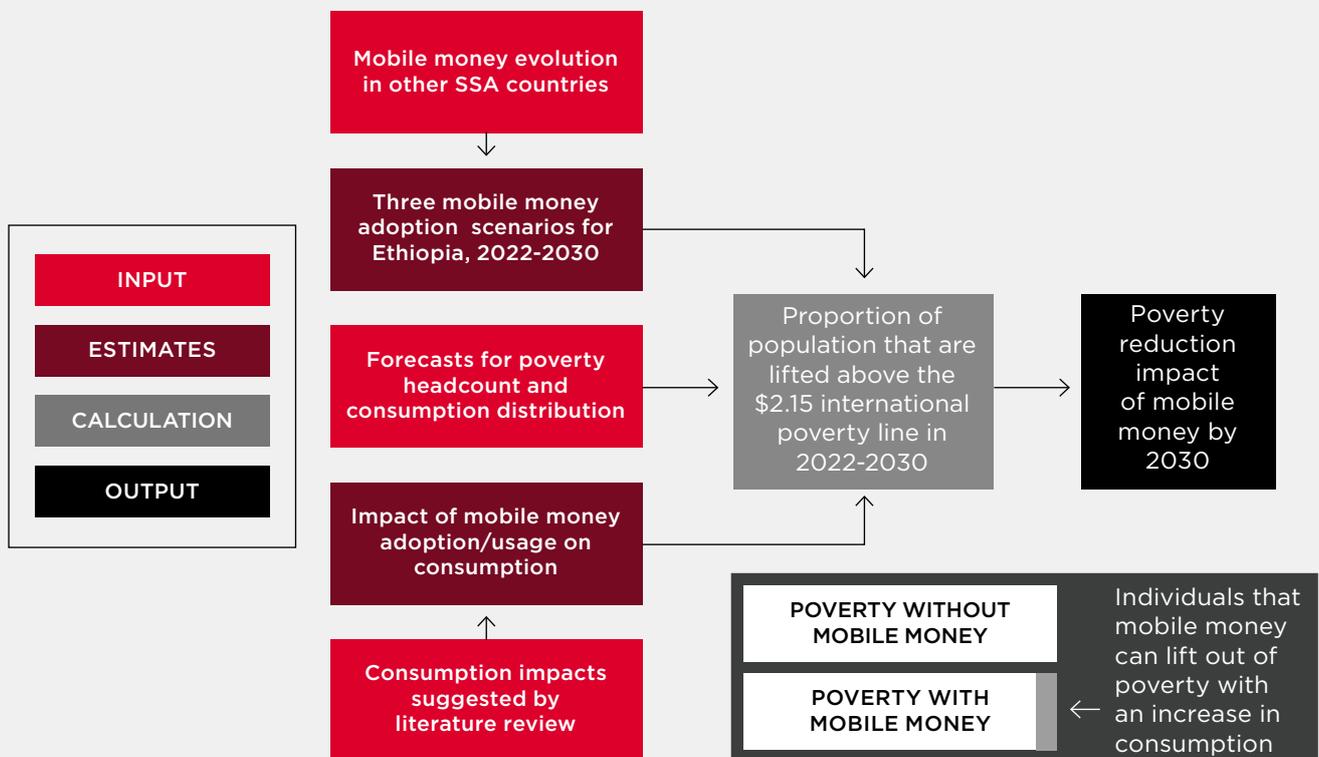
## Modelling the impact on poverty reduction

Figure 21 illustrates our approach to modelling the poverty reduction impacts of mobile money in Ethiopia. First, we took the three adoption scenarios used to estimate adoption for the poorest quintiles in Ethiopia. Second, we developed forecasts for poverty headcount in Ethiopia to 2030. The starting point was an estimate of the proportion of individuals living in poverty based on the international poverty line of \$2.15 per person per day (in purchasing power parity terms),<sup>153</sup> which we estimated for 2019 based on data in the Ethiopia Socio-Economic Survey 2018/2019 (ESS 2018/19).<sup>154</sup> We then forecast this to 2030 by assuming the poverty rate will decline at the same rate forecast by the World Bank for Sub-Saharan Africa.<sup>155</sup> Lastly, we assumed that mobile money increases the total consumption of users by 5%. This is at the lower end of the range suggested by the empirical literature but, given the methodological challenges and the need to apply other country-specific results to Ethiopia, we considered it appropriate to apply a conservative assumption. This means that mobile money has the

potential to lift anyone living on \$2.05 to \$2.15 per day out of poverty. If an individual's consumption is less than this, the depth of poverty is too great for mobile money to bring them above the international poverty line.

This modelling framework was also applied in each region of Ethiopia. We calculated the poverty headcount and consumption distribution for each region based on the ESS 2018/19 and applied a uniform forecast assumption for expected poverty reduction by 2030 (assuming the same reduction that was forecast nationally). We also assumed the same mobile money adoption scenarios for each region. In practice, certain regions (particularly those with higher expected income levels and more urban populations) are likely to see faster poverty reduction and mobile money adoption than others. However, as we did not have sufficient data to develop regional-specific forecasts for poverty headcount and mobile money adoption, we applied the country-level assumption to illustrate the potential impacts by region.

**Figure 21**  
Modelling approach for poverty reduction



Source: GSMA Intelligence

153. World Bank. (14 September 2022). *Fact Sheet: An Adjustment to Global Poverty Lines*.

154. World Bank. (2020). *Socioeconomic Survey 2018-2019*.

155. Schoch, M. et al. (30 March 2022). "To end extreme poverty, getting back to pre-COVID-19 reduction rates is not enough". *World Bank Blogs*.

## Modelling the macroeconomic impacts of mobile money

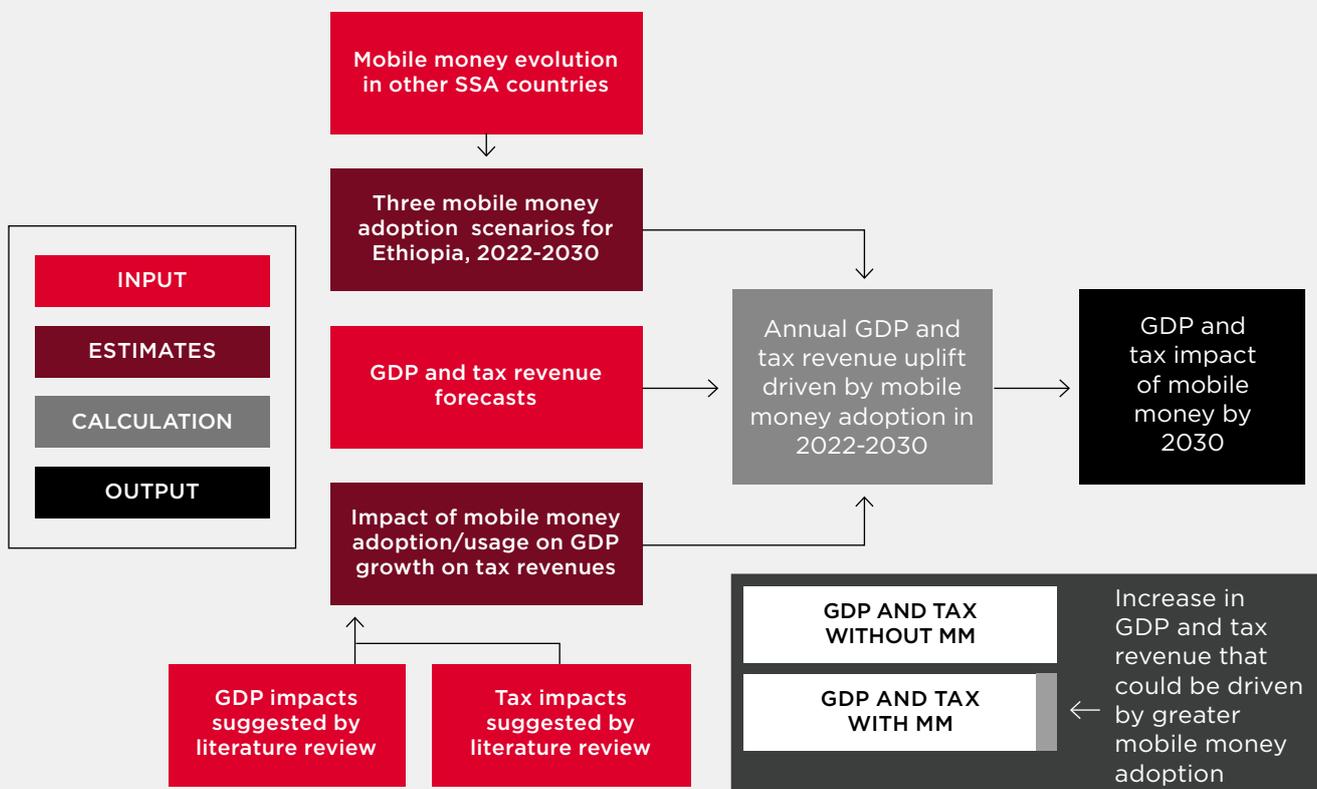
Figure 22 shows our approach to modelling the impact of mobile money in Ethiopia on two macroeconomic outcomes: GDP and tax revenue. To model impacts on GDP, we used the results of Khera et al (2021) because, unlike most of the other studies that assess the macroeconomic impact of mobile money, this one did not apply a simple binary definition of mobile money. Instead, they developed a financial inclusion index that included digital financial usage based on mobile money adoption, the use of internet to make payments and the use of mobile to receive wages and make utility payments. For this analysis, we reconstructed the same index for Ethiopia and developed forecasts using the same approach as for mobile money adoption, namely, using other Sub-Saharan African markets as benchmarks for high, medium and low adoption (the same countries in Figure 2 were used).

Second, we developed forecasts for GDP and tax revenue in Ethiopia to 2030. The starting point was an estimate of GDP in 2021 sourced from the

NBE.<sup>156</sup> We then forecast this to 2030 based on the GDP forecasts of the IMF.<sup>157</sup> For tax revenue, we took the latest available data on Ethiopia’s tax revenues as a proportion of GDP, which was 6.2% in 2020.<sup>158</sup> We assumed that the same proportion would apply going forward to 2030.

Lastly, we assumed that, based on the financial index developed by Khera et al. (2021), a 0.1205-point increase in the index increases annual real GDP growth by 1.61 percentage points, as suggested in the paper. If we apply the results of other macroeconomic studies, for example, Vodafone and UNDP (2022), the estimated impacts on GDP from mobile money growth are much higher. However, given the limitations of that study and the macroeconomic literature more generally, we considered it appropriate to take the most conservative estimate. In terms of modelling the impact of tax revenue, based on Apeti et al (2023) we assumed that a 1% increase in mobile money penetration increases tax revenue by 0.0045 percentage points.

**Figure 22**  
Modelling approach for GDP and tax revenue



Source: GSMA Intelligence

156. NBE. (2021). *Annual Report 2020-2021*.

157. IMF. (October 2022). *World Economic Outlook*.

158. World Bank Open Data: *Tax revenue (% of GDP) – Ethiopia*.

## Annex D: Literature review (selected sources)

Study/author	Scope	Finding
Risk Sharing and Transactions Costs: Evidence from Kenya's Mobile Money Revolution (Suri and Jack, 2014)	Kenya, 2008–2014	Mobile money lifted 2% of Kenyan households out of poverty, with impacts stronger for female-headed households. Those living in areas with many agents saw their long-run consumption grow by 8.5%.
Is Mobile Money Changing Rural Africa? Evidence from a Field Experiment (Batista and Vicente, 2020)	Bangladesh, 2015–2016	Individuals in the treatment group (teaching participants how to use mobile money) saw an increase in consumption of 7.5% compared to the control group. There was a 42% decline in the extreme poverty index of the treated households.
Mobile Money and Risk Sharing Against Village Shocks (Riley, 2018)	Uganda, 2009–2012	Given the adoption of mobile money services, there is a 7% to 10% increase in total household per capita consumption.
Financial Inclusion, Shocks, and Poverty: Evidence from the Expansion of Mobile Money in Tanzania (Abiona and Koppensteiner, 2020)	Mozambique, 2014–2020	Combining access to mobile savings accounts and improving financial management skills is associated with an increase in business performance and financial security for female microentrepreneurs. The main drivers of improved business performance are improved financial management practices (bookkeeping), an increase in accessible savings and reduced transfers to friends and relatives.
The Real Effects of Mobile Money: Evidence from a Large-Scale Fintech Expansion (Patnam and Yao, 2020)	52 low and middle-income countries: 2011–2018	Digital financial inclusion can accelerate economic growth. The key drivers of digital financial inclusion were found to be infrastructure, financial and digital literacy and the quality of institutions.
The Long-run Poverty and Gender Impacts of Mobile Money (Suri and Jack, 2016)	104 developing countries: 1990–2019	Mobile money increases tax revenue in mobile money countries relative to non-mobile money countries by increasing GDP per capita, better institutional quality and simplification of the tax payment process.
Poverty and Migration in the Digital Age: Experimental Evidence on Mobile Banking in Bangladesh (Lee et al, 2021)	76 developing countries: 1990–2019	Countries that adopt mobile money exhibit lower consumption volatility. The key drivers of mobile money's stabilising effect are financial inclusion and migrant remittances.
Mobile Money, Remittances, and Household Welfare: Panel Evidence from Rural Uganda (Munyegera and Matsumoto, 2016)	49 developing countries: 2003–2019	Countries that have successfully adopted mobile financial services experienced, on average, a 1 to 1.2 percentage point higher growth rate compared to countries where this was not the case.
Closing the Gender Profit Gap? (Batista et al, 2022)	Mozambique, 2014–2020	Combining access to mobile savings accounts and improving financial management skills is associated with an increase in business performance and financial security for female microentrepreneurs. The main drivers of improved business performance are improved financial management practices (bookkeeping), an increase in accessible savings and reduced transfers to friends and relatives.
Is Digital Financial Inclusion Unlocking Growth? (Khera et al, 2021 for IMF)	52 low and middle-income countries: 2011–2018	Digital financial inclusion can accelerate economic growth. The key drivers of digital financial inclusion were found to be infrastructure, financial and digital literacy and the quality of institutions.
Tax revenue and Mobile Money in Developing Countries (Apeti et al, 2023)	104 developing countries: 1990–2019	Mobile money increases tax revenue in mobile money countries relative to non-mobile money countries by increasing GDP per capita, better institutional quality and simplification of the tax payment process.
Household Welfare in the Digital Age (Apeti, 2023)	76 developing countries: 1990–2019	Countries that adopt mobile money exhibit lower consumption volatility. The key drivers of mobile money's stabilising effect are financial inclusion and migrant remittances.
Modelling the Impact of Mobile Money on GDP (Vodafone and UNDP, 2022)	49 developing countries: 2003–2019	Countries that have successfully adopted mobile financial services experienced, on average, a 1 to 1.2 percentage point higher growth rate compared to countries where this was not the case.

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