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NATIONAL BANK OF ETHIOPIA
ADDIS ABABA



National Digital Payments Strategy

2021–2024



National Digital Payments Strategy

2021–2024

Foreword

The world is undergoing drastic digital transformations. Ethiopia has joined this journey and is fully committed to create a Digital Ethiopia by 2025; a digital payment ecosystem is an essential enabler.

The world is undergoing fast digital transformation, which some have referred to as the fourth industrial revolution. Numerous economies and private enterprises have embarked on their digital transformation journeys. Ethiopia is set to follow suit. The Ministry of Innovation and Technology has recently developed the National Digital Transformation Strategy addressing key reforms to create Digital Ethiopia by 2025. Payments are an essential enabler for this transformation and as technology enables faster and seamless transfer of data (and money) in the modern age, a robust and responsible digital payments ecosystem becomes compulsory.

There are efforts within and beyond the Ethiopian payment ecosystem that have laid the foundations for digital payments in Ethiopia. However, challenges still remain and a strategic effort to address these is needed; a National Digital Payments Strategy (NDPS).

The National Bank of Ethiopia (NBE) recognizes the challenges and needs for a robust and responsible digital payment ecosystem in Ethiopia. The NDPS was developed in close collaboration with stakeholders across the public and private sector in an effort to define a coordinated plan to guide the transformation of the payment ecosystem. The collaborative effort in developing this strategy has instilled ownership in all stakeholders, a critical element to drive the implementation of this strategy. Here, I would like to personally thank all stakeholders who availed their treasured time to meet with the NBE team and provide valuable input and insight in the design of this strategy.

A committed and resolute implementation of the actions is, however, necessary; we need to act now. COVID-19 challenges are a forewarning that require the best in all of us.

The NBE is committed to implement this strategy. The COVID-19 pandemic enhances the urgency for digital payments. The successful implementation of NDPS will depend on the full commitment and continued cooperation between the various stakeholders. I trust that NDPS will assist Ethiopia in meeting the challenges that currently lie ahead as we transform the payment ecosystem to move toward a cash-lite and more financially inclusive economy.

**Abiy Ahmed Ali (Dr.)
Prime Minister
Federal Democratic Republic of Ethiopia**

This document lays out Ethiopia’s National Digital Payments Strategy (NDPS). It is structured in three main sections: Context, Strategic Framework, and Implementation Framework.

The **Context** section provides the reader with a summary overview of the baseline, global good practices, and key challenges that Ethiopia is facing within the digital payment ecosystem. These themes are further detailed in the following section.

The **Strategy Framework** section outlines the vision, strategic pillars to achieve the vision, and key enablers that serve as the foundation for the success of the strategy. Each strategic pillar contains an in-depth review of the baseline and specific challenges, global good practices, and strategic actions to be implemented. The implementation framework is further detailed in the section that follows.

The **Implementation Framework** section contains the high-level implementation plan, governance structure, and monitoring and evaluation mechanism established to materialize the benefits from this strategy.

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Abbreviations & acronyms

ACH	Automated Clearing House
ATM	Automated teller machine
CGAP	Consultative Group to Assist the Poor
CICO	Cash-In, Cash-Out
ECA	Ethiopian Communications Authority
ETB	Ethiopian Birr
Fintech	Financial technology
GDP	Gross domestic product
KYC	Know Your Customer
KPI	Key performance indicator
MFI	Micro-finance institution
MinT	Ministry of Innovation and Technology
MNO	Mobile network operator
MoA	Ministry of Agriculture
MoF	Ministry of Finance
MoR	Ministry of Revenue
M-POS	Mobile Point of Sale
NBE	National Bank of Ethiopia
NDPS	National Digital Payments Strategy
PII Directive	Payment Instrument Issuers Directive
POS	Point of Sale
PSNP	Productive Safety Net Program
QR Code	Quick Response Code
SOE	State-owned enterprise
USD	United States Dollar

Executive Summary

Ethiopia has enthusiastically embarked on a nationwide digital transformation that offers vast potential benefits for its people. This National Digital Payments Strategy (NDPS) for 2021–2024 is a central component of that journey. In this sense, this strategy is a roadmap through which the National Bank of Ethiopia¹ (NBE) will transform the payment ecosystem and help build a cash-lite and more financially inclusive economy. The NDPS is a key component of the NBE’s plan for modernizing Ethiopia’s national retail payment system.

“Digital payments” are a vast, complex and multifaceted topic. As a result, advancing digital payments requires the combined efforts of stakeholders across many sectors and segments of the economy. For this reason, the NDPS has been developed in a highly collaborative manner, with wide and deep consultation with stakeholders across the payment ecosystem.

The vision for the NDPS is to build a **secure, competitive, efficient, innovative, and responsible payment ecosystem to support a cash-lite and financially inclusive economy.**

THE NDPS IS BASED ON FOUR STRATEGIC PILLARS:

- developing a reliable, inclusive and interoperable **infrastructure**;
- championing **adoption** of digital payments;
- building a robust and consistent **regulatory and oversight framework**; and
- creating an enabling environment for **innovation**.

Specific strategic actions and a detailed implementation plan have been defined for each of these four pillars. The strategic actions address the priority challenges in the specific context and conditions prevailing in Ethiopia. They have been informed by Ethiopia’s current or “base-line” activities and conditions in the payment sector, as well as global good practices.

THE NDPS ALSO IDENTIFIES FOUR “ENABLERS” WHICH—TOGETHER WITH THE FOUR STRATEGIC PILLARS—FORM THE FOUNDATION OF THE STRATEGY. THE ENABLERS ARE:

- committing to an efficient, reliable, and safe national payment system;
- prioritizing and investing in capacity-building across the digital payment ecosystem;
- guaranteeing active and ongoing coordination with national development reforms and policies; and
- building a robust governance and implementation plan, and monitoring success using key performance indicators (KPIs).

The NDPS has been designed to align with the Ethiopian government’s broader reform agenda. Its intention is to serve as a guide for stakeholders across the public and private sectors to transform Ethiopia’s payment landscape. It has been developed in accordance with Ethiopia’s Financial Sector Reform Strategy, which explicitly identified the need for a digital financial services strategy, of which this NDPS is a core component (World Bank Group 2020a).

The NDPS will be executed in conjunction with ongoing reforms² in Ethiopia’s national plan to digitize the economy in order to drive financial inclusion, create dignified jobs, and promote women’s economic participation. Ethiopia’s overarching goal is to accelerate progress towards inclusive economic growth, greater prosperity, and improved social outcomes.

The COVID-19 pandemic has dramatically heightened the urgency of digitizing payments in Ethiopia. As seen in countries around the world, digital payments have proved instrumental in the fight against COVID-19. Digital payments increase the speed, efficiency, and accuracy of payments, and vastly reduce the need for in-person cash transactions requiring physical contact (Goodwin-Groen 2020). In line with global good practices, the Ethiopian government has started implementing elements of this strategy. Measures thus far have focused on areas where digitization can have the most impact, such as helping to meet urgent health, welfare, and economic needs created by the COVID-19 crisis.

In addition to the short-term benefits of digitization, the NDPS also draws on a vast body of global knowledge about how digitization can build stronger, safer, fairer communities and a more sustainable natural environment over time. In this way, the NDPS presents a powerful tool for accelerating Ethiopia’s progress towards the Sustainable Development Goals for people, prosperity, and planet.



A.

Context

ETHIOPIA'S NATIONAL
DIGITAL PAYMENTS STRATEGY

Baseline

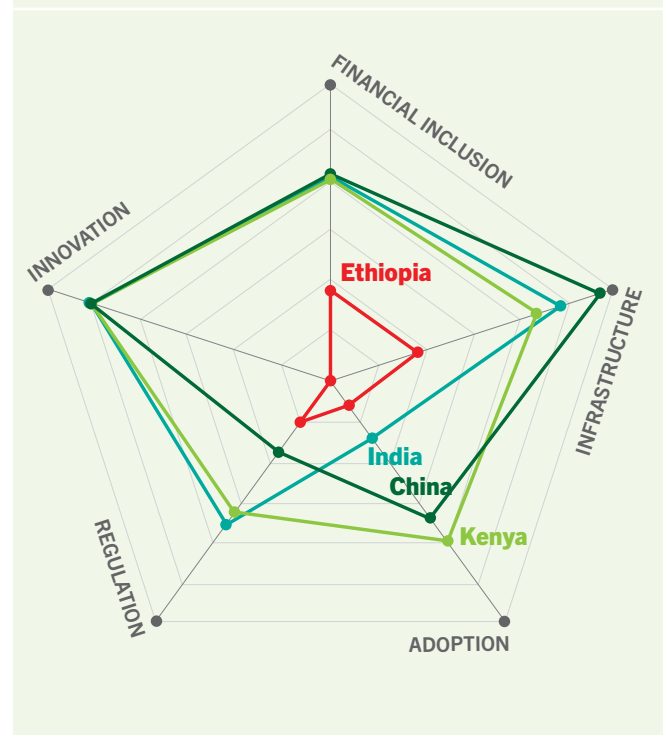
Ethiopia enjoys a strategic location in the Horn of Africa, close to the Middle East and its markets. It is the second most populous nation in Africa, with about 109 million people (World Bank Group 2020b), and the fastest-growing economy in the region, with a 10.7% compounded annual growth rate in gross domestic product (GDP) per capita from 2010 to 2018, compared to 0.1% in sub-Saharan Africa and 2.2% in the world. Despite this growth, nominal GDP is still at low-income level, with a GDP per capita of USD777, compared to USD1,586 in sub-Saharan Africa and USD11,312 globally (World Bank Group 2020c). Ethiopia aims to reach lower-middle-income status by 2025 (USD1,026–3,995 nominal GDP per capita).

A modern and efficient financial sector is a key enabler for sustainable and financially inclusive economic development, and studies have shown that digital payments can help boost annual GDP by as much as 3 percentage points in emerging economies (Massi et al. 2019). Ethiopia has made initial progress toward enabling digital payments through the development of infrastructure, encouraging adoption, revising regulations, and promoting innovation:

- Payments systems in Ethiopia were radically modernized in 2011 with the launch of the Ethiopian Automated Transfer System (World Bank Group 2020a). The creation of the national switch in 2016 prompted the initial step towards interoperability in digital payments. Upon implementation, EthSwitch will create a unifying platform for digital payments.
- As per the Global Findex Database (Demirgüç-Kunt et al. 2018), approximately 22% of adults had accounts from formal financial institutions in 2014. This number reached 35% in 2017, marking a 13 percentage point increase over three years—an encouraging development.
- The recent issue of two directives³ on payment instrument issuers and the use of agents will improve the regulatory environment for low-cost payment models. Other regulations limiting the extension of payment and payment-related services are also being revised.
- Ethiopia is committed to laying the foundations for an enabling innovative environment for digital payments. Advances in innovation, including digital wallets and other digital payment platforms, have supported the increased adoption of digital payments in the country.

Although this progress has improved the digital payment ecosystem in Ethiopia, there is significant room to grow and meet global good practice. A high-level comparative view of Ethiopia's digital payment ecosystem compared to regional and international benchmarks in Kenya, China, and India is shown in Figure 1.

FIGURE 1.
Comparative view of Ethiopia,
China, India, and Kenya⁴
Selected performance measures



Global good practices

Advancement in technology and digital business models has propagated the use cases and subsequent need for faster, more secure, more transparent, and more efficient payment systems. Globally, policymakers are crafting policies and interventions to reduce the use of cash for financial transactions and taking steps to increase the adoption and use of digital payments methods.

Digital payments can be defined as a transfer of value using a payment instrument which is at least initiated using a digital format (Better Than Cash Alliance 2020a). The traditional approach to digital payments had been largely bank led; however, the recent explosion in disruptive technology by financial technology (Fintech) incumbents and mobile money operators is transforming the state of the financial ecosystem to include new players through Fintech and electronic money issuers.

Digital payments are being used across the globe as an instrumental tool to foster:

- cost savings by increasing efficiency and speed;
- security and transparency by increasing accountability and tracking;
- financial inclusion by advancing access to a range of financial services; and
- women's economic participation by giving women more control over their financial lives.

Global good examples of the adoption of digital payments solutions provide strong evidence for these benefits for financially inclusive growth, as detailed below.

Efficiency and cost-effectiveness

Unlike cash payments or bank and check deposits, which require users to travel to a specific bank branch or utility provider during their designated working hours, digital payments give users the ability to make payments remotely at their convenience, saving time and improving the payment experience. Digital payments can be instantaneous, regardless of the sending and receiving parties' locations. The immediate access provided by real-time payments is crucial in some circumstances (e.g. in time-critical situations such as health emergencies or natural disasters). Remote payments also help reduce the costs associated with travel and postage for users, and the operational costs involved with running and manning physical branches for banks and merchants.

Moving from cash to digital payments has led to significant long-term cost savings for governments. A social transfer program in Niger has shown that costs of transfers by mobile phone were 20% lower than manual cash distribution. The Mexican government's shift to digital payments since 1997 has lowered its spending on wages, pensions, and social welfare by 3.3% annually (nearly USD1.3 billion). Estimates show that automating the delivery of government payments in India could save costs and reduce fraud of USD22.4 billion annually. The *Bolsa Familia* program in Brazil reduced its transaction costs from 14.7% of total payments to 2.6% when benefits were digitized (World Bank et al. 2014). In addition, there are significant cost benefits for users driven both by convenience (e.g. time saved and reduced transportation costs) and lower fees. Although digital payment providers charge transaction fees, these

tend to be significantly lower than the fees charged for handling cash (HSBC UK Bank 2019; KCB Bank 2019; Siam Commercial Bank 2019; Grupo Financiero Banorte 2019; Massi et al. 2019).

It is, however, important to acknowledge that digital payments may not always be cheaper than cash payments, with benefits and costs potentially unevenly distributed among different stakeholders. For example, salary or social benefit recipients may prefer to receive cash in person rather than to pay a cash-out fee at an agent. In these instances, governments will have a role to play in encouraging the adoption of digital payments. In specific geographies and sectors, transaction fees for digital payments are subsidized to encourage their use and to discourage the use of bulk cash, which poses security risks. COVID-19 responses globally have also significantly leveraged this option to incentivize digital payments and essentially deter cash-based transactions. For example, Kenya is strategically removing the need for cash by reducing and, in some instances, removing transaction fees across and within mobile money and e-banking platforms (Central Bank of Kenya 2020).

Security and transparency

Despite the prevalence of cyberattacks and digital fraud, digital payments could be safer than cash as an alternative if proper measures are put in place. To secure transactions, authentication features are embedded in “what you have” (card/mobile), “what you know” (passwords/personal questions), and “who you are” (biometric/facial recognition). Extra measures include multi-factor authentication, such as two-factor authentication (2FA), which requires confirmation of two features (e.g. a card (what you have) and a Personal Identification Number (PIN) code (what you know)). Security features—such as passwords, PINs, and identity verification tools on mobile applications, among others—provide a superior measure of security. As seen with most commercial banking applications, there also exists the option to block payments made at a Point of

Sale (POS) device or through a mobile application by logging into one’s account, or by contacting dedicated 24/7 service centers. This is not possible, or is highly difficult, when dealing with physical cash theft, due to its highly anonymous and liquid nature. Increased use of digital payments has been correlated with a demonstrated decrease in monetary theft in several economies (Mai 2016; Boorstin 2017).

Digital payments help increase monetary circulation within the formal financial sector, reducing the impact of “shadow” economies on national revenues. Increased formalization increases the transparency of payments, enabling national revenue authorities to track the flow of money more effectively and making the identification of financial crimes such as money laundering easier to track and identify.

Financial inclusion

Evidence shows that digital payments not only reduce costs and increase the convenience of financial transactions but also increase financial inclusion by expanding the number of eligible account users. Customers with existing accounts, for example, are encouraged to use digital payments more frequently and for the purpose of saving, which leads to greater financial stability and downstream poverty reduction; while users in more remote rural areas have greater access to financial services such as savings and credit, thereby enhancing poverty reduction and allowing for greater economic participation.

Digital payments also create the opportunity to embed people with a low income in a system of automatic deposits, scheduled text reminders, and positive default options that can help them overcome psychological barriers to saving (World Bank Group 2020f; International Monetary Fund 2020; Massi et al. 2019). In Kenya, digital financial services such as M-Pesa tripled the percentage of people using formal financial services from 27% in 2006 to 75% by 2015 (International Telecommunications Union Media Centre 2019).

FIGURE 2. Digital financial inclusion link to 2030 Sustainable Development Goals



Digital payments also help individuals, merchants, and financial institutions to manage risk more effectively. The creation of electronic networks allows families to expand their financial communities, which can help households manage sudden income shocks by providing access to money. As seen in Kenya and Rwanda, the presence and use of mobile money allowed users to better manage unexpected financial events (World Bank et al. 2014). Financial institutions have access to increased amounts of customer credit history and financial data, enabling them to make more calculated risks when providing loans. This access to information increases the provision of credit facilities to those people who may not otherwise have been eligible or have access, as the perceived security for financial institutions and insurance companies is increased.

Digital financial inclusion, when provided responsibly and sustainably in a well-regulated environment, not only drives growth but also enables faster progress toward the 2030 Sustainable Development Goals (SDGs). The successful implementation of the National Digital Payments Strategy (NDPS) will significantly contribute to the achievement of the SDGs for Ethiopia. According to the Better Than Cash Alliance, inclusive digital financial services have both a direct and an indirect impact towards achieving 13 of the 17 SDGs (Better Than Cash Alliance 2018). These are detailed in Figure 2.

Women's economic participation

A key benefit of digital payments is their ability to contribute to increasing women's economic participation. Digital payments provide a more personal, more discreet way for women to send and receive money, tackling sociocultural issues in areas where other members of the household typically dictate how women should spend their money, including government transfers. Sub-Saharan African countries have demonstrated that increased adoption of digital payments is positively correlated with increased economic freedom for women,

increased participation in the economy, and increased use of financial products and services such as savings facilities (World Bank et al. 2014).

As countries around the world recognize the benefits of implementing digital payment systems, several countries are going beyond internet and mobile banking and plastic card payments. Fintechs have been disrupting the global financial market, and the ease of innovation promises to continue disruption at a rapid pace. According to a survey conducted by the Bank of International Settlement in January 2019, 70% of the 63 participating central banks were working on central bank digital currencies under some capacity. This shows the adaptive approach central banks are taking in an ever-evolving financial landscape (Bank for International Settlements 2019). Sweden has initiated discussions on replacing physical banknotes and coins with e-currency. Cryptocurrency and decentralized payments made global headlines with the rise of Bitcoin, and there is increasing global uptake, with technology companies such as Facebook announcing their own cryptocurrency initiatives. The use of innovative digital payments technologies has allowed significant increases in global financial inclusion, put convenience at the forefront of financial services, and allowed for stronger economic growth.

Ultimately, the optimal implementation and utilization of digital payments has the potential to unlock enormous opportunities for Ethiopia's people and economy.

Challenges

Challenges for digital payments in Ethiopia can be grouped into four categories: infrastructure, adoption, regulation, and innovation.

INFRASTRUCTURE challenges can be attributed to overall countrywide infrastructure and limited interoperability across all payment channels. Nascent infrastructure and limited reliability of telecommunications and electricity, with issues such as power outages, are barriers to the adoption of digital payments, especially in rural areas. Partial interoperability adversely affects the efficiency of the payment ecosystem and inhibits financial inclusion.

ADOPTION of digital payments is hindered by limited use cases. The demand for digital payments is low, as people tend to use cash for most retail transactions⁵ in both the public and private sectors. From the supply side, due to the lack of demand, there is no business case to develop

a digital payments offer. A lack of public trust is also apparent due to the novelty of digital payments.

REGULATIONS are being adapted to non-traditional banking models, in particular to low-cost distribution channels, such as agent and mobile banking, as evidenced through the recent issuing of two new directives.⁶ There is a need for close monitoring to ensure that the directives are implemented and produce the intended outcomes.

INNOVATIVE ENVIRONMENTS for technology-enabled financial services can benefit from further access to global knowledge, resources, and funding.

The strategic framework detailed in the next section aims to address the challenges identified.

Alignment with key reforms

Ethiopia is currently undergoing significant national reforms which cut across various segments of the economy. These reforms, including this NDPS, collectively build towards the achievement of the Homegrown Economic Reform Agenda⁷ and the 10-year national prospective plan⁸ (2020–2030) for the country.

Beyond the internal alignment that the National Bank of Ethiopia (NBE) will ensure across the reforms it is leading, seven key reforms have been mapped for external alignment in the development of this strategy; they fall into two main categories:

- strategies that place the NDPS as a critical enabler for the success of their reforms: the national digital transformation strategy and the 10-year national prospective plan; and
- strategies that are linked to the NDPS: the Homegrown Economic Reform Agenda, the telecommunications sector reform program, the electronic transaction proclamation,⁹ the national digital ID program, and the ease of doing business reforms. These have interlinkages with the NDPS that require

continuous alignment and coordination during implementation.

As shown in Figure 3, these reforms are being undertaken by various ministries and government agencies and are at various stages of development. The breadth of the reforms across varying institutions presents its own set of challenges and opportunities for the development of this strategy, and requires an exploration of potential areas for collaboration and a close review of possible overlaps. A detailed mapping of these linkages has been conducted to ensure that the NDPS is an integral component of the national development path; it is detailed in Enabler 3 of this strategy: Guarantee active and ongoing coordination with national development reforms and policies.

FIGURE 3. Internal and external alignment with ongoing reforms





B.

Strategic Framework

Ethiopia's NDPS framework comprises the vision, the strategic pillars to achieve the vision, and the key enablers that serve as the foundation for the success of the strategy.

B1. Strategic vision

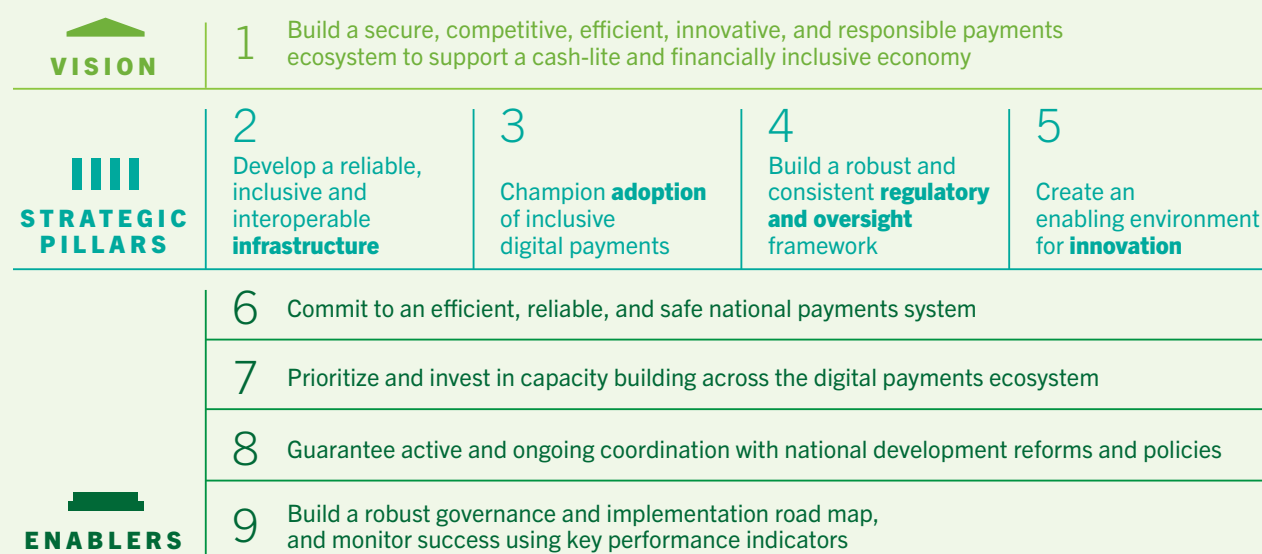
As shown in Figure 4, the vision of the NDPS is to build a secure, competitive, efficient, innovative, and responsible payment ecosystem to support a cash-lite and financially inclusive economy:

- **SECURE:** To enable secure payments and strong consumer protection
- **COMPETITIVE:** To create incentives for adoption and offer affordable solutions
- **EFFICIENT:** To provide a sound, quick, and functioning payment ecosystem
- **INNOVATIVE:** To enable convenience and additional cost-effective ways to transact
- **RESPONSIBLE:** To build trust and confidence in both acquiring and using digital payments
- **CASH-LITE:**¹⁰ To move towards a more accessible, secure, and transparent payment ecosystem
- **INCLUSIVE:** To benefit every person in Ethiopia.

This vision translates the desire for a transformative and disruptive approach to achieve the critical changes needed for the payment ecosystem to benefit all Ethiopians. This vision restates the Ethiopian government's commitment to develop a global payment ecosystem that achieves best-in-class performance in all segments.

This vision is aligned to support the national plan as laid out in the Homegrown Economic Reform Agenda and the 10-year national prospective plan¹¹ for the country. The Agenda has identified the development of an efficient financial market system that ensures rapid and inclusive economic growth as one of the development goals for the next 10 years. This strategy envisions the development of a digital payment ecosystem that enables this national vision, helping to set the country on a path to prosperity.

FIGURE 4. National Digital Payments Strategy framework



B2. Strategic Pillars

Four Strategic Pillars have been shaped to achieve the vision.

They support the vision, providing the necessary strength for its achievement.

- Strategic Pillar 1: Develop a reliable, inclusive, and interoperable infrastructure
- Strategic Pillar 2: Champion adoption of inclusive digital payments
- Strategic Pillar 3: Build a robust and consistent regulatory and oversight framework
- Strategic Pillar 4: Create an enabling environment for innovation.

B2.1 Strategic Pillar 1: Develop a reliable, inclusive, and interoperable infrastructure

BASELINE AND KEY CHALLENGES

Penetration of the infrastructure required for digital payments in Ethiopia needs to be improved, with 40% mobile subscription and 19% internet subscription rates, compared to 86% and 26%, respectively, for sub-Saharan Africa (World Bank Group 2020c; GSMA 2020; International Telecommunications Union 2020).

“The world is going digital, and we need to get onboard.”

— Quote from strategy stakeholder engagement

Ethiopia’s financial services infrastructure is developing fast, but penetration is still low compared to the rest of sub-Saharan Africa. There are 18 banks and 35 micro-finance institutions (MFIs) serving the banking needs of 109 million Ethiopians, and they are mostly located in urban areas. The number of branches per capita has improved from 0.8 per 100,000 people in 2004 to 4.7 in 2019, but that is still low when compared to 5.2 branches per 100,000 people in sub-Saharan Africa (International Monetary Fund 2020; World Bank Group 2019b).¹² Mobile money agent networks are still a relatively new concept; there were about 13,000 agents¹³ in 2019, compared to about 400,000 in Ghana, 206,000 in Kenya, and 110,000 in Rwanda in 2018 (International Monetary Fund 2020).

Payments systems in Ethiopia were radically modernized in 2011 with the launch of the Ethiopian Automated Transfer System (World Bank Group 2020a). Interoperability within the digital payments infrastructure was operationalized in 2016, five years

after the establishment of EthSwitch. The objective of EthSwitch is to provide an efficient, reliable, and safe e-payment platform infrastructure for Ethiopia. All private and public banks in Ethiopia own an equal share of the switch platform. Six banks are hosted on EthSwitch, six banks have their own switch, and six banks use the Premium Switch Services—a consortium.¹⁴ It is, however, required that all switches link to EthSwitch, which is the national switch. MFIs are also expected to join EthSwitch in the near future, with broader access to all licensed financial institutions pending. Membership will be of two types: direct participation (for institutions that have a settlement account at the NBE) and indirect participation through banks (for institutions that do not have settlement accounts at the NBE).

So far, interoperability has been implemented in automated teller machines (ATMs), with other channels yet to be interoperable. Important improvements are expected from 2021:

- Electronic funds transfers¹⁵ (account to account, across banks): The NBE is currently testing interbank transfer functionality. This is expected to be available for the entire ecosystem in the upcoming months.
- Point of Sale (POS) interoperability: EthSwitch is piloting POS interoperability with domestic and international schemes. This is expected to be available for the entire ecosystem in the upcoming months.
- Extending interoperability to other channels: This includes e-banking and mobile wallets, and is also planned following successful POS interoperability, starting with mobile wallets.

FIGURE 5. Interoperability across channels

Source: NDPS stakeholder consultation

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

Beyond interoperability challenges, users have also reported¹⁶ regular technical issues across payment channels, as shown in Figure 5.

At a broader level, countrywide infrastructure challenges have a direct impact on financial services and the digital payments infrastructure, in particular the lack of reliable and ubiquitous network coverage, limited access to electricity, and the absence of a centralized national identification system.

Network coverage

Ethiopia's geographic coverage for internet is 86% for 2G, 85% for 3G, and 70% for 4G (GSMA 2020). However, only 19% of Ethiopians report significant use of the internet. Reasons given include poor real-time connectivity and reliability, low digital literacy, and the high costs of access that exclude large parts of the population.¹⁷ Infrastructure upgrades to allow reliable internet connections with a wide geographic reach are

important enablers of digital payments, including internet and application-based banking, real-time payments, and network connectivity for ATMs and POS devices.

The telecommunications sector reforms are expected to have a significant impact on increasing the reach and quality of services. The partial privatization of Ethio telecom and the sale of two new licenses will increase investment in telecoms infrastructure, while fostering a competitive environment for the efficiency of service delivery. The NBE will closely coordinate with the Ministry of Finance (MoF), the Ministry of Innovation and Technology (MInT), and the Ethiopian Communications Authority (ECA) to collaboratively define the role of mobile network operators (MNOs) in the financial landscape and align on telecommunications infrastructure development requirements to sustain a digital payment landscape.

Access to electricity

Despite the Ethiopian government's investments in the power sector, only 44% of Ethiopians have access to electricity, which affects both the expansion and reliability of the traditional banking infrastructure (ATM, POS, etc.) and the non-traditional banking infrastructure (mobile).¹⁸ In other parts of sub-Saharan Africa, pay-as-you-go off-grid solutions enabled by mobile money (e.g. M-Kopa in Kenya) are contributing to improved access to electricity in remote areas. This access, in turn, builds a positive cycle by helping to further propagate the ability to power internet connectivity devices such as routers or to charge smartphones. Coordination with the Ministry of Water, Irrigation, and Electricity is required.

National ID system

The absence of a centralized national identification system restricts the ability of the financial sector to onboard new customers cost-effectively. The Ministry of Peace, with the support of the Prime Minister's Office, is developing a national identification document (ID). Phased implementation has started, and nationwide implementation is expected over the next six years. This will be critical to conduct a cost-effective Know Your Customer (KYC) program. The lack of an efficient KYC system limits access to a broader range of financial products. The national ID program is a priority for Ethiopia, and coordination with the Ministry of Peace is required to ensure alignment with this strategy.

Infrastructural integrity provides a foundation for the platforms on which digital payments services operate, making infrastructure a priority for the successful implementation of the NDPS.

GLOBAL GOOD PRACTICES

For digital payments infrastructure, global good practices have been identified on access points, interoperability, and broader infrastructural concepts such as the national ID program.

Access points

As seen in Figure 6, there has been a significant reduction in the rate of growth of traditional banking infrastructure globally (ATMs in particular), especially in countries that have high rates of use of digital payments. Brazil, Sweden, and the UK have all shown overall

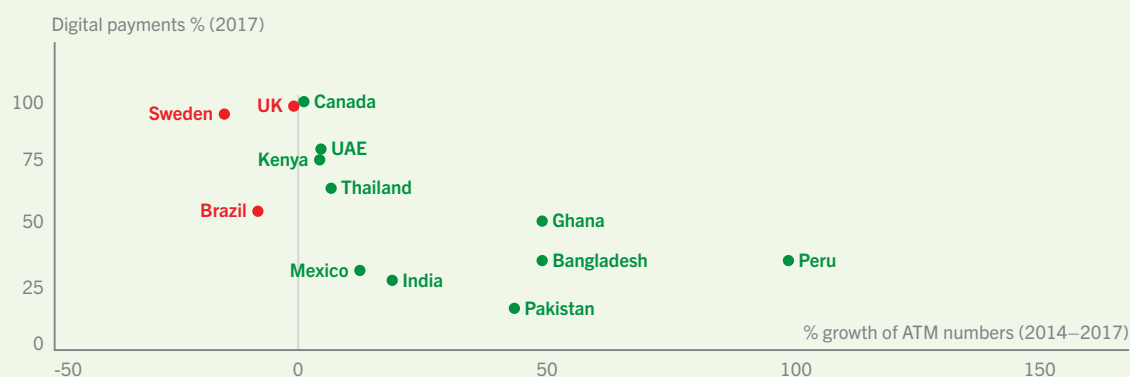
declines in ATM numbers (World Bank Group 2020d; International Monetary Fund 2020), despite having the highest levels of digital payments, showing that cash withdrawals and use are slowing down. This has been possible due to the development of the remote digital payments infrastructure, including 24/7 availability of low-value retail payments carried out through POS terminals (including Mobile Point of Sale—M-POS) and smartphone apps. The provision of reliable, fast internet has been crucial.

It is, however, important to note that a robust Cash-In, Cash-Out (CICO) infrastructure network, such as ATMs, was essential in creating the initial drive towards increased use of digital payments. As can be seen in other countries, such as Nigeria, India, and Bangladesh, central banks have directly influenced the terms for geographic expansion of a CICO infrastructure network—imposing ratios for urban and rural branch and ATM expansions (India Brand Equity Federation 2011; State Bank of Pakistan 2007; Remo 2012; World Bank 2012).

For merchant payments, more affordable and convenient alternatives to the traditional POS infrastructure are emerging, such as M-POS and Quick Response (QR) Codes. M-POS is a smart POS service that can be connected to a smartphone or tablet for processing payments and managing some inventory and customer information. The implementation of M-POS solutions costs less than traditional POS systems (Square 2018; SmartPay 2018). QR Codes are barcode-like images available at merchants, which supply information that is read and used as an input to the generation of a payment instruction on the user's mobile phone. In some cases with QR Codes, the merchants only have to pay transaction fees to the payments processor, there are no extra devices (beyond the mobile phone), and maintenance costs are limited for merchants, as only an image is required.

China's WeChat Pay and Alipay have gained considerable traction by deploying QR Codes, particularly in grocery stores and eateries. In India, QR Code solutions built using the Unified Payment Interface have helped to increase the penetration of digital payments among small merchants. Successful deployment of these new alternatives relies on the penetration of smartphones and high-speed internet. Recently, Ghana launched a universal QR Code payment system following safety concerns

FIGURE 6. Comparative view: Growth in the number of ATMs (2014–2017) vs. share of digital payments (2017)



during the COVID-19 pandemic. This allowed payments to be conducted through smartphones, supported by an interoperable switch that enabled full interoperability between banks and MNOs (Joy Online 2020).

Interoperability

Interoperability is key to a successful, inclusive digital payment ecosystem. The vast majority of countries worldwide have recognized the importance of a local switch that:

- enables interoperability through ATMs, POS devices, electronic payments, and more;
- has an optimal infrastructure for banks to connect to; and
- allows real-time payments 24/7.

The successful attainment of these three items creates a strong foundation for the scale-up of digital payments by promoting quick, safe, and efficient transactions.

As identified by a Consultative Group to Assist the Poor (CGAP) study on interoperability (Garcia Arabehe et al. 2016), interoperable payment systems have the potential to make it easier for people to send payments to anyone and receive payments from anyone quickly and cheaply. Financial service providers also welcome the new business opportunities that would emerge from this higher volume of transactions, and policymakers see interoperability as a way to bring financially excluded segments of the population into the financial system,¹⁹ thus fostering financial inclusion.

Expanding mobile wallet interoperability (where multiple mobile wallets exist) can increase financial inclusion by bringing down the costs of payments in the market, especially for people with a low income and informal businesses, as identified by Financial Sector Deepening (FSD) Kenya. One of the most successful cases of mobile money interoperability is in Tanzania; it was launched in 2014 and now accounts for about 30% of person-to-person transactions (Mburu 2018).

Rolling out interoperable systems should, nonetheless, keep end-user fees as low as possible. This requires a concerted effort among the switch, scheme, and payment service providers to implement fee structures where customers have an economic incentive to use interoperable payments, and where providers see the value in promoting this service. There are four main fees that need to be thoroughly considered in developing this structure. The CGAP (Niehaus & Cook 2018) defines them as follows:

- Scheme fees: Charges made to providers for their membership or participation in an arrangement that defines mutually agreed terms for how to interoperate, such as the fees paid to ethioPay, MasterCard, or Visa
- Switch fees: Charges made to providers for routing transactions through a central technology solution (i.e. a switch), such as EthSwitch

- Interchange and interpay fees: A balancing payment between providers to help close the economic imbalance among providers in the case of interoperability, such as the fee paid by one ATM network to another when customers use ATMs across networks
- End-user fees: Payments that the customer makes for using the services of interoperability. All economic decisions taken at the scheme, switch, and provider levels ultimately impact the end user.

Payment gateways are an important component of digital payments infrastructure. A payment gateway is third-party software that securely connects a customer's bank account to the platform to transfer money through different payment modes (including net banking, credit card, debit card, Unified Payment Interface, mobile wallets). On a payment purchase, it validates a consumer's details, confirms availability of funds, and completes the payment process by exchanging information between banks, websites, or apps. It is commonly used on online purchases but has other applications. The payment gateway interacts with the switch infrastructure. Once a payment gateway collects a payment request, the transaction is directed to the switch, which then directs the transaction to the right issuing bank/payment service provider for authorization.

Payment gateways are particularly important for online payments and are an important component in integrating payment apps. There are examples of innovative initiatives globally, such as the Network for Electronic Transfers (NETS) in Singapore.²⁰ This is a collaboration of the banking community to create a payments infrastructure in Singapore, tailored for consumers, merchants, and banks. The infrastructure is accepted nationwide and includes 40,000 unified POS terminals and 55,000 QR Code acceptance points. Belgium also provides an example of banks collaborating to create the Interbank Standards Association Belgium (ISABEL), providing a joint network, service provider, and customer software. ISABEL offers two payment gateways with the aim of processing high-volume payments (Gulati & Srivastava 2007).

ID infrastructure

Tiered KYC programs have helped countries overcome broader countrywide limitations due to the lack of a

national ID system. The Financial Action Task Force (2020) recommends taking a risk-based approach in customer due diligence to address specific barriers to financial inclusion. Mexico has implemented a tiered form of KYC, enabling formal transactions for those customers excluded from the financial sector due to the lack of an ID (Faz and Dias 2011). This tiered system provides options, allowing restricted provision of financial services to those without an ID, but giving those with the necessary documentation and ID access to a wide range of financial products, including international transfers and credit services. In Africa, countries including Nigeria have also implemented specific forms of tiered KYC to increase access to financial services, especially for those communities that would not have a formal ID or documentation despite there being a national ID scheme (Alliance for Financial Inclusion 2019).

STRATEGIC ACTIONS

To support the development of a reliable and interoperable infrastructure, two categories of strategic actions have been designed. Nine strategic actions have been prioritized within the two categories to support infrastructure improvements. The two categories are:

- increase access points of digital infrastructure; and
- establish full interoperability across payment channels (e.g. POS, ATM, e-banking, mobile).

These are supported by a specific set of actions:

ACCESS POINTS

Action 1: Address technical issues of ATMs and POS

Action 2: Expand ATM and POS access points

Action 3: Review business case to expand agents

Action 4: Increase telecommunications reach through network and devices

INTEROPERABILITY

Action 5: Establish an Automated Clearing House (ACH) for electronic fund transfers

Action 6: Expand interoperability to all players and platforms

Action 7: Develop a payment gateway

Action 8: Establish real-time payments (RTP)

Action 9: Standardize bank instruments

B2.1.1 Access Points

Traditionally, the financial sector has relied heavily on high-cost infrastructure channels to serve its clients (branches, ATMs, POS machines). The introduction of agent and mobile banking channels, and the emergence of more affordable platforms such as M-POS, have changed this paradigm, allowing for financial institutions to expand their infrastructure with lower-cost delivery models. For financial institutions, the emergence of the new delivery models is shifting the economics of banking to reach people with a low income, contributing to the financial inclusion agenda.

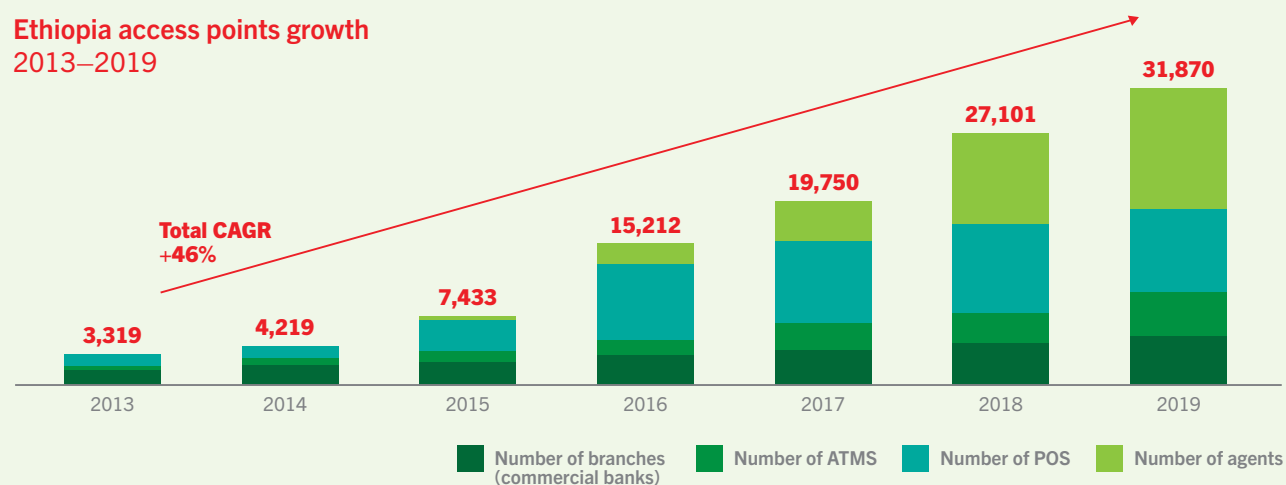
As seen in Figure 7, Ethiopia is steadily increasing the number of traditional (ATM, POS) and non-traditional (agents) access points to financial services. Ethiopia has also furthered its reach of access points outside of major urban areas by leveraging bank agent networks and MFIs; however, there is still opportunity for improvement. Despite the growth, branches, ATMs, and POS machines are still highly concentrated in urban areas. Additionally, users frequently report facing issues with ATMs and POS machines, thereby decreasing overall demand for digital channels.

Increasing adoption of digital payments will be reliant on increasing access to CICO infrastructure in urban and rural areas. In urban centers, expansion of ATMs will have a preponderant role in the CICO infrastructure, supported by an increase in agent networks; whereas in rural areas, the agent network will serve as the primary CICO infrastructure. This takes into account, and is dependent on, the customers' socioeconomic norms and the required business case for each infrastructure model.

FIGURE 7. Access Points²¹

Source: National Bank of Ethiopia

Ethiopia access points growth
2013–2019



ACTION 1 Address technical issues of ATMs and POS

A consistently positive experience with digital payments channels is critical to secure user trust in the ecosystem. The average success rate of transactions on traditional banking platforms is 85% (EthSwitch 2019). A poor user experience leads to resistance to change and a low level of adoption. Addressing current technical issues of the existing digital channels (ATMs and POS) is a priority.

As seen in Figure 8, users have cited being debited multiple times when using ATMs and POS machines, a lack of available cash in ATMs to withdraw money, and both ATMs and POS machines being frequently inoperative. In addition, in case of dispute, the process to present claims and recover funds tends to be complex and time-consuming.

Overall, users say they prefer, when possible, to withdraw cash from bank branches and use it for payments.

“I gave up using my card—it’s more trouble than convenience.”
 — Quote from strategy stakeholder engagement

EthSwitch currently produces a quarterly bulletin providing statistics and proposing next steps to address the main causes of unsuccessful transactions at ATMs.²³ The same data will be available for POS once EthSwitch rolls out implementation.

While significant effort needs to be made to address technical issues, especially within the banks that need to set up redundant infrastructure and proactively monitor their systems (the main cause of declined transactions is a non-operative issuer), statistics also point to the need for investment in customer awareness (the second most common cause for declined transactions is misuse).

Additionally, a robust customer redress mechanism (CRM) with deadlines for resolution is necessary to boost trust in the system. In a best-in-class CRM, deficiencies have to be fined, customers have to be compensated, and the burden of proof of a customer’s false claim or mischief lies with the bank. EthSwitch has a CRM in place with specific timelines for the review of complaints and compensation of customers, but the measures and enforcements need to be upgraded to match global good practices.²⁴

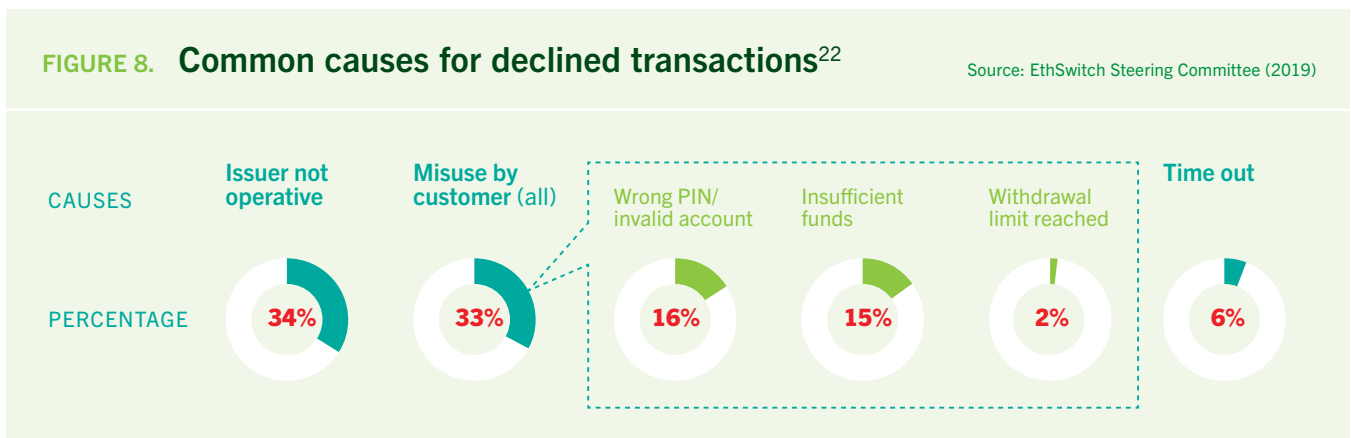
PRIORITIZED RECOMMENDATIONS:

- In coordination with EthSwitch, continue to prepare the Quarterly Transaction Bulletin and extend it to other channels (e.g. POS).
- In coordination with EthSwitch and banks, set up a quarterly meeting to discuss findings from the report and define an action and monitoring plan.
- In coordination with EthSwitch and banks, revise the CRM, including enforcement tools in line with global good practices.
- In coordination with EthSwitch and banks, prepare plans to set up redundant infrastructure at each bank.

The success of this action is dependent on Action 18, launching an awareness program targeting digital platforms.

FIGURE 8. Common causes for declined transactions²²

Source: EthSwitch Steering Committee (2019)



ACTION 2 Expand ATM and POS access points

Bank branches, ATMs, and POS terminals are important access points to achieve financial inclusion. Nearly 47% of ATMs and 77% of POS machines are estimated to be in Addis Ababa, the capital of Ethiopia, and in proximity to bank branches.²⁵ The population of Addis Ababa is approximately 3.1% of the total Ethiopian population.²⁶ The concentration of POS devices and ATMs, and to some extent branches, is uneven.

The investment by banks in ATM and POS infrastructure is high, and banks currently report low-to-negative return on investment. For ATMs, a fee is charged per transaction; for POS, currently no fees are being charged, and in some cases, discounts are being given to the transaction amount.

Currently in Ethiopia, the POS terminals and ATMs are owned by the banks, meaning that the banks are responsible for their operation and maintenance. Third-party service providers—either through a brown-label (licensed to banks but owned and maintained by non-financial service providers) or white-label option (licensed and owned by non-financial service providers)—are not allowed/available. In other markets, white-label ATMs and POS terminals provide an alternative to boost expansion of this infrastructure.

The NBE is currently assessing the possibility of allowing brown-label options to incentivize expansion of ATM and POS access points under the draft Payment System Operators Directive. The model will allow third-party service providers to own and maintain ATMs or POS machines, while having a service-level agreement with financial institutions for cash management. This will enable financial institutions to focus on core businesses and, in parallel, promote expansion of access points.

In addition, encouraging the use of more affordable platforms, such as M-POS, is important for wider adoption of digital platforms by merchants. Plans for the scale-up of M-POS in Ethiopia by EthSwitch are contingent on relevant use cases. Duly analyzing the benefits of using M-POS services will be required prior to scaling.

PRIORITIZED RECOMMENDATIONS:

- Review the framework to allow for brown-label and white-label ATM and POS options.
- In coordination with EthSwitch and Fintechs, conduct analysis to identify relevant use cases and evaluate the viability of the introduction of M-POS.
- In coordination with EthSwitch and banks, prepare an expansion plan identifying priority areas for new ATM and POS infrastructure.
- The success of this action is dependent on Action 6, EthSwitch implementing full interoperability to all players and platforms, and Action 30, clarifying roles and responsibilities for Fintechs.

ACTION 3 Review business case to expand agents

Agent banking is an important alternative access point to traditional financial services infrastructure. For the financial sector, in contrast with physical bank branches, agent banking carries reduced infrastructure and human resources costs, while significantly widening regional coverage.

It is also beneficial for the small and medium-sized enterprise (SME) sector, as it generates incremental revenue from both the commissions from the banks and increased sales from additional customer traffic. Agent banking is a relatively new concept in Ethiopia, and the number of agents has been growing steadily, as seen in Figure 9. However, the number of transactions by agents is still relatively low, with the banks and users reporting a weak business case as the main reason.

The reported challenges to the current business case are:

- Use cases: Agents are mostly used to CICO but are reported to be geographically redundant with traditional access points. Utility payment is available but with restrictions.
- Fees: The cost per transaction for users is relatively high compared to traditional infrastructure.
- Requisites: Licensing requisites are restrictive; agents need a valid business license and proof of no criminal record, which are difficult to obtain.
- Acquisition: Bank agent acquisition is not a simple one-off task. The return on investment for agents is very low.

Additionally, creating a business case that targets female agents will help promote the adoption of digital payments and thereby increase financial inclusion. Evidence

provided by the GSMA and others (Lindsey & Wilson 2019; Aakanksha 2016) has shown that female agents improve the acquisition and retention of both female and male customers, while also appealing more to women, who are half of the potential customer base (Ryan 2019).

Regulatory aspects of agent banking are addressed in Strategic Pillar 3: build a robust and consistent regulatory framework.

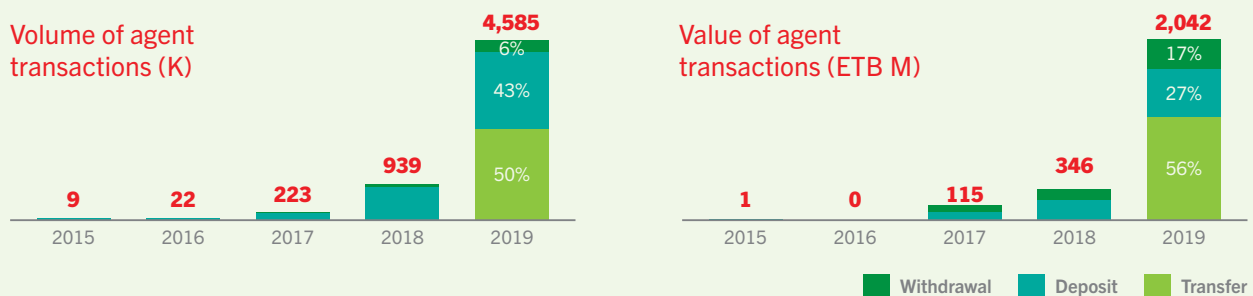
PRIORITIZED RECOMMENDATIONS:

- In coordination with financial institutions, prepare a reviewed business case and develop a strategy to expand agent banking in Ethiopia:
 - Fees
 - Requisites (proof of criminal record)
 - Acquisition process
 - Female agents
- In coordination with financial institutions, map and track the growth in the number of agent access points over time.

The success of this depends on actions addressed in Strategic Pillar 3, in particular Action 24 to monitor implementation of a new Use of Agents Directive and Action 25 to monitor the participation of non-bank financial institutions in mobile money services.

FIGURE 9. Agent transactions 2015–2019

Source: National Bank of Ethiopia



ACTION 4 Increase telecommunications reach through network and devices

Access to reliable and geographically pervasive telecommunications infrastructure is essential for the scale-up of digital payments. The Ethiopian telecommunications sector is being reformed to sustain a digital economy, and the reforms are expected to bring about significant infrastructure development in the telecommunications industry. Active alignment and input from the financial services sector on infrastructure development priorities will be important.

The Ethiopian government has channels in place for this alignment. The public enterprise governance framework will be leveraged to ensure that the development of telecommunications infrastructure meets the digital payment ecosystem requirements. This will be particularly important for the development of infrastructure in rural areas, where commercial viability of the projects may be low for MNOs. The NBE will work with the MInT, as the telecommunications sector policymaker, and the MoF to develop and competitively tender projects. These projects will be funded by the MNOs and the government in line with the community service obligation framework defined in the recently drafted public enterprise proclamation.²⁷

In addition to increasing telecommunications network coverage, access to mobile devices will be important to enable modern and accessible financial solutions, such as mobile wallets and mobile banking. In Ethiopia, access to mobile devices (feature and smart phones) is at 32% as of Q1 of 2020.²⁸ The National Digital Transformation Strategy (NDTS) has identified affordability as the main challenge to inclusive access to mobile phones resulting from policies developed to protect local mobile phone assemblers. In an effort to expand access to mobile phones, the NDTS has defined a project to be led by the MoF to develop market incentives that would increase the affordability of mobile phones.

As Ethiopia gears towards advancing digital payments, increased access to the telecommunications network infrastructure and mobile phones will be essential.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the MInT and the MoF, promote the expansion of the telecommunications network infrastructure through the use of the community service obligation framework.
- In coordination with the MInT and the MoF, place market incentives to promote the accessibility and affordability of mobile phones.

B2.1.2 Interoperability

Payers and payees need interoperability if the use of digital payments services is to develop. The interoperability of platform, agents, and customers is related, but the concepts are distinct.

CGAP research (Tarazi & Kumar 2012) on the subject summarizes these three different forms of interoperability as follows:

- platform interoperability, which allows for payment transactions between different service providers;
- agent (non-)exclusivity, which allows for a single agent to act for multiple service providers; and
- customer interoperability, which would allow a customer to access any phone on the same network with a SIM card and to access multiple accounts using one SIM card.

This section of the strategy addresses platform interoperability. Interoperability enables convenient, fast, and seamless transactions across payment service providers in the payment ecosystem. It accelerates the speed of innovation by fostering inclusion and allowing connectivity across the ecosystem. Interoperability of a digital payments infrastructure is being developed in Ethiopia. The NBE created the Ethiopian Automated Transfer System as an integrated funds transfer and settlement system. All banks currently participate in the system, and it is available for use by MFIs. The Real-Time Gross Settlement (RTGS) system has been fully implemented with a positive impact on settlement processes and the management thereof. In collaboration with banks, the NBE is also further developing the national payment switch (EthSwitch) with the intention to enable full interoperability across all banks and MFI payments; currently, the system is only active for ATM switching.

The current priority is to ensure full interoperability; once established, efforts will focus on enhancing interoperable structures to allow real-time payments available 24/7. Faster payments or immediate funds clearance and availability are particularly important in situations where the digital payment system competes directly with cash.

ACTION 5 Expand ACH for electronic funds transfers

A modern digital clearing and settlement system is vital for a digital payment ecosystem. Payments systems in Ethiopia were radically modernized in 2011, when the NBE launched the Ethiopian Automated Transfer System (World Bank Group 2020a).

The system has two key components, RTGS and ACH:

- **RTGS** is an electronic form of funds transfer for high-value or time-sensitive payments, where money transfer takes place from one bank to another bank in real time and on an individual order basis. Interbank settlement happens throughout the day, rather than just at the end of the day.
- **ACH** is an electronic clearing system in which high-volume, low-value payments are exchanged among financial institutions.

ACH is currently only being used for checks. Current settlement is T+2 due to the existence of non-standard checks within the payment ecosystem. The NBE has an initiative to standardize checks to streamline clearance.

ACH is also designed for low-value payments (electronic fund transfers); however, these are not available today. The NBE is expecting to roll out this functionality by end of 2021; initially the settlement expected is T+1, to progress over time to T+0. The maximum daily limit for ACH payments will be determined by the banks.

This functionality is a critical milestone to build use cases for digital payments. It will increase the efficiency, interoperability, and cost-effectiveness of payments for both the private and the public sectors, allowing for electronic payments between the government, businesses, and individuals, thereby replacing the use of checks and cash. Furthermore, this is an important component to enhance cooperation while enabling competition within the financial sector.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the banks, roll out ACH for low-value payments to enable faster payment processing.

The success of this action is dependent on Action 9, the standardization of bank instruments.

ACTION 6 Expand interoperability to all players and platforms

A fully interoperable local switch is imperative for Ethiopia’s digital payment ecosystem. Today, only banks are members of EthSwitch, and the only interoperable channel is ATMs. EthSwitch plans to extend participation to all financial sector players and to all platforms, including POS, e-banking, and mobile wallets. Roll-out to POS is already being piloted across limited merchants in Addis Ababa, with scale-up expected by the end of 2021.

Following the successful implementation of POS interoperability, mobile wallet and e-banking will follow, respectively. Expanded membership to all players and interoperability across all channels is a priority for the successful implementation of digital payments in Ethiopia. While expanding, focus on mobile wallet interoperability will be important. Infrastructure readiness for the interoperability of mobile wallets will enable Ethiopia to overcome challenges and catch up with regional pioneers.

An appropriately balanced interparty fee structure will drive off-network transaction volumes (and hence broader adoption of digital payments) and further lower scheme and switch costs on a per-transaction basis.

Today, EthSwitch calculates the cost per transaction and, in coordination with the member institutions, defines the fee structure at a payment system level. This is then approved by the NBE for implementation. As interoperability across institutions and payment instruments grows, a streamlined and balanced interpay fee structure will be required.

PRIORITIZED RECOMMENDATIONS:

- In coordination with EthSwitch, prioritize the roll-out of EthSwitch’s interoperability plans.
- In coordination with EthSwitch, develop a balanced interpay fee structure that ensures low end-user fees, while promoting the provision of digital payment services by financial institutions.

ACTION 7 Develop a payment gateway

Payment gateways are an important component of digital payments infrastructure, in particular for online payments and for integrating payment apps. Currently, there is no payment gateway in Ethiopia.

The success of various ongoing digital initiatives across public and private sector institutions is contingent on the establishment of a payment gateway. The MInT and the Ministry of Trade and Industry are currently developing a national business portal,²⁹ highlighting the urgency of the development of a payment gateway to support online payments. Other government-led initiatives—such as vehicle inspection and traffic ticket payments at the Ministry of Transport, e-tax payments at the Ministry of Revenue (MoR), and service payments at the Addis Ababa City Administration—are also reliant on the payment gateway.

As the different players in the ecosystem develop their payment platforms and services, a payment gateway becomes a critical enabler of a digital payment ecosystem. The lack of a payment gateway is playing a significant role in limiting the uptake of digital payments by end users and merchants. Some private sector companies have opted to avoid digital payments until a payment gateway is established, stating that cash is more convenient than dealing with numerous banks to enable payments on their platforms.³⁰

PRIORITIZED RECOMMENDATIONS:

- In coordination with EthSwitch, revise and accelerate the plan to develop a payment gateway.

ACTION 8 Establish real-time payments

Real-time payments (RTP), also known as instant payments, are common for low-value, high-frequency payments.

In a typical RTP system, four key steps happen almost instantaneously:

- authorization of the transaction (i.e. presence of adequate funds certified);
 - immediate availability of funds for the transaction;
 - instantaneous settlement of outstanding obligations between financial institutions; and
 - notification: payee receives the funds, and payer receives confirmation of the status of the transaction.
- This instantaneous transfer of funds is particularly important in situations where the digital payment competes directly with cash, as in the case of Ethiopia.

Retail RTP do not exist in Ethiopia. However, EthSwitch, along with its plans to expand interoperability, intends

to roll out RTP for mobile-based transactions, card-to-card payments, and card-to-account payments. This will promote the adoption of digital payments as customers reap the benefits of instantaneous and safe access to payments made.

The establishment of RTP will enable transformational innovation in the broader digital transformation, in areas such as ride-sharing, delivery, e-commerce, and more.

PRIORITIZED RECOMMENDATIONS:

- In collaboration with EthSwitch, establish retail RTP systems.

The success of this action is dependent on Action 6, expanding interoperability to all players and platforms.

ACTION 9 Standardize bank instruments

Standardization in the financial services sector is very important, as it allows for a common language among the key players (e.g. unique keys for credit databases), supports harmonization and streamlining of services involving multiple players (e.g. settlement of interbank transactions), and defines the level of quality and compatibility for users (e.g. reconciliation with corporate clients' accounting systems).

Today, there is little standardization in Ethiopia's financial services sector, creating inefficiencies for the payment infrastructure. Users have reported:

- Bank statements: Non-standard statements create a burden for companies for reconciliation of bank payments and transactions with accounting and auditing systems.
- Transfers: The non-standard details required to request a transfer create additional customization work for users, particularly companies when processing salaries.
- Checks: Two standards are used (for business and personal checks), and processing requires implementation of a system by all banks, increasing cost and compromising efficiency.

Furthermore, it is important to note that checks are becoming less common and are tending to be discontinued in the global payment ecosystem as paperless transactions become more prevalent due to digitization.

Standardization of key bank instruments is a critical step to allow for an efficient payment ecosystem.

PRIORITIZED RECOMMENDATIONS:

- In coordination with banks and users, identify key areas for standardization.
- Define standardization guidelines based on global good practices.

B2.2 Strategic Pillar 2: Champion adoption of inclusive digital payments

BASELINE AND KEY CHALLENGES

Adoption of digital payments needs to be improved from a demand-and-supply perspective. From the demand side, the population, and the public and private sectors, carry cash to make payments; and from the supply side, due to the limited demand, there is not a thorough business case to develop a digital payments offer. Demand and supply are interdependent, and targeted measures need to be taken to break the established vicious cycle.

‘በፌስታል ብር ይዘን እስከመጥኝ’ (“How much longer will we have to carry cash in plastic bags?”)

—Quote from strategy stakeholder engagement

According to the World Bank, in 2017 only 4% of the population held debit cards (compared to 18% in sub-Saharan Africa), fewer than 1% held credit cards (compared to 3% in sub-Saharan Africa), and 12% made a digital payment (compared to 34% in sub-Saharan Africa) (World Bank Group 2020d) (see Figure 10).

Today, in Ethiopia, more than 90% of all retail transactions³² are estimated to be conducted in cash. Low- and high-value transactions are most often carried out in cash, with few exceptions. Cash Purchase Orders (CPOs) and checks are used as alternatives to pay suppliers in the corporate public and private sectors, as well as high-value goods for consumers (e.g. housing, cars). Corporate wages from the public and private sectors, as

FIGURE 10. Digital payments adoption across regions

Source: World Bank Group (2020d)

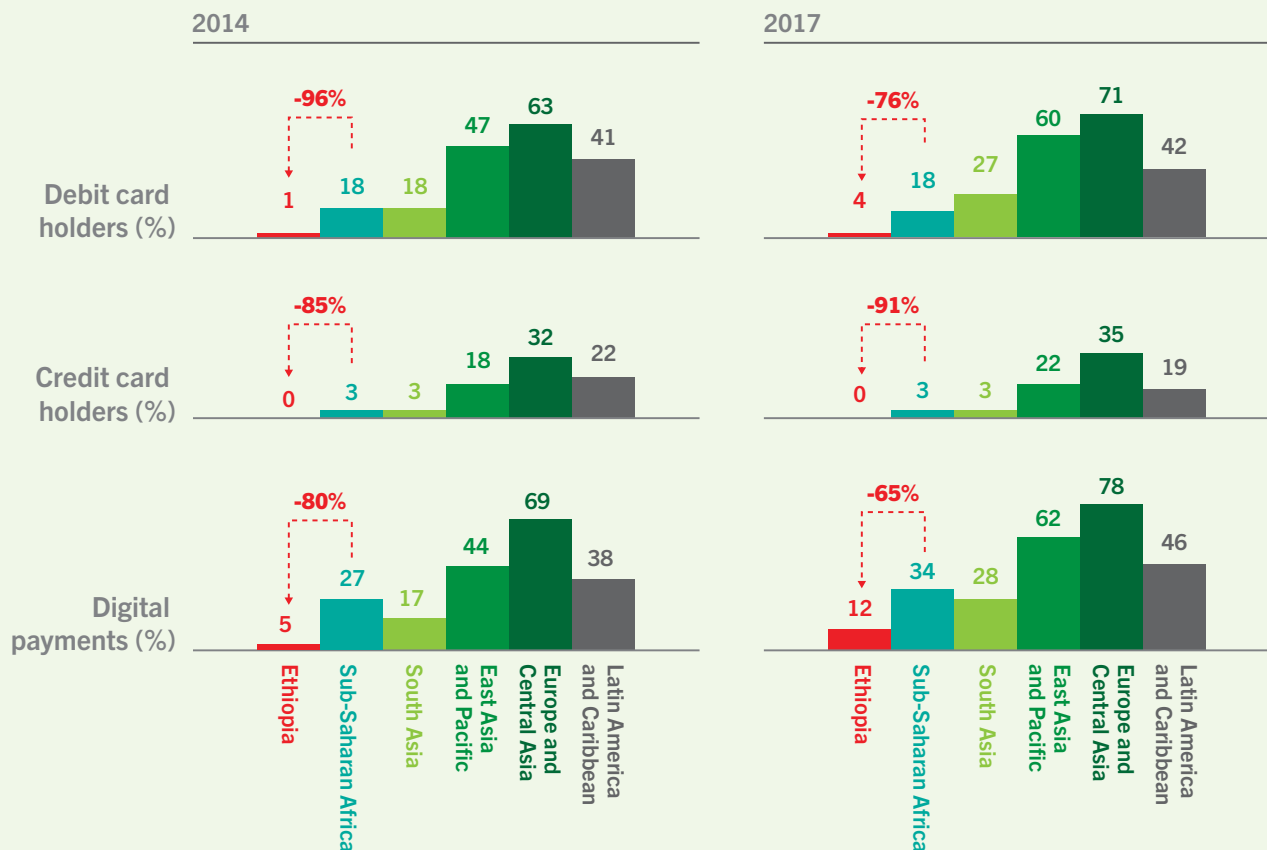


FIGURE 11. ILLUSTRATIVE EXAMPLE: E-tax

The Ministry of Revenue (MoR) has implemented an electronic tax payment system that enables taxpayers to declare and pay their taxes online, reducing the time and cost commonly associated with tax payments. The system integrates the MoR with a bill aggregator, commercial banks, and the NBE. The e-tax payment system is championed by the Prime Minister of Ethiopia, and currently has about 3,000 registered payers on its system. While the system's maximum hosting capacity is 10,000 payers and only targets high-volume taxpayers, a mobile-based system is under development to target low-volume taxpayers.

How the current system works:

1. Taxpayers register on the MoR e-file system to activate their e-tax accounts.
2. Taxpayers declare their taxes through an online platform with the MoR.
3. Taxpayers pay required taxes via online banking services with banks (initially started with Commercial Bank of Ethiopia and now expanding to other banks).
4. The NBE clears the payments, and the MoR system is updated accordingly.

The system is also integrated into the national business portal in the back end, which is currently under development by the Ministry of Trade, in collaboration with the MINT.

FIGURE 12. ILLUSTRATIVE EXAMPLE: Productive Safety Net Program

DIGITAL AID DISBURSEMENT (GOVERNMENT TO PERSON—G2P)

The Ministry of Agriculture (MoA)'s Productive Safety Net Program (PSNP)³¹ supports marginal communities at risk of hunger mainly through direct monetary disbursements. The program partners with local MFIs and Fintechs (MOSS ICT and BelCash) to leverage the comparative advantage of mobile money in accessing rural communities. Of the 8 million beneficiaries across 380 woredas (districts), about 30% of beneficiaries (around 2.6 million) are paid digitally through mobile money, amounting to approximately ETB4 billion transferred digitally per year.

How the system works:

1. The MoA hosts registration days at beneficiary communities to enroll beneficiaries in mobile money; the Ministry's team provides training for users.
2. The MoA disburses payments on a monthly basis through the MFIs.
3. MFIs issue payments to beneficiaries; beneficiaries receive notice on their (feature) phones.
4. Beneficiaries cash out or purchase goods at their nearest agent.

The program currently plans to enroll 100% of its monetary aid beneficiaries in digital payments, potentially amounting to more than ETB10 billion transferred digitally every year. Limited consumer skills, lack of access to mobile phones, and underdeveloped agent networks are, however, challenges the program has faced.

well as pension plans, can be paid by electronic transfer if within the same bank—it is common for the government, donors, and the private sector to ask their employees to open bank accounts at the employer’s banking institution (e.g. Commercial Bank of Ethiopia for government employees) so that the employer can electronically transfer wages. Mobile money is a relatively new concept in Ethiopia, and it is used mostly to buy airtime.

The Government of Ethiopia is committed to having a leading role in digitizing payments and driving adoption. The digitization of all government transactions will act as a foundational building block for increasing the use of digital payments in the country. In line with this, some digital payment use cases are emerging, with the government and donors championing these. Two use cases are highlighted in Figures 11 and 12. However,

a number of other success stories show that strong use cases can drive adoption of digital payments.

There is an opportunity to leverage the momentum of the existing digital payment use cases to continue the growth of digital transactions. These success stories illustrate the potential for additional strong use cases in Ethiopia.

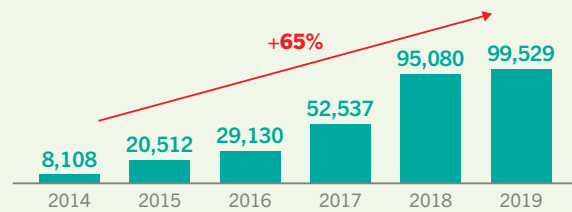
There are four types of digital transactions in the Ethiopian market today:

- ATM transactions: Withdrawing cash, transferring funds, and checking balances
- POS transactions: Paying with a debit or credit card through a POS machine
- Mobile banking transactions: Making payments through a mobile wallet
- Internet banking transactions: Making payments online through a banking website.

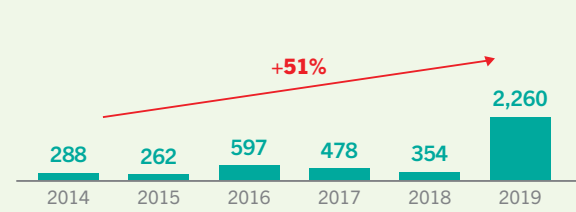
FIGURE 13. Digital payments by type

Source: National Bank of Ethiopia

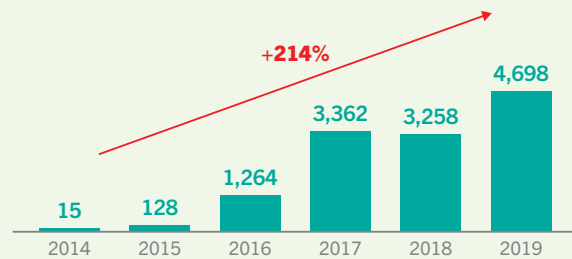
ATM transactions (K)



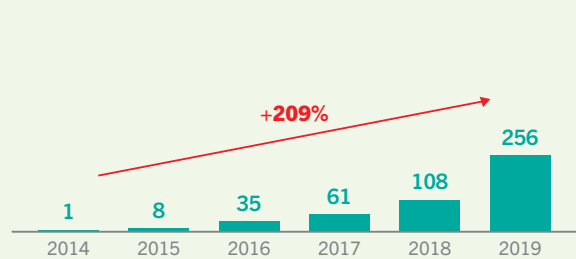
POS transactions (K)



Mobile banking transactions (K)



Internet banking transactions (K)



As shown in Figure 13, Ethiopia has experienced recent growth in these transactions, but there is still a significant opportunity for additional growth. ATM transactions account for the largest share of digital transactions, with 64% for cash withdrawals (EthSwitch Steering Committee 2019). POS transactions are also growing; however, an estimated 40% of the machines are estimated to be used in bank branches to withdraw cash rather than to transact with merchants.³³

In Ethiopia's financial sector, the current products and services available for transactions are not part of profit-driven business. CICO is not a business for the banks. No (or minimal) fees and commissions are charged today for cash and digital transactions. Furthermore, there is no differentiated pricing strategy to incentivize the use of certain types of transactions (digital vs. cash). A lack of a compelling business case is encouraging the use of cash from a demand-side perspective and hindering the appetite to invest in and innovate digital platforms from a supplier perspective.

Today, financial services in Ethiopia are highly concentrated in urban middle-income areas, with 35–75% of traditional bank infrastructure located in Addis Ababa.³⁴ Broader geographical accessibility is critical to achieve financial inclusion across the country. Regional differences, such as language, geographical infrastructure gaps, and population density, are some of the factors that need to be considered to enhance financial inclusion at a national level. The NBE has taken financial inclusion as its priority, and in 2017 developed a national financial inclusion strategy,³⁵ with a dedicated secretariat coordinating the implementation efforts across the broader ecosystem.

GLOBAL GOOD PRACTICES

For the adoption of digital payments, global good practices have been identified on scalable use cases, incentives, awareness and literacy programs, and inclusion.

Scalable use cases

Increasing the adoption of digital payments requires the identification or creation of scalable use cases that would increase the penetration of the specific payment system. Areas with a large domestic jobs sector

used to have vast informal economies relying on the circulation of physical banknotes and coins. Countries including Angola, Mexico, and Kenya, among others, have taken steps to include these domestic workers as part of the formal financial sector through the use of mobile money transactions (Eschenbacher & Irrera 2019). Further analysis went on to show that, globally, the shadow economy dropped 2.4 times faster in regions with mobile money presence.³⁶ Government payments have been a highly leveraged use case to promote digital payments, especially in regions where the government employs a large percentage of the population, or where the government provides large volumes of social cash disbursements.

Cross-border remittances are also enabled by digital payments. Globally, innovative new technology-based remittance models are challenging incumbent, bulky, and costly models. These new models help to reduce transfer costs and time, and improve access at both the sending and receiving ends. Some of the common digital cross-border remittance models include (Alliance for Financial Inclusion 2018):

- **Mobile money based:** Enables cross-border remittance through mobile money or wallet accounts. Mobile money accounts can be used both at the sending and receiving ends of the transfer. This model is prominent in West Africa, East Africa, Southeast Asia, and the Pacific. Examples include MTN Mobile Money³⁷ and Orange Money³⁸ in West Africa.
- **Online and internet based:** Enables users to transfer money through an online remittance platform, from their online banking account, debit card, credit card, and more. Receivers can get funds through several platforms, such as mobile money, bank account deposit, airtime top-up, or cash pick-up. Companies such as WorldRemit³⁹ and Xoom⁴⁰ are examples.
- **Online peer-to-peer:** These online platforms match senders in two countries without the need for money to cross borders. As the volume of cross-border movement of money is low, the cost of remittances is also relatively low. This is a fully online model, as no cash is accepted or sent out. Transactions can happen only through a bank account, card, or closed-loop

wallet offered by the provider. Examples include TransferWise⁴¹ and CurrencyFair.⁴²

- **Bitcoin and blockchain:** Enables money transfer through Bitcoin or other blockchain-based technology. Funds are sent and received in the respective local currency, but the cross-border transfer of funds happens through Bitcoin or other cryptocurrencies. Examples include Abra⁴³ and BitPesa.⁴⁴

Implementing one or more of these solutions requires a nuanced approach in each economy.

Incentives

To further encourage the adoption of digital payments, central banks and governments have looked at how to incentivize customers to use these systems, how merchants can be prompted to accept digital payments, and how commercial banks and innovators can be encouraged to invest in and leverage digital payment platforms. A practice that is being used globally is to create disincentives for cash transactions. Some countries, including Sweden, have outsourced the handling of cash to profit-driven subsidiaries, leading to increased downstream cash-handling costs for both commercial banks and consumers (Knowledge@Wharton 2018). Upon analyzing the transaction fees charged to consumers by commercial banks in India and Brazil, it becomes evident that internet and mobile banking are significantly cheaper than cash and in-person banking (State Bank of India 2020; Banco do Brasil 2019).

Other countries have taken several steps to incentivize the use and implementation of POS devices. Incentives for merchants have been a major factor in fostering adoption, with Thailand offering tax credits to merchants in return for accepting digital payments (Bank of Thailand 2017); India subsidizing the costs of implementation by offering a 0.5% subsidy per transaction; South Korea providing tax relief to merchants for credit card sales (WalletBuddy 2017); and Uruguay providing VAT rebates (from 22% to 18%) for digital transactions and subsidizing POS infrastructure (Moneytrans 2018).

Consumer-side policies have also been leveraged, with South Korea offering rebates to consumers for

purchases. Some authorities have also introduced, reduced, or regulated fees for digital transactions, in an attempt to address the wider cost barriers to entry for both consumers and merchants. For example, Nigerian card transaction fees are limited to 0.75% or below, and Moroccan fees are maintained below 1% by the regulator (Yoco 2019).

Awareness and literacy programs

The digitization of financial products and services, and the consequent need to strengthen digital financial literacy, has become an important component of the global policymaking agenda (OECD 2018). The G20 High-Level Principles on Digital Financial Inclusion (Global Partnership for Financial Inclusion 2016) show that it is critical to enhance digital and financial literacy in light of the unique characteristics, advantages, and risks of digital financial services and channels, to support their evaluation and dissemination, and to promote a responsible and beneficial development of digitization by building trust and confidence in the acquisition and use of digital financial services by the financially included and excluded.

The Asian Development Bank (2019) proposed four dimensions that should form the definition of digital financial literacy and, hence, need to be included as part of financial literacy initiatives:

1. Knowledge of digital financial products and services, including payments, asset management, alternative finance, and other internet-based services
2. Awareness of digital financial risks, including phishing, pharming, spyware, SIM card swapping, profiling, and hacking
3. Financial risk control, which involves users' understanding of how to use devices, and how to protect themselves from the risks mentioned in dimension 2, including protecting Personal Identification Number (PIN) information and other personal information
4. Knowledge of consumer rights and redress procedures, in the event of falling victim to the risks mentioned in dimension 2.

Inclusion

Global economies are increasingly recognizing the importance of gender equality in financial inclusion to drive overall financial inclusion. The UK and Mexico have taken several steps to increase the rate of financial inclusion among women, including the collection of sex-disaggregated data, development of data-based insights, application of insights to increase the economic participation of women, and use of market research to guide product development for women. These steps have demonstrated the importance of increasing the adoption of digital payments by women.

Mexico used sex-disaggregated data to guide the Financial Reform Law and the National Program for Gender Equality. It further used these data to identify areas that were impacting women's ability to be financially excluded, identifying the prevalence of high levels of women in domestic, informal sectors. In the UK, Bangladesh, and Mexico, information was gathered about the financial impacts on women business owners. These data were subsequently used to identify areas where interventions were required, and further used to enable banks and financial institutions to tailor products and services better suited to women's demographics. The UK has maintained a good gender balance over the last 10 years by applying these methods. Mexico has shown a significant reduction in gender discrepancy in financial inclusion, from a 12.2% discrepancy in 2001 to 2.9% in 2017.

STRATEGIC ACTIONS

To build consumer trust and drive adoption, four categories of strategic actions have been designed. Eleven strategic actions have been prioritized within the four categories to increase the supply of and demand for the adoption of digital payments in Ethiopia. The four categories are:

- prioritize scalable use cases to facilitate faster adoption;
- develop incentives to migrate to digital payments;
- create responsible awareness and literacy programs to educate users; and
- facilitate and encourage inclusion.

These are supported by a specific set of actions:

SCALABLE USE CASES

- Action 10: Digitize government and state-owned-enterprise (SOE) payments and collections
- Action 11: Digitize social protection and humanitarian payments
- Action 12: Digitize tourism transactions in and out of Ethiopia
- Action 13: Digitize payments in agriculture
- Action 14: Digitize cross-border remittance

INCENTIVES

- Action 15: Implement cash-handling fees for financial institutions
- Action 16: Impose limits on cash transactions
- Action 17: Create tax incentives for electronic taxable transactions

RESPONSIBLE AWARENESS AND LITERACY PROGRAMS

- Action 18: Launch an awareness program targeting digital platforms
- Action 19: Design use-case-specific capacity-building programs

INCLUSION

- Action 20: Capture sex-disaggregated data to inform responsible and intentional decision-making
- Action 21: Launch services and solutions targeting financially excluded segments
- Action 22: Encourage multi-language availability

B2.2.1 Scalable Use Cases

Transactions are commonly grouped into several categories involving three types of actors: Person (P), Business (B), and Government (G). Finding scalable use cases within these categories is a critical component to champion digital adoption. Prioritizing low-value, high-frequency payments on lower-cost platforms across these categories will encourage faster adoption. Over time, this leads to increased user confidence to migrate to digital channels and increased user trust in digital platforms, leading to an accelerated cost-efficient transition.

Numerous use cases can be considered within the Ethiopian context. Prioritization within the NDPS implementation timeframe considered scale (all government transactions, social cash disbursements, remittances) and broader Ethiopian government sector development priorities (agriculture, tourism).

It is important to note that a consumer market assessment will be done for each of the identified use cases to develop consumer-oriented products that meet the needs of consumers and drive adoption. It is also critical to ensure there are strong consumer onboarding/training programs for each use case. As also identified by the Better Than Cash Alliance (2016) in its Responsible Digital Payments Guidelines, “Designing digital payments for client (consumer) needs and capabilities will increase use and reduce complaints.”

ACTION 10 Digitize government and state-owned-enterprise payments and collections

The automation and digitization of government payments and collections is a major cornerstone in transitioning to a cash-lite society (World Bank Group 2020a).

The Ethiopian government, through its governing bodies, institutions, and SOEs has a prominent role in Ethiopia’s economy. State-owned or partially state-owned enterprises account for a significant part of the Ethiopian capital market. Prioritizing government and SOE use cases, for both making and receiving transactions, will enable faster adoption, since this captures a significant number of high-frequency payments, as also identified in the financial sector reform assessment. This will cover a significant proportion of the transactions within several categories:

- Government to Person (G2P): wages, pension payments
- Person to Government (P2G): individual taxes
- Government to Business (G2B): payments to suppliers
- Business to Government (B2G): corporate taxes
- Business to Person (B2P): SOE wages
- Person to Business (P2B): utilities, airline tickets.

Some of these transactions are already migrating to digital platforms. In particular:

- Wages and pension payments: Within the urban area, the government is using electronic transfers for most wages and pension payments today.
- Corporate and individual taxes: The MoR has introduced E-Tax, an electronic payment scheme that integrates the MoR, the NBE, and other banks on a web-based platform. Approximately 3,000 high-value taxpayers have registered for this service. The MoR is also developing a mobile payment option that targets low- and middle-level taxpayers.⁴⁵
- Utility and SOE payments: Digital utility payments for mobile top-up and water utility bills (in collaboration with the Addis Ababa Water and Sewerage Authority) are available at CBE Birr, Commercial Bank of Ethiopia’s digital wallet platform. Ethiopian Airlines is encouraging its customers to move towards digital channels by offering discounted pricing if purchasing

online through the website or the app instead of going to an Ethiopian Airlines ticketing counter.

However, extensive developments are still needed, including: putting in place an architecture for government payments and collections; automation of the payments process at the MoF; implementation of a Single Treasury Account; automation of government units at federal and regional levels; collection of government fees and utilities through private sector bill aggregators; and development of a more advanced e-government platform (World Bank Group 2020a).

This is an expansive undertaking and will require strong collaboration from key stakeholders, detailed baseline assessment, comprehensive planning, and a phased implementation plan. Implementation will have a vast impact on budget control, reduction of overall expenditures, and improving financial inclusion.

ACTION 11 Digitize social protection and humanitarian payments

Development organizations operating in Ethiopia frequently provide cash assistance to aid beneficiaries. Distributing cash carries substantial security and control risks.

Globally, aid and humanitarian payments are migrating to digital platforms (Nkamgang Bemo et al. 2017; GSMA 2019a; MasterCard 2016; Aid & International Development Forum 2016). In Ethiopia, prioritizing the migration of social protection and humanitarian payments to digital platforms has direct benefits, including improved efficiency and coordination, transparency, accountability, and security. Indirectly, it also contributes to the broader financial inclusion agenda, as paying using digital payments, such as mobile money, has the potential to connect financially excluded beneficiaries to the financial sector, serving as the first entry point into digital transactions. It will further support the government's goals if there is effective collaboration and coordination among humanitarian organizations making digital payments.

In Ethiopia, part of cash assistance is already migrating to digital platforms. In particular, the MoA provides PSNP payments, in partnership with donors, MFIs, and non-financial institutions through mobile money. In addition, digital payments can enable the government to respond better and improve long-term resilience as part of the COVID-19 response and any other future crises.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the MoF and the MoR, map and estimate (value and number of transactions) flows of transactions to and from government and SOEs in the six categories.
- In coordination with the MoF and the MoR, prepare a detailed assessment of existing capabilities, agreement on the scope and required changes, and a study of the required financial and technical resources (ibid.).
- Prepare a phased plan for migration of the different transactions to digital platforms.

The success of this action is dependent on Action 6, expanding interoperable infrastructure to allow mobile wallet or electronic transfer payments from user to government regardless of the banking institution.

This action is also applicable to non-donor-funded social aid programs delivered by the government.

PRIORITIZED RECOMMENDATIONS:

- In coordination with non-governmental organizations and other development-focused organizations, map and estimate (value and number of transactions) cash disbursements by development organizations.
- In coordination with the financial institutions, non-governmental organizations, and participating public organizations, prepare a phased plan for the migration of social protection and humanitarian payments.

The success of this action is dependent on Action 3, improved business case to expand agents; Action 24, monitoring implementation of a new Use of Agents Directive; and Action 27, strengthening financial consumer protection. Action 28, strengthening cybersecurity, is also important, as it will be important to ensure adequate cybersecurity of systems and conduct fraud awareness programs, agent due diligence, compliance monitoring, and transaction monitoring for any suspicious transactions. Finally, this action is dependent on Action 4, increasing telecommunications reach through network and devices.

ACTION 12 Digitize tourism transactions in and out of Ethiopia

Tourism is a priority sector for Ethiopia as reflected in the Homegrown Economic Reform Agenda and the National Digital Transformation Strategy. It is common for tourists who visit Ethiopia to convert foreign currency into Ethiopian Birr to use cash during their stay. For tourism out of Ethiopia, most Ethiopians cannot use their bank cards. Ethiopians who are leaving the country must request foreign currency through their banks and are limited to a maximum of USD3,000, which is handed to them in cash.⁴⁶

Digitization of tourism transactions will contribute to increasing the adoption of digital payments and capture foreign currency in the formal financial sector. For Ethiopians traveling abroad, pre-paid debit cards with foreign accepted currency will be available at banks. This will be implemented in line with foreign currency utilization principles, as stated in NBE Directive No. FXD/49/2017. For tourists coming in, a network of POS and ATM machines will be conveniently available to promote use of cards. In addition, interoperability of local mobile money solutions with international payment systems will boost convenience for incoming tourists.⁴⁷

PRIORITIZED RECOMMENDATIONS:

For tourism coming in:

- In coordination with the Ministry of Culture and Tourism, Tourism Ethiopia, and the major tourism industry players, map the priority tourist tracks and stop points (including accommodation, restaurants, and leisure and cultural sites).
- In coordination with the banks, extend the POS network within the prioritized tracks and stop points.
- In coordination with Ethiopian Airlines, launch awareness campaigns fostering the use of digital payments for tourists coming in.

For tourism going out:

- In coordination with the banks and international payment schemes, offer pre-paid debit cards with foreign accepted currency.

The success of this action is dependent on Actions 1, 2, and 16, which collectively increase merchant acceptance of digital payment methods. This will require partnerships with international payment schemes.

ACTION 13 Digitize payments in agriculture

Ethiopia's agricultural sector accounts for 33% of GDP, 72% of the country's workforce, and 75% of merchandise export revenue (UNDP). The economic performance Ethiopia has enjoyed over the past decade was initially driven by increases in agricultural yield, particularly in wheat and maize (Ethiopia's main crops besides coffee, oil seeds, and teff) (MInT 2020). The sector, however, still lags behind regional peers, with yields lower than sub-Saharan Africa on average (Tsan et al. 2019). Regional peers leverage digital payment solutions to enhance sectoral performance. For example, SmartMoney, operating in Tanzania and Uganda, currently serves more than 200,000 rural people and over 2,000 merchants (ibid.); 20% of the rural beneficiaries make digital payments for goods and services in their daily lives, and agriculture input payments are fully digitized in most SmartMoney communities.

The Homegrown Economic Reform Agenda stresses the need to use new and emerging technologies to modernize Ethiopia's agricultural sector. In a testament to this, the National Digital Transformation Strategy identifies

digitization of the sector as the first of four pathways: "Pathway 1: Unleashing the Value from Agriculture." Digital payments can play a significant role in modernizing the agricultural sector and contribute to the overall economy. According to the Global Findex Report, digitizing agricultural payments could cut the number of unbanked adults by up to half or more in Ethiopia (Demirgüç-Kunt et al. 2018). The GSMA (2019b) has also identified mobile money as a potential solution to curb common financial challenges for farmers, such as a lack of access to credit, savings, and insurance. The NDPS aims to unlock this potential by digitizing payments in the agricultural sector. To do so, it is important to identify the strategic starting position for the digitization of payments in agriculture.

PRIORITIZED RECOMMENDATIONS:

- In collaboration with the MoA and the Agricultural Transformation Agency, define priority commodities and value chains for implementation of digital payment solutions.

ACTION 14 Digitize cross-border remittance

Terminating international remittances in bank accounts can have a very positive impact on the flow of foreign currency into Ethiopia. The estimated yearly personal remittance value for Ethiopia was around USD5.7 billion in fiscal year 2018-2019. This is a significant contributor to the Ethiopian economy, representing 6% of GDP (UNDP). However, in some corridors, as much as 78% of total remittances are sent through informal channels (International Organization for Migration 2017), limiting the potential positive impact on the formal economy. And, of the volume that goes through formal channels, most remittances are terminated in cash (World Bank Group 2020a).

Globally, money transfer operators (MTOs) play a preponderant role in remittances, but in Ethiopia this role is limited. MTOs have to place their services through other financial institutions licensed by the NBE, which

ultimately results in a distribution network restricted to bank branches in main cities.

Increasing the ease of formal remittance, through digital channels, will create opportunities to terminate international remittance transactions in bank accounts and/or other transaction accounts, while also promoting the use of the formal economy.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the MoF and the MoR, review different options to digitize cross-border remittances, allowing for new operators, new technologies, and innovative schemes.
- Prepare an assessment to lift restrictions to allow MTOs to provide remittance services independently, with appropriate supervision.

B2.2.2 Incentives

Incentives are often an important way to support the business case to drive change in different industries and topics. Countering the cost of cash through fees is a critical component of championing the adoption of digital payments. It creates a cost incentive for the financial system players to invest in the development and expansion of the digital offer, and over time pass along the incentives to the consumers to opt for digital transactions instead of cash.

Additionally, revenue authorities can incentivize merchants to accept digital payments by offering them tax credits and by the overall reduction in operational costs for the companies. In other geographies, tax credits are further being used to encourage the creation of digital payment platforms for commercial banks and for innovators. Looking at the global adoption of digital payment systems, incentives can be identified as a key propagator.

ACTION 15 Implement cash-handling fees for financial institutions

In Ethiopia's financial sector, the cost of cash transactions is not formalized. The NBE does not charge financial institutions a fee for cash-handling services (e.g. dropping off and picking up banknotes). Financial institutions do not apply differentiated fees for cash transactions to their customers. Furthermore, transactions done at bank branches are free, while transactions completed through digital platforms (ATMs) have a cost. The current landscape includes most merchants accepting only cash and encouraging consumers to go to banks to withdraw cash to use for everyday expenditures.

The implementation of cash-handling fees by central banks for financial institutions can contribute to financial institutions feeling the full cost of cash and reacting by reducing cash acceptance and encouraging customers to use digital instruments. Over time, financial institutions pass along this cost to users through differentiated pricing structures for different payment channels, making digital transactions a more cost-efficient method of payment. This also creates an additional revenue stream for central banks and for financial institutions in the long term.

Establishing a contextualized cash-handling fee structure for financial institutions will create an important incentive for key players to develop and expand digital payment offerings in Ethiopia. Implementing this action will require a transition plan to facilitate the move from significant cash dependency to a cash-lite economy.

PRIORITIZED RECOMMENDATIONS:

- Map all cash-handling services provided to the banks and other financial institutions.
- Define a timeline to gradually introduce fees for cash-handling services for financial institutions, in line with global good practices.

ACTION 16 Impose limits on cash transactions

Cash offers anonymity and is not traceable. The lack of traceability can lead to tax evasion by businesses. To encourage the adoption of digital payments, it is necessary to impose a maximum value limit on cash transactions. Large-value transactions should be conducted through digital channels (e.g. card or electronic transfers). In other geographies, this has decreased terrorist financing, money laundering, tax evasion, and shadow economies (Global Legal Group 2019; Krishnan 2019).

The NBE is conducting internal analyses to impose limits on cash transactions, identifying as key challenges the lack of availability of access points (POS) and the resistance of informal merchants to move to digital due to tax implications. To determine the maximum cash transaction limit and successfully implement this measure, further studies need to be conducted within both the formal and informal markets.

PRIORITIZED RECOMMENDATIONS:

- In coordination with financial institutions and EthSwitch, estimate the volume of cash transactions within different value intervals based on market assessment.
- In coordination with key players in the formal and informal markets, test possible limits for cash transactions.
- In coordination with EthSwitch and financial institutions, define a contextualized limit for cash transactions in line with global good practices.
- In coordination with EthSwitch and financial institutions, define a timeline to implement limits for cash transactions.

The success of this action is dependent on Action 2, expansion of ATM and POS access points.

ACTION 17 Create tax incentives for electronic taxable transactions

Merchants currently argue that they have little incentive to conduct digital payments. Today, merchants that accept digital payments have multiple POS machines due to the lack of interoperability. Consumers are not incentivized to leverage digital payments, since most merchants do not accept them. Creating incentives will increase the adoption of digital payments.

Creation of tax incentives for electronically traceable payments can encourage adoption while decreasing the shadow economy.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the MoR, determine tax incentives to propose to merchants (including VAT rebates on purchases, tax credit eligibility).

The success of this action is dependent on Action 1, addressing technical issues of current access points, particularly POS.

B2.2.3 Responsible Awareness and Literacy Programs

Due to the relatively new concept of digital finance, it is important to drive awareness and create digital financial literacy content to educate users and promote adoption. This requires addressing two elements: technical literacy addressing technology-based content (e.g. the use of mobile phones), and financial literacy addressing the foundational elements of payments (e.g. meaning of transaction fees).

A National Financial Education Strategy has been designed by the NBE's Financial Inclusion Secretariat to provide financial literacy programs with the assistance of the Ministry of Education, the MoF, and the MoA. Roll-out is expected in 2021, and programs will cover a variety of topics, including but not limited to benefits of financial inclusion and types of financial services (e.g. savings, credit, insurance).

Awareness and program content created will be included in existing awareness campaigns and literacy programs, to avoid duplicating work with ongoing initiatives.

ACTION 18 Launch an awareness program targeting digital platforms

Creating awareness of digital payment platforms and their benefits will help drive the adoption of digital payments. Users need to be better aware of the growing digital channels and platforms, and the type of transactions that can be made on each—POS, ATM, mobile, and e-banking. The campaign will target different groups of users in both rural and urban areas, including but not limited to:

- young adults, to act as champions to drive and encourage digital adoption;
- women, to reduce the gender gap in financial inclusion; and
- rural farmers (and families), to increase financial inclusion in rural areas that are predominately focused on agriculture.

Additionally, the campaign will showcase the benefits of digital payments:

- Convenience: Increasing efficiency and speed of payments
- Transparency: Increasing accountability and tracking of payments
- Security: Increasing safety by using digital means, resulting in less theft of cash.

PRIORITIZED RECOMMENDATIONS:

- In coordination with EthSwitch and financial service providers, develop a national awareness campaign for digital platforms for financially included and excluded segments.

ACTION 19 Design use-case-specific capacity-building programs

The NBE has a financial inclusion strategy that addresses the development of financial literacy programs. Preparing content specific to digital payments to be incorporated into financial literacy programs will be important to ensure coordination between the two strategies. The digital payment content will be a part of the planned financial literacy programs within regions to avoid duplicating efforts and to incorporate good practices.

Global practice shows a move towards dedicated training programs that target skills likely to be critical for those participating in the digital economy (Asian Development Bank 2019). A pragmatic approach to implementation is creating capacity-building programs for identified digital payments use cases. This is also evidenced by global institutions such as the Fundación Capital, which has developed a line of tailored educational platforms for specific skills.⁴⁸ In framing scalable use cases for digital payments, it will be important to develop and roll out targeted capacity-building programs for stakeholders that will be engaged during implementation.

These capacity-building programs should address four main topics:

- What the digital payment product and platform being implemented is
- How to use the digital payment product and platform developed for the use case
- Benefits of using the digital payment product and platform
- Risks and legal consumer protection framework associated with the use of the digital payment products and platforms.

Furthermore, specific content will need to be developed for groups with larger adoption gaps (further detailed in the next section), in particular women.

PRIORITIZED RECOMMENDATIONS:

- Identify specific digital payments use cases and design capacity-building programs for stakeholders with dedicated content and engagement format (such as SMS push notifications, applications, training programs, etc.).
- Adapt NBE financial literacy programs to a digital payments use-case-based capacity-building approach.

B2.2.4 Inclusion

Digital financial services are essential to increase financial inclusion in an economy. As reported by the World Bank (2020d), between 2011 and 2017 the share of adults with financial accounts in Africa grew from 23% to 43%, driven largely by growth in mobile money. Widespread uptake of digital financial services enables deep-rooted economic development by allowing citizens to interact with the formal economy, thereby increasing financial vitality and reducing poverty.

Financial inclusion is a priority for the Ethiopian government, and the NBE is committed to the successful implementation of the national financial inclusion strategy.⁴⁹ The financial inclusion strategy focuses on four key areas—(i) strengthening (financial and other) infrastructure; (ii) ensuring the supply of an adequate range of suitable products, services, and access points; (iii) building a strong financial consumer protection framework; and (iv) improving financial capability levels—and implementation will be deeply aligned with the NDPS. For digital payments, the NDPS aligns through the infrastructure pillar (interoperability, telecommunications and electricity, and national ID); the regulatory pillar (credit infrastructure and legal and regulatory); and the adoption pillar (financial inclusion database).

Additionally, a critical element of financial inclusion is narrowing the gender gap for financial services. Globally, there remains a substantial gender gap for financial services across low- and middle-income countries. According to the 2017 Global Findex Report, 56% of the globally unbanked adults are women. In Ethiopia, the gender gap for financial inclusion is widening, with 41% of men and 29% of women financially included in 2017 (compared to 23% and 21%, respectively, in 2014) (World Bank Group 2020d).

Women's financial inclusion plays an essential role in their economic participation and the broader national development. Furthermore, women are pivotal to the success of digital payments use cases in rural Ethiopia, given their preponderant role managing household transactions. Ethiopia has recognized the urgent need to target women's inclusion in the financial sector—both as an enabler of increased use of digital financial services and as recipients of the financial inclusion benefits of digital payments.

According to the Better Than Cash Alliance (2020b), limited gender intentionality by government and businesses contributes to the limited financial inclusion of women. Hence, advancing women's financial inclusion requires intentionality (i.e. a directed effort to foster an inclusive financial ecosystem for women). This entails working with various segments of economic and social circles. Through the lens of digital payments, this strategy will address the development of targeted digital payments solutions that enable increased financial inclusion of women.

ACTION 20 Capture sex-disaggregated data to inform responsible and intentional decision-making

Leveraging sex-disaggregated data will better inform policies and products to increase financial inclusion. Data from both the demand (user) and the supply side (financial institutions) will allow the NBE and the MoF to understand the main causes for the lack of financial inclusion.

The data that will be collected will provide insights into women's access to and use of financial products, financial literacy, and consumer protection. This will provide an understanding of what products women have access to and how they use financial services. Data captured by gender will include:

- the type of financial products;
- the number of financial products;
- constraints to access of financial products;
- the number of accounts by type (e.g. checking, savings);
- the sophistication of financial products; and
- the type of credit accounts.

Data will be captured on a recurring basis consistently over time to measure success and understand policy effectiveness. Existing data collection templates will be updated to incorporate sex disaggregation. Data will be anonymized and housed on appropriate IT systems with adequate security protection. Results from the survey will be published regularly, and financial institutions, mobile

operators, and those involved in the financial sector will have open access to query and download data.

Appropriate use of the collected data to inform decision-making is important. Mexico has seen a 13 percentage point increase in women's financial inclusion three years after launching its initial survey to collect sex-disaggregated data (World Bank Group 2020d).⁵⁰ The NBE will leverage the collected data to structure decision-making and implement levers that promote increased financial inclusion. These data can also be leveraged by sector participants to guide market decisions and launch services and solutions targeting financially excluded segments.⁵¹

PRIORITIZED RECOMMENDATIONS:

- In coordination with financial institutions, update the data collection template to incorporate sex-disaggregated data and store data on reliable IT systems.
- Analyze data and publish survey results after every data collection cycle.

The success of this action is dependent on Action 21, launching services and solutions that target financially excluded segments.

ACTION 21 Launch services and solutions targeting financially excluded segments

Advancing women’s financial inclusion requires intentionality, particularly in the design of financial products. According to the Global Partnership for Financial Inclusion, when financial services products do not reflect women’s needs, women’s options are limited. Products need to be designed to respond to women’s needs, life events, and cycles. Financial institutions can leverage sex-disaggregated data to create products that target women’s needs.

Examples of financial products with the potential to increase women-specific use cases include digital transaction platforms such as debit cards or mobile wallets, where the account types target women’s use cases. Banks can partner with merchants that offer household products, and the partnership could enable women to obtain discounts at these specific merchants.

Women in Ethiopia often save in communities and through savings and credit cooperative organizations (SACCOs). Digital payment platforms specifically developed to enable community accounts as a type of joint savings account, with the necessary features to also protect individual interests, could be instrumental in encouraging women to adopt digital payment methods.

ACTION 22 Encourage multi-language availability

Digital payment services need to be designed to meet the needs of target client groups and take into account users’ likely preferences and behaviors, according to Smart Campaign (2019) consumer protection principles: “for digital products, when client selection, onboarding and product use are all managed without human intervention, product design becomes the critical moment for ensuring client protection.” Globally, regulators are actively monitoring the design of financial services, with the aim of ensuring that financial products distributed in a market are designed to meet the needs of users in that market.

Traditional banking products and services today are mostly in English or Amharic. However, there are 83 languages and 200 dialects spoken throughout Ethiopia (Ethiopian Treasures 2020). Mobile wallet platforms

A UNCDF (2017) study on access to finance in Ethiopia has identified distance to access points as a greater challenge for women than men, hence limiting their financial inclusion. Digital payments can bridge the gap and increase access to finance.

This action is also applicable to other financially excluded segments.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the MoF and leveraging sex-disaggregated data surveys, map key constraints to women’s access to financial services and propose action plans to address these constraints.
- In coordination with development-focused organizations, encourage the banks to create products and services that target women, in line with global good practices.
- In coordination with development-focused organizations and MFIs, support women-led micro, small, and medium-sized enterprises with specific financial services.

The success of this action is dependent on Action 20, capturing sex-disaggregated data to inform responsible and intentional decision-making.

have started incorporating additional languages. Encouraging multi-language availability is an important way to support inclusivity. This is also the approach in other multi-language economies, such as India. India has 22 officially recognized languages. In 2017, India’s largest private bank rolled out a mobile banking app for rural customers that supports 11 Indian languages and English. Around the same time, the Government of India launched the Bharat Interface for Money (BHIM) app, which supports 9 Indian languages and English.

PRIORITIZED RECOMMENDATIONS:

- In coordination with federal and regional governments, identify language priorities per channel per region.
- In coordination with financial service providers, develop multi-language content specific to each region, where viable.

B2.3 Strategic Pillar 3: Build a robust and consistent regulatory and oversight framework

BASELINE AND KEY CHALLENGES

The new digital payment ecosystem brings with it new regulatory topics that have not previously been addressed by Ethiopia's regulation. The Government of Ethiopia is committed to building a robust and consistent regulatory framework adapted to the new context that actively addresses potential market uncertainty on future regulatory changes. The development partners are actively supporting the government, taking steps towards modernizing the financial sector and removing distortions to support the needs of a growing economy, collaborating with the NBE and other institutions in the financial sector reform program (World Bank Group 2020a).

As a result of significant advances in technology, the digital payment ecosystem is a highly diverse environment, incorporating the participation of new players and new distribution models. In this new context, consumer protection is unanimously recognized as a regulatory building block. To enable the successful use of digital payments, intentional and targeted regulatory reforms are required that are adaptable enough to work with a highly changing system. This will help boost consumers' trust and confidence in the system and enable an optimal operating environment for digital payments players.

“Regulation should be the ‘central’ pillar for the digital payments strategy.”

— Quote from strategy stakeholder engagement

Cognizant of this, the NBE has ratified some key directives to improve the regulatory environment for low-cost distribution models, allowing the participation of new players, such as telecommunications operators (telcos) and Fintech companies, in the provision of financial services:

- The Payment Instrument Issuers (PII) Directive, issued April 1, 2020, allows non-bank financial institutions to be licensed as financial service providers. This will include, but is not limited to, MNOs and Fintechs. It also addresses the use of a tiered KYC approach to enable easier access to financial services, as well as the licensing of limited use instrument issuers.
- The Use of Agents Directive, issued April 1, 2020, allows broader access to agent network management. Under the new directive, banks and non-bank financial institutions (i.e. any institution licensed by the NBE pursuant to the PII Directive) will be licensed to manage agent networks for financial services. This directive also allows financial institutions to outsource agent network management and marketing services to third-party service providers.
- The Payment System Operators Directive issued in 2020 allows non-bank institutions to operate payment systems. This includes payment gateway development, ATM and POS operation, regional switch development, and online payment platform management, among others.

These directives are expected to play a significant role in increasing the reach of the financial sector. Close supervision of their implementation by the digital payment ecosystem and adoption of an iterative approach will be taken by the NBE to ensure the directives achieve the intended outcomes.

Stronger consumer protection laws are also necessary to increase consumer confidence and trust, and enable security, safety, and transparency. Presently, only one set of laws in Ethiopia specifically contains a comprehensive definition of personal information. While this law sets out steps to safeguard consumer personal data, it carries limitations in that companies are still able to informally share this information without consequence. Protecting consumers' digital data is increasingly important given the volume, velocity, and variety of data being used for digital payments, while recognizing that use of consumer data can increase the range of products a consumer can access (Better Than Cash Alliance 2016). Further measures related to consumer protection are outlined in a general applicability to all merchants and business, entailing the fair treatment of customers. However, there are limitations with laws targeting financial institutions—specifically, including mitigating measures for risks and the official protection of personal finances held by a bank. A specific body to

address disputes and handle dispute resolution within the financial sector has not yet been set up, reducing consumer trust in the formal financial system.

To address these challenges, the NBE and other regulatory bodies have made significant progress to improve the current regulatory framework and enable the new payment ecosystem. In addition to the recently approved directives, two more directives were released to address the consumer protection challenges with the support of development partners:

- The Consumer Protection Directive has been developed to address consumer protection within the context of the financial sector. The Banking Sector Cybersecurity Directive was developed to create a cybersecurity framework for institutions licensed under the Banking Business Proclamation (NBE 2008).

Furthermore, the MoF is also structuring the telecommunications operator license which will define the role of MNOs in the digital payment ecosystem in line with the PII Directive.

GLOBAL GOOD PRACTICES

Global regulations are changing to enable adaptation to the new payment ecosystem and effectively accommodate participation of new players. Two principles have been observed:

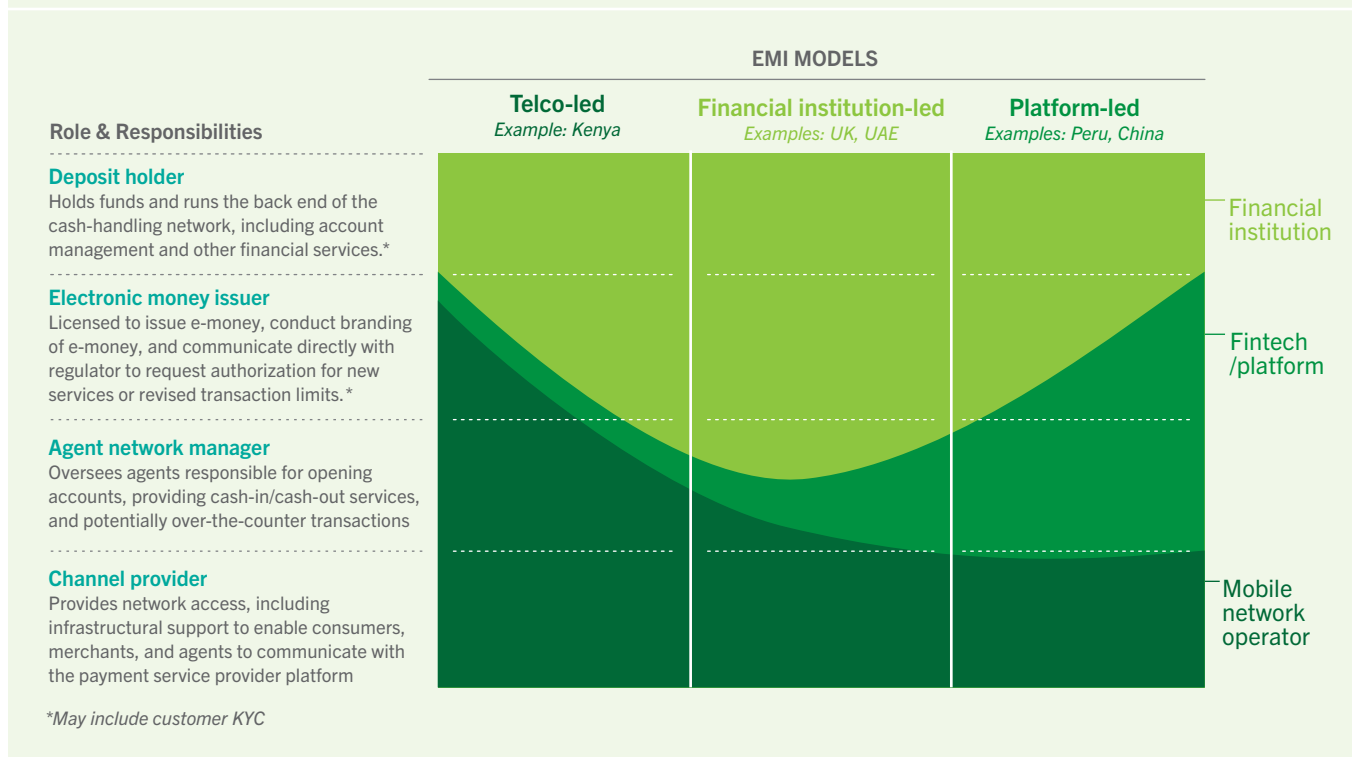
- One size does not fit all: Successful regulatory reforms are country-specific, so lessons from other markets need to be adapted to the Ethiopian context. Diverse models establishing different levels of participation by non-financial sector players (telcos, Fintechs) have been successful.
- Adaptation through change: Successful regulatory reforms accommodate the capacity to adapt based on the market reaction to the changes being implemented.

One size does not fit all

Globally, there are varying models for the participation of different players in digital payments. Countries have taken up varying approaches to the roles of financial institutions, MNOs, and Fintechs. Depending on the

FIGURE 14. Digital payments models⁵²

Source: Better Than Cash Alliance; Bill & Melinda Gates Foundation (2019); Boston Consulting Group



role of the players, there are numerous ways of categorizing the models. As seen in Figure 14, the categorization shows a spectrum across three main models, led by: (i) telecommunications operators; (ii) financial institutions; and (iii) platforms, with numerous other models available along the spectrum.

Successful examples of significant adoption of digital payments can be found across each model:

1. Telco led: Kenya⁵³ is heralded as the biggest success case, with 1 million users seven months after launch and 73% of the population as active users today. Mobile money transactions are equal to 87% of the national GDP (Demirgüç-Kunt et al. 2018; Safaricom; Vodafone).
2. Financial institution led: Advanced economies such as the UK and the UAE were able to leverage their developed financial sector to expand adoption of digital payments to 96% and 84%, respectively. It is, however, worth noting that mobile money penetration is low at 2% and 21%, respectively ((Demirgüç-Kunt et al. 2018; World Bank Group 2020f).
3. Platform led: China's estimated 890 million unique mobile payment users made transactions totaling around USD17 trillion in 2017 (CGAP 2019). Technology giants such as Alipay and WeChat Pay have partnered with the local ecosystem players to enable this.

This varied approach shows that regulatory reforms to incorporate additional players in the ecosystem have to be nuanced to the local context. Infrastructure coverage, the status of the financial and telecommunications sectors, existing regulatory frameworks, and national priorities have to be duly considered prior to implementing reforms. For Ethiopia, the national priorities of creating jobs, ensuring equitable prosperity, and attracting foreign direct investment are guiding the regulatory reform.

Adaptation through change

Regulatory reforms are a continuous process, and successful payment ecosystems thrive in environments where regulatory institutions and processes have the capacity to continually adapt regulation.

Success stories can be observed within the region. In 2008, Ghana started out with a reform allowing payments to be made using mobile money. However, as a financial service, the mobile money platform could only be used by a consortium of banks even if it was owned by MNOs, which resulted in limited incentive for MNOs to optimize services. This, compounded by an ineffective competition model, and agent exclusivity contracts, negatively impacted the success of the reform. In 2015, revised regulatory reforms allowed MNOs to own and operate mobile money platforms, incentivizing them to invest in innovation and the recruitment of agents (Mattern 2018; Ozyurt 2019). Allowing the non-exclusivity of agents enabled increased reach, which can be seen in the significant increase in the growth of mobile money accounts.

STRATEGIC ACTIONS:

To support the creation of a robust regulatory framework, two categories of strategic actions have been designed. Six strategic actions have been prioritized within these categories to build the regulatory framework. The two categories are:

- build regulatory capacity for a new ecosystem; and
- drive reform regulations to allow new players and new distribution models.

These are supported by a specific set of actions:

REGULATORY CAPACITY

Action 23: Strengthen regulation and oversight capacity

REFORM REGULATIONS

Action 24: Monitor implementation of a new Use of Agents Directive

Action 25: Monitor the participation of non-bank financial institutions in mobile money services

Action 26: Monitor implementation of new KYC clauses

Action 27: Strengthen financial consumer protection

Action 28: Strengthen cybersecurity

B2.3.1 Capacity

Digital payments is a rapidly evolving area, with constantly changing concepts, technologies, and players. Therefore, it is critical to ensure continuous investment in strengthening the current regulatory capacity, to enable Ethiopia's payment ecosystem to grow beyond traditional barriers and to ensure that Ethiopians are well informed and protected.

ACTION 23 Strengthen regulation and oversight capacity

As the digital payment ecosystem evolves rapidly, a risk-based, adaptive approach is more relevant and effective. This typically requires a higher level of knowledge and capacity than a rules-based approach. A more consultative regulatory approach is foreseen for the development of the payment system, and this requires additional skills.

In addition, digital financial services are becoming increasingly complex and risky. It is, therefore, necessary to explore ways in which the capacity of the regulators can be increased sustainably and responsibly. The additional skills will also extend to risk management practices and tools in the payment space.

Despite the many steps taken in the past years to develop oversight of payment systems and services, the NBE recognizes there is room for improvement and is being supported by a World Bank Group technical assistance program. The scope of development in oversight will include a review of existing regulations, recommendations on updates or amendments to those regulations, capacity-building of payment systems staff, development of procedures for the oversight unit, and development of off-site reporting and on-site inspection processes (World Bank Group 2020a).

PRIORITIZED RECOMMENDATIONS:

- Implement a payment oversight technical assistance program with the World Bank Group and develop a modernized national payment system oversight framework.

B2.3.2 Reform

Regulatory reform is key to tap the full potential of digital payments and allow the ecosystem to expand beyond previously defined boundaries. Namely:

- enabling new distribution models by reducing restrictions for agents;
- allowing the participation of new players by reviewing the participation of non-bank institutions in mobile money services; and
- improving inclusivity and reach by reviewing KYC requirements.

However, as can also be seen from global examples, disruptive changes also pose threats to users. Regulatory reform should, therefore, play a dual role, enabling the protection of consumers, their data, and their assets. It is essential to foster responsible practices by enforcing consumer protection and cybersecurity laws.

ACTION 24 Monitor implementation of a new Use of Agents Directive

In the new ecosystem, agent networks are key to improving the distribution reach of financial services. The new Use of Agents Directive addresses prior restrictions on the use of agents, such as allowing agent non-exclusivity and agent network management by a non-bank financial service provider, and providing for a tiered structure of agents (super agents and micro agents). Restrictions will still remain for foreign players in line with the broader Ethiopian financial sector framework.

Close monitoring and evaluation of the implementation of the new Use of Agents Directive will be undertaken to ensure that the agent network increases and access to financial services expands. The NBE will continuously assess the impact of the new directive, troubleshoot challenges in collaboration with sector stakeholders, and adapt regulations to grow the available agent networks and serve the needs of customers.

PRIORITIZED RECOMMENDATIONS:

- Continually monitor the implementation of the new Use of Agents Directive to increase agent network reach.
- Closely monitor non-exclusivity of agents through robust internal approval processes and implementation oversight.
- In coordination with financial institutions, address implementation challenges and adapt the directive (if required).

The success of this action is dependent on Action 3, reviewing the business case for agents.

ACTION 25 Monitor the participation of non-bank financial institutions in mobile money services

Up until recently, Ethiopia’s regulatory framework for digital financial services was a bank-led model; only banks and MFIs had exclusive rights to hold deposits, be licensed as payment service providers, and manage agent networks. Banks offer financial services electronically and through the bank agents. This did not allow MNOs or Fintechs to offer digital financial services independently. This model presents not only advantages, including allowing for greater control and regulation over mobile money services, but also disadvantages, including lower scale and reach, hindering the potential for inclusion and increased job creation.

Given the current priorities for Ethiopia, key players in the sector recognized the urgency to revise this model and accommodate further participation of MNOs and Fintechs. The ratification of the PII Directive addresses this and allows for MNOs and Fintechs to operate as payment instrument issuers. The key underlying reason for this change is to meet national considerations towards creating an inclusive and prosperous economy, which also reinforces the government’s commitment to drive a homegrown economic reform program. Figure 15 shows the alignment of the three main electronic money issuer models with national considerations.

The new telco-led model, as depicted on the spectrum in Figure 14, will allow banks, MFIs, MNOs, and Fintechs to be licensed as electronic money issuers pursuant to the PII Directive. These entities can also be licensed to manage agent networks as provided in the new Use of Agents Directive, whereas banks will serve as the deposit holders, and MNOs will continue to provide the base telecommunications infrastructure. This will foster a competitive and collaborative environment where various players would leverage one another’s strengths to increase the adoption of digital payments in the economy.

FIGURE 15. Alignment of each model with Ethiopia’s national considerations⁵⁴

National considerations	Telco-led	Financial institution-led	Platform-led
Streamlined financial inclusion	✓	○	✓
Significant job creation	✓	○	○
Increase forex revenue from telco reform	✓	✗	○
Delimit foreign participation in financial sector	○	✓	✓
Improve competition in telco sector	✓	✗	○
Improve competition in finance sector	○	✓	○
Fast set-up	○	✓	✗

Previous Ethiopian Model

⁵⁴ Revenue from privatization of Ethio telecom and sale of two operator licenses

Qualitative assessment: ✓ Full alignment ○ Some alignment ✗ Limited alignment

The current revision has not waived restrictions on foreign participation; only locally owned⁵⁵ MNOs and Fintechs can be licensed as payment instrument issuers, in line with national proclamations⁵⁶ that are currently in place. Recognizing possible implementation challenges with the impending telecommunications sector reform, where Ethio telecom would be partially privatized and two new operator licenses would be issued potentially to international players, the NBE and the MoF have plans to review the existing directive to define a strategic way forward where partially or fully foreign-owned public or private enterprises may be licensed as payment instrument issuers.

A close monitoring and evaluation of mobile money performance and adoption will be conducted, to ensure fair market dynamics in the mobile money ecosystem and

increased access to digital payments. Revising regulations will be considered in the medium term to allow foreign-owned companies to participate in these services.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the MoF and the ECA, monitor and evaluate the participation of MNOs and Fintechs in mobile money services.
- In coordination with the MoF and the ECA, address implementation challenges (if required).
- In coordination with the MoF and the ECA, adapt and revise the directive to meet market requirements, potentially expanding electronic money services to foreign-owned companies.

The success of this action is dependent on Action 30, clarifying roles and responsibilities of Fintechs.

ACTION 26 Monitor implementation of new KYC clauses

An ID card was until very recently required to open a bank or mobile money account; therefore, without a formal ID, Ethiopians are excluded from financial services. Some institutions require a photocopy of an ID, which further prevents those without access from making a copy. ID requirements are also a challenge for migrant women who lack a formal ID. This not only poses problems for more vulnerable communities but further propagates gender discrepancy in financial inclusion.

The revised PII Directive provides a tiered KYC approach for electronic money accounts, to improve the inclusivity and reach of financial services and digital payments. It establishes different levels of KYC with lower transaction limits and less stringent requirements for opening accounts, and sets caps on balances and withdrawals. Accordingly, Level 1 accounts (the least stringent) can be opened without an ID, through an introduction from other members. Additional ways to tier banking products include limited product and channel access. Going forward, looking into the acceptance of electronic KYC and digital signatures can also help increase reach by allowing remote account opening and improve ease of access to financial services. This is, however, contingent on successful infrastructure development.

Close monitoring and evaluation will be undertaken to ensure effective implementation of the tiered KYC approach to increase financial inclusion and use of digital

payments. The NBE will continuously assess whether adjustment to the regulatory environment is needed to achieve the required output, and decide on a timeline for the introduction of advanced KYC measures.

PRIORITIZED RECOMMENDATIONS:

- In coordination with key stakeholders, monitor and evaluate the implementation of the tiered KYC approach.
- In coordination with key stakeholders, continually refine and revise regulations to adapt to the changing payment ecosystem and introduce advanced KYC measures.

This action needs to be coordinated with the Ministry of Peace. The NBE is part of the steering committee overseeing the national digital ID program and is actively contributing to its design and implementation. The expected timeline for full national roll-out is six years.

ACTION 27 Strengthen financial consumer protection

A robust financial consumer protection framework and a dispute resolution mechanism are fundamental to maintaining transparency and trust in the system while increasing access to financial services (World Bank Group 2020a).

Transparency is a core element, and its importance is widely recognized by international guidelines and standards.⁵⁷ It is also being seen as a useful mechanism for financial literacy: recent evidence shows that developing and enforcing effective disclosure and pricing transparency regimes is more effective than financial education programs (Better Than Cash Alliance 2016).

Data protection should protect consumers' privacy. There are numerous examples of global principles, standards, and codes that provide broad coverage of data use and protection issues.⁵⁸ Global good practices on how consumer personal data can be protected in a digital environment include, among others, measures

taken to ensure the confidentiality and security of consumer data relevant to digital payments; the ability of supervisors and other relevant authorities to have access to all customer transaction data for oversight purposes, regardless of where that data are stored; and a clear audit trail of transaction records accessible to consumers and supervisors.

Protecting consumers is a priority for Ethiopia. With the support of the World Bank Group, the NBE has drafted and launched directives for financial consumer protection. The NBE is also considering other options, including the establishment of a financial Ombudsman service to offer an impartial and objective way to settle disputes between financial institutions and their customers.

PRIORITIZED RECOMMENDATIONS:

- Monitor the implementation of the financial consumer protection law and ensure financial institutions implement key fact statements for major banking products.

ACTION 28 Strengthen cybersecurity

Strengthening cybersecurity regulation is necessary to mitigate against digital financial risks, including phishing, pharming, spyware, SIM card swapping, profiling, hacking, and more. A robust cybersecurity framework that protects consumers' privacy, addressing relevant financial service providers, is required.

The NBE recently launched a cybersecurity directive—the Banking Sector Cybersecurity Directive—to strengthen the financial sector cybersecurity framework. The Ethiopian Information Network Security Agency (INSA), under the duties vested in it in Information Network Security Agency Re-establishment Proclamation No. 808/2013,⁵⁹ is mandated to oversee national cybersecurity. The NBE worked closely in collaboration with the INSA to launch a robust financial sector cybersecurity framework that ensures a secure and transparent digital payment ecosystem.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the INSA, monitor implementation of the directives.
- In coordination with the INSA, address implementation challenges (if required).

ACTION 29 Create legislation to accept e-receipts as proof of payment

A receipt or proof of purchase is a document provided by the merchant as a record of a transaction. Receipts are important for corporate clients for accounting and auditing purposes, and for both corporate and private clients in case of a dispute or claim. Electronic receipts (e-receipts) are an important functionality of digital payments, for example:

- Bank and ATM transactions: Banks and ATMs can further forego paper receipts for SMS or email options, and send as a double receipt—one to the customer, and one to the issuing bank.
- Mobile money: Transactions made via mobile money can be acknowledged by automatic SMS receipts.
- Online transactions: Transactions made through online channels can be acknowledged through automatic email receipts.
- Merchant and in-store transactions: Email or SMS receipts can also be provided for in-store transactions.

E-receipts benefit both consumers and merchants. They save time compared to printing or writing receipts,

maintain privacy for consumers, since the receipt is sent to their phones or email instead of being printed out, and provide a permanent purchase record that can be accessed from the storage device instantly when required. E-receipts also have the advantage of being more difficult to hide, providing the MoR with a more accurate source of information in regard to taxation information. Further enhancement of the use of e-receipts could provide a potential source of data for the MoR and assist with the filing of taxes for businesses.

In Ethiopia, e-receipts are not accepted as a proof of payment for tax purposes. There is an initiative currently in place to create legislation that will accept e-receipts to increase the adoption of digital payments.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the MoR, prepare guidelines, processes, and forms to accept e-receipts as a proof of payment.

B2.4 Strategic Pillar 4: Create an enabling environment for innovation

BASELINE AND KEY CHALLENGES

Digital innovation is dictating the evolution of the payment ecosystem. Creating an enabling environment for innovation is, therefore, essential for a successful digital payments strategy that in turn supports the expansion of digital business models.

Ethiopia is steadily innovating across the payment ecosystem. Several success stories show how innovation is currently contributing to digital payments, including the previously mentioned MoA's PSNP and Ethio telecom's mobile top-ups. The PSNP was enabled by private sector innovation and partnership with MFIs, catalyzing the scale-up of mobile money in rural areas, whereas Ethio telecom's initiative to digitize top-ups in partnership with various commercial banks has increased the use of mobile money in Ethiopia.

The Fintech sector is at an early development stage, and Fintechs are mainly providing digital payment services. BelCash and MBirr (both foreign investment) work directly through banks or MFIs, while others such as Ride and YenePay provide their services as mobile applications or websites directly to the public (World Bank Group 2020a). The two recently ratified directives⁶⁰ are expected to enhance the scope of participation of Fintechs in the digital payment ecosystem.

There is, however, room for improvement to enable innovation to contribute to digital payments. International participation in the sector is not encouraged, which restricts the development of best-in-class innovative solutions and access to international funding pools. More broadly, Ethiopia does not have a framework conducive to test innovation in a controlled environment. This will be important for Ethiopia to keep up with shifting tides, where, globally, regulators are considering the use of more advanced payment options such as digital currencies (cryptocurrencies).

GLOBAL GOOD PRACTICES

For digital innovation, global good practices have been identified on the benefits of international resources and national testing frameworks.

International resources

Worldwide, innovation in financial services and digital payments is being driven not only by traditional players (banks, payment schemes) but also by the new technology/innovation players (Fintechs). Furthermore, globalization (through international trade, foreign direct investment, international use of patents, and exchange of good practices) is boosting innovation. The increased international competition associated with globalization also contributes to digital innovation, as it strengthens incentives to adopt new technologies and to innovate.

The global Fintech sector has seen high levels of investment over the last 10 years, a large volume being cross-border investments. Countries have increasingly begun to realize the importance of engaging with the global Fintech community. In January 2019, the UK's Financial Conduct Authority, along with several other member states, launched the Global Financial Innovation Network. This network provides a way to increase cross-border collaboration of ideas, sandbox testing, and knowledge-sharing.

National testing frameworks

Technology-enabled financial services (Fintechs) have grown rapidly over the past decade. Coping with these developments requires the creation of a platform that enables open communication between innovator and regulators, while setting up an approach for testing products before implementation. Three models are apparent, globally, and are described by the United Nations Secretary-General's Special Advocate for Inclusive Finance for Development (UNSGSA FinTech Working Group & CCAF 2019) as follows:

- Innovation offices are often the first step in creating an enabling environment for innovation. Innovation offices engage with, and provide regulatory clarification to, financial service providers that seek to offer innovative products and services. The key objective of innovation offices is to facilitate engagement and mutual learning between regulators and innovators in a pro-innovation setting. Key lessons learned from innovation offices underscore the importance of early, and close, engagement with innovators.
- Regulatory sandboxes are formal programs that test financial services and business models with actual customers, subject to certain safeguards and oversight. Sandboxes can help regulators gain a better understanding of Fintech and develop evidence-based regulations that promote inclusive Fintech. However, lessons learned from early regulatory sandboxes highlight that they are neither necessary nor sufficient to promote financial inclusion.
- Regulatory technology (RegTech) focuses on how to monitor and enforce compliance against relevant regulations. RegTech can support a more responsible delivery of innovative financial services, which may directly impact financial inclusion. It also allows regulators to swiftly respond to market developments, better protect consumers, and enhance institutional supervision. Although limited, lessons learned from initiatives highlight the merits of beginning with a problem that will likely gain broad support and have a high likelihood of successful resolution.

STRATEGIC ACTIONS:

To support an enabling environment for innovation, two categories of strategic actions have been designed. Three strategic actions have been prioritized within two categories. The two categories are:

- Embrace participation and unlock the full potential of new players in innovation and technology.
- Create a framework that enables innovation and technology development.

These are supported by a specific set of actions:

NEW PLAYERS

Action 30: Clarify roles and responsibilities of Fintechs.

Action 31: Enhance access to global resources in Fintech.

FRAMEWORK

Action 32: Set up a risk-controlled innovation and technology development framework.

B2.4.1 New Players

For most of the 20th century, a bank was a physical place intended to convey the security of the bills and coins within. The introduction of ATMs, online banking, and mobile banking has changed not just the process of banking but also the idea of what a bank is. For many consumers, even a traditional bank has become virtual, accessed more frequently through ATMs, websites, and smartphone apps, rather than through a branch, and this can be seen in the visible stagnation in branch growth in favor of technological points of access. The amount and speed of data use have changed the dynamics of banking, altering the delivery of financial products and services to customers. Technology in financial services has introduced different expectations, as well as different competitors, including non-traditional competitors. The dynamics of what a bank is have been disrupted, in coordination with a growing global ecosystem of digital payments and e-commerce. As the consumers' definition of a bank has changed, commercially, technology has changed the definition of a financial institution.

ACTION 30 Clarify roles and responsibilities of Fintechs

The emergence of new players in the payment ecosystem, namely Fintechs, requires adjustment and clarification of the new roles and responsibilities. This clarity is critical to maximize the potential of their contribution and avoid conflicting scope with existing players.

To date, Fintechs have been limited to acting as software service providers to financial institutions.⁶¹ As Fintechs evolve, it will be critical to review their role, further define how they can participate in the financial market, and continue to provide innovative technology, products, services, and processes to benefit Ethiopia.

The new PII Directive and Use of Agents Directive recognize Fintechs as part of the financial ecosystem—providing for them to be licensed as payment instrument issuers and further clarifying their previously ambiguous role. Together, the directives allow for the following, among others:

- Issuing and providing electronic money services directly to end users
- Managing agent networks, including recruitment, training, and monitoring
- Marketing and branding of products and services
- Providing customer support, such as by setting up call centers.

Close monitoring and evaluation of implementation will be undertaken.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the Fintech Association, monitor and evaluate the impact of the new directives on enabling Fintechs to expand in the payment ecosystem.
- In coordination with the Fintech Association, refine roles and responsibilities of Fintechs to adapt to the changing payment ecosystem.

ACTION 31 Enhance access to global resources in Fintech

The uptake of technological advances within global financial sectors has been disruptive, with movement in the development of non-traditional financial institutions, testing of disruptive products in new markets, and dynamic changes in the way countries and banks make digital payments possible. Global venture capital and crowdfunding have been increasing, with significant proportions going to Fintech startups. International innovators and financial institutions have been adapting to this change in dynamics over the last decade, effectively creating within them subject expertise, as well as in-depth product impact knowledge. Opening up Ethiopian borders to global firms will allow an influx of expertise and tested products that will take a shorter time to go to market, and provide local innovators and banks with the knowledge and training required to succeed at their own digital projects.

Global participation enables collaboration with more experienced, better-resourced innovation projects, allows sharing of knowledge, and opens up avenues for local startups to access funding from international venture capitalists and crowdfunding platforms.

The new PII Directive is being developed within the context of broader national policies. As provided in the Banking (Amended) Business Proclamation,⁶² foreign players are legally restricted from participating in the financial services business (i.e. foreign-owned companies cannot be licensed as payment instrument issuers). However, these companies will continue to operate as technology service providers to financial institutions and are permitted to partner with licensed financial institutions as third-party service providers. Financial institutions can outsource the agent network management as well as the marketing and branding of products to these foreign-owned companies.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the MoF and key stakeholders, monitor and evaluate the impact of the new directives on the use of Fintechs to increase the adoption of digital payments.
- In coordination with the MInT and the Ethiopia Fintech Association, continue to promote an accelerator/incubator program targeting digital payments and inclusion innovation.
- In coordination with the Ministry of Finance, conduct a detailed study on foreign fintech participation and develop a comprehensive fintech investment policy.

The success of this action is dependent on Action 25, monitoring the participation of non-bank financial institutions in mobile money services, and Action 30, clarifying the roles and responsibilities of Fintechs.

B2.4.2 Framework

There is no simple relation between innovation and the regulatory environment. No strict rules can be set on an optimal level of numbers of regulations in a domain, on their level of stringency, or on their stability over time. The absence of generic criteria based on evidence makes it necessary to examine different parts of regulatory regimes to identify which parts—such as procedures for marketing authorization—need to be stable, and which parts—such as accommodating new production techniques or materials—need to be open to development. The relationship between regulation and innovation, therefore, needs to be examined on a case-by-case basis. Sandboxes can be leveraged to examine these relationships.

ACTION 32 Set up a risk-controlled innovation and technology development framework

Creating a framework that enables open communication between technology innovators and regulators within a controlled environment, while setting up an approach for testing products before implementation, is very important. Most of the solutions observed in other markets (e.g. sandboxes, RegTech) are currently better equipped for more mature markets in the digital payments sector. However, Ethiopia can make effective use of some principles that are well suited to market maturity.

A key principle is “give and take.” This involves the creation of a symbiotic relationship between innovators and regulators, giving each the opportunity to learn from the other. Creating workshops that revolve not around testing but around discussion will allow innovators to present their concepts and ideas to regulators. Regulators use this information to understand where regulation is hindering these concepts. Success would be defined by compromises made by both parties, where innovators adapt their concepts to be more in line with regulation, and regulators use the guidance to identify where laws can be amended appropriately. This “give-and-take” relationship allows the laws to remain adaptable to changing environmental and technical conditions, and enables appropriate product development that will drive digital payments.

Creating this environment will also enable the regulator to test out the implications of modern and novel digital payments solutions, such as cryptocurrencies.

PRIORITIZED RECOMMENDATIONS:

- In coordination with the Fintech Association and the MInT, conduct regular workshops (e.g. every six months) with innovators to identify what is needed to encourage innovation (e.g. how to reform regulations).
- In coordination with the Fintech Association and the MInT, determine what changes can be implemented by consumers, financial institutions, and regulators.

B3. Enablers

Four enablers have been identified to support the Strategic Pillars to achieve the vision. These enablers are the foundation for a successful NDPS:

Enabler 1: Commit to an efficient, reliable, and safe national payment system.

Enabler 2: Prioritize and invest in capacity-building across the digital payment ecosystem.

Enabler 3: Guarantee active and ongoing coordination with national development reforms and policies.

Enabler 4: Develop a robust governance and implementation plan and monitor success using key performance indicators.

ENABLER 1 Commit to an efficient, reliable, and safe national payment system

A national payment system consists of: (i) sending/receiving and processing of orders of payment; (ii) issuance and management of payment instruments; (iii) payment, clearing, and settlement systems, and related arrangements and procedures; and (iv) payment service providers, including operators, participants, issuers of payment instruments, and any third party acting on their behalf (NBE 2011). In its regulatory, supervisory, and oversight capacity vested in National Payment System Proclamation No. 718/2011, the NBE shall establish, own, operate, participate in, regulate, and supervise an integrated payment system consisting of a large-value funds transfer system and retail funds transfer system, and a central securities depository.

The NBE, with the support of its development partners, is developing the Ethiopia Financial Sector Modernization Roadmap (World Bank Group 2020a). According to Ethiopia's Financial Sector Reform Strategy being developed with the support of the World Bank Group and the UK Department For International Development, the roadmap covers and details several initiatives aiming to improve the key components of the national payment system, including:

- **Role and operations:** Development of a more modern oversight framework for the payment system, including capacity-building, development of procedures, and revision of processes and reporting mechanisms. Additionally, the establishment of the National Payment Council is being considered to institutionalize the dialogue among different stakeholders in the system.
- **Legislation:** Development of a legal and regulatory framework for payments—laws and regulations being contemplated include e-commerce law, e-signature law,

updates to the National Digital Payments Proclamation, a Payment System Operators Directive, a Consumer Protection Directive, and a revision of the Banking Business Proclamation towards potential participation of foreign-owned financial institutions.

- **Infrastructure and technology:** Finalizing the development of the payment system infrastructure owned by the NBE, and updating the longer-term investment plan and strategy for the domestic interbank switch to position EthSwitch as a hub and connector for other service providers—performing its role as an interoperability platform to access cards, mobile, and bank accounts and connecting it to other bill aggregators, payment gateways, government portals, and any electronic KYC or digital ID infrastructure.

The NBE is committed to further enhance the efficiency, reliability, and safety of the national payment system, as a critical element to ensure successful implementation of the NDPS.

ENABLER 2 Prioritize and invest in capacity-building across the digital payment ecosystem

Digital payments require the application of new concepts, requiring subject-matter expertise and specific knowledge. Recruiting technical experts and outsourcing to relevant parties with the necessary experience and knowledge will allow for more efficient progress in regard to the implementation of digital concepts, and provide an avenue for training more candidates in the subject to increase the size and capacity of the workforce.

The vast nature of the project requires a large workforce with a diverse skillset to fulfill all the requirements of the strategy. There must be capacity created within all stakeholders that will implement or regulate the strategy to ensure effective adherence to expertise requirements and time frames. These stakeholders are detailed in Section 2 of this strategy: Implementation Framework. The NDPS promises an outcome of transformation on a

national scale with downstream effects on several areas, including local businesses, public perception and behavior, and several strategies running parallel to the NDPS. To effectively handle the implications of implementation, dedicated capacity will be required.

The Ethiopian government will invest in capacity-building across the digital payment ecosystem—a critical element to ensure successful implementation of the NDPS.

ENABLER 3 Guarantee active and ongoing coordination with national development reforms and policies

Ethiopia is undergoing significant national reforms across various segments of the economy, which collectively build towards the achievement of national goals for poverty reduction, job creation, and inclusive growth. The development and implementation of the NDPS needs to be aligned with these reforms both internally with reforms being led by the NBE and externally with broader reforms.

Internal alignment

The NBE is currently leading the national financial sector reform, the revamping of the national financial inclusion strategy, and the revision of directives. This NDPS is being developed as a key pillar of the national financial sector reform, an enabler for the financial inclusion strategy, and a guide for the revision of directives.

- The national financial sector reform program, under development with the support of the World Bank, charts a path to an efficient, stable, and inclusive financial sector. This NDPS is a key pillar of the sector reform, and is pursuant to findings from the financial sector reform assessment.
- The revamping of the financial inclusion strategy, being conducted with the support of the Bill & Melinda Gates Foundation, aims to dramatically increase financial inclusion in Ethiopia, while leveraging digital solutions. This NDPS creates a starting point for this goal.
- The revision of payment directives—detailed in Strategic Pillar 3 of this strategy—is informed by the findings of this strategy.

External alignment

There are seven key national reforms which either see the NDPS as a critical enabler to their success or are highly linked with the NDPS.

Two reforms see the NDPS as a foundation:

- The National Digital Transformation Strategy (NDTS) (2020–2025) recently developed by the MInT identifies payments as an essential component for its success. The strategy has identified specific challenges to be resolved in the payment landscape, which this strategy has mapped in the previous sections. Two projects have been identified for the NBE to lead: [project 17] developing regulations for mobile money, and [project 18] enacting clear policies, regulations, and standards to enable electronic transactions and launch digital payment pilots. The NDPS addresses these projects and has developed detailed actions for a way forward.
- The 10-year National Prospective Plan being developed by the Planning and Development Commission presupposes a thriving digital payment landscape for the success of its initiatives.

On the other hand, five reforms being led by various institutions have interlinkages with the NDPS:

- The Homegrown Economic Reform Agenda (2020–2023) sees the financial sector reform as a key component to achieving Ethiopia’s national targets. The NDPS is an important element of the financial reform that will be closely monitored. The Agenda also provides an existing governance structure that will be leveraged for the implementation of this strategy (further detailed in Enabler 3).
- The telecommunications sector reform program being led by the MoF and the ECA is a crucial enabler for the success of the NDPS. The reform plans to partially privatize the SOE Ethio telecom while in parallel issuing two new operator licenses. As the reform progresses, the NBE will closely work with the ECA to align on the regulatory framework required for the participation of MNOs in the financial ecosystem, and the telecommunication infrastructure development required to support the anticipated expansion of digital payments. The latter will leverage the SOE community service obligation framework, enabling the government to identify, cost, and tender infrastructure development.
- The electronic transaction proclamation, developed by the MInT, marks a step forward in digital payments. The draft proclamation is being reviewed and will be slated at the House of People’s Representatives for approval. The NBE will support its implementation while ensuring alignment to the NDPS.
- The National Digital ID Program led by the Ministry of Peace will create an essential enabler for the scale-up of digital payments. The program envisions the roll-out of unique IDs to all Ethiopians over a six-year implementation period. The NBE is part of the steering committee that governs this project, and is supporting the development of a practical program. The implementation of the NDPS will be influenced by the speed and scale of the program roll-out, which has been duly considered.
- The Ease of Doing Business (EoDB) reform, spearheaded by the Ethiopian Investment Commission, in collaboration with the Prime Minister’s Office, will be significantly enabled by the NDPS. The EoDB reform has numerous digitization programs that require payment integration; the success of the NDPS will bolster these reforms.

Broader than these reforms, the strategy will align with other government initiatives, such as the capacity-building efforts at the Ministry of Women, Children, and Youth targeting women’s financial inclusion.

The NBE and the governance structure set up to implement the NDPS will guarantee active and ongoing coordination with national development reforms and policies—a critical element to ensure successful implementation of the NDPS.

ENABLER 4 Develop a robust governance and implementation plan and monitor success using KPIs

To materialize the benefits of this NDPS, it is critical to establish an implementation framework that comprises an implementation plan, a robust governance structure, and a monitoring plan.

An implementation plan takes the recommended actions and transforms them into an executable plan. Actions have been prioritized to determine their cadence of implementation. The first phase of implementation focuses on laying the transformation foundations: infrastructure and regulations. The second phase of implementation focuses on accelerating the transformation through the success and growth of use cases.

A governance structure with representation from all key stakeholder groups allows for coordination and swift decision-making. The governance structure has four levels:

- Council for National Financial Inclusion Strategy: Senior stakeholder group providing guidance and coordinating with reforms

- Digital Payments Steering Committee: Senior group within the NBE to oversee implementation
- Programme Management Unit (PMU): Dedicated team within the NBE managing day-to-day implementation
- Action teams: Technical team members driving content.

A monitoring plan is critical to measure the success of the implementation. Each action has a set of key performance indicators (KPIs) that will be measured over time to ensure the implementation is reaching the desired outcomes of accelerating the adoption of digital payments and increasing financial inclusion.



C.

Implementation Framework

C1. Implementation plan

Implementation was designed in two phases: lay transformation foundations and accelerate transformation. The first phase of implementation—lay transformation foundations—focuses on ensuring that the structure for digital payments is in place, including the infrastructure to conduct seamless and interoperable digital payments and the regulations to enable the adoption of digital payments. The second phase of implementation—accelerate transformation—focuses on the success and growth of use cases once the foundations are in place.

Given the magnitude of the strategic actions, they were prioritized to determine the cadence of implementation over the next three and a half years (see Figure 16). To determine prioritization, strategic actions were ranked as high, medium, or low for ease of implementation and impact. Ease of implementation is defined as: (i) the technical complexity (changes required in processes and systems); (ii) the number of stakeholders (dependent on one organization vs. multiple organizations); and (iii) the process to implement (one task vs. multiple steps). Impact is defined as: (i) the criticality for digital payments; (ii) the influence on financial inclusion; and (iii) the volume reached (population and number of transactions).

The implementation plan timeline (see Figure 17) takes into account the categorizations of actions and the estimated time frame for each action. Actions that are quick wins, highest priority, and longer-term priority take precedence over the actions that are medium or low priority.

Ranking actions for ease of implementation and impact resulted in five groupings:

QUICK WIN: High impact and high ease of implementation—actions that are critical to accelerating the adoption of digital payments and can be completed quickly, since they require a low level of effort or are already in progress

HIGH PRIORITY: Medium impact and high ease of implementation—actions that will help drive digital payments and can be completed quickly, since they are low effort

HIGH PRIORITY, LONGER-TERM IMPLEMENTATION: High impact and medium ease of implementation—actions that are critical to accelerating the adoption of digital payments but require a longer-term horizon for implementation due to their complexity and wide range of stakeholders

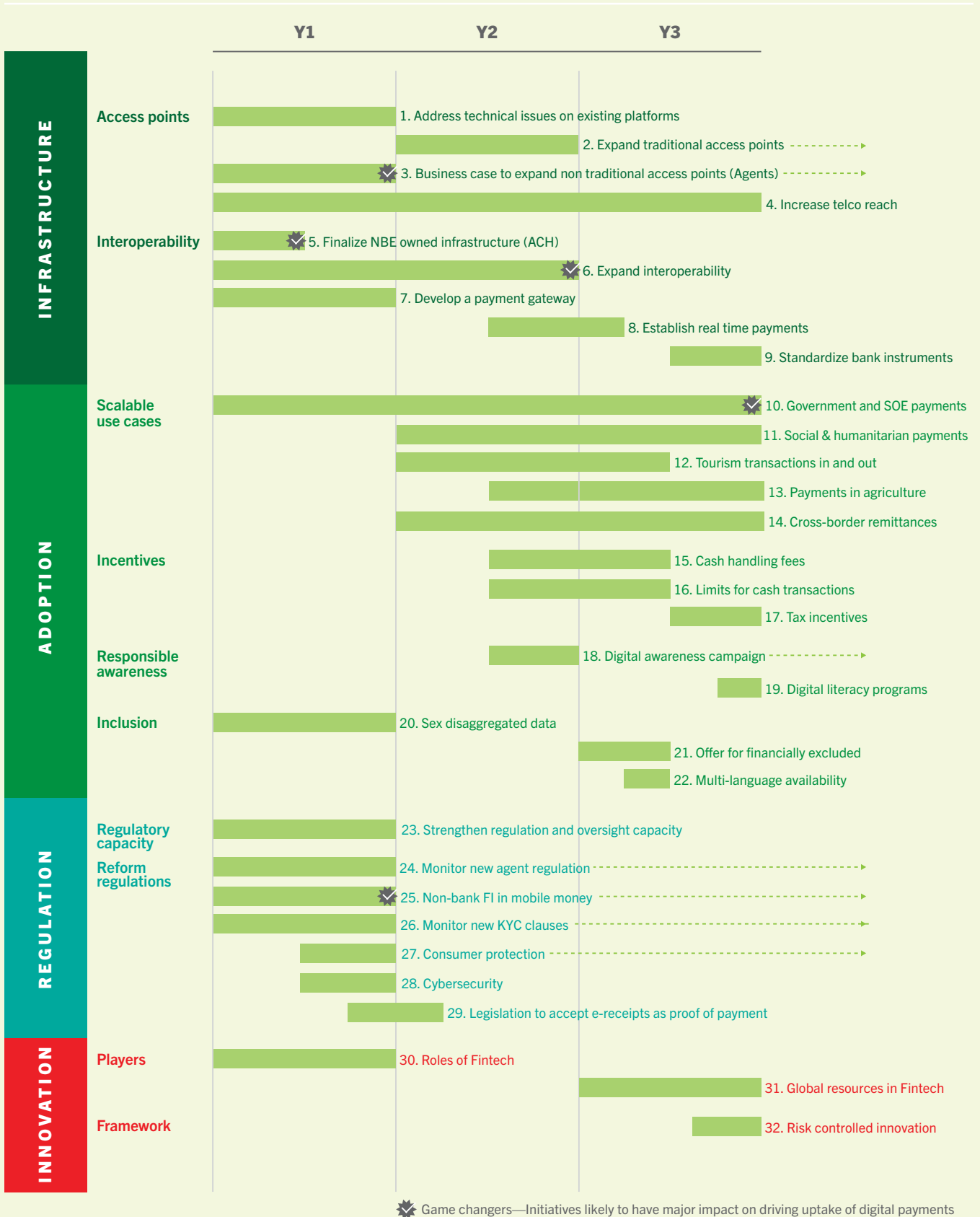
MEDIUM PRIORITY: Medium impact and medium ease of implementation—actions that, while not critical, will help drive digital payments and will require additional effort to implement due to technical or process complexity or number of stakeholders

LOWER PRIORITY: Low or medium impact and low ease of implementation—actions that are less critical and require additional effort for implementation.

FIGURE 16. Prioritization of actions

NO.	PRIORITY	RESPONSIBLE INSTITUTION(S)	TIME FRAME (MONTHS)
Quick win			
5	Establish ACH for electronic funds transfers	NBE–PSSD	6
20	Capture sex-disaggregated data to inform responsible and gender intentional decision-making	NBE–Financial Inclusion	12
24	Monitor implementation of a new Use of Agents Directive	NBE–PSSD	36
25	Monitor the participation of non-bank financial institutions in mobile money services	NBE & MoF	36
26	Monitor implementation of new KYC clauses	NBE–PSSD	36
30	Clarify roles and responsibilities of Fintechs	NBE–PSSD	12
High priority			
1	Address technical issues for ATMs and POS	NBE–PSSD	12
3	Review agent business case	NBE–PSSD	6
18	Launch an awareness program targeting digital platforms	NBE–Financial Inclusion	9
23	Strengthen regulation and oversight capacity	NBE–PSSD	12
27	Strengthen consumer protection and cybersecurity regulation	NBE–Financial Inclusion	12
29	Create legislation to accept e-receipts as proof of payment	Ministry of Revenue	9
High priority, longer-term implementation			
4	Increase telecommunications reach through network and devices	MiNT	36
6	Expand interoperability to all players and platforms	EthSwitch	24
10	Digitize government and SOE payments	MoF	36
Medium priority			
2	Expand ATM and POS access points	NBE–PSSD	36
7	Develop a payment gateway	EthSwitch	12
8	Establish real-time payments	EthSwitch	9
11	Digitize social protection and humanitarian payments	MoF	36
12	Digitize tourism transactions in and out of Ethiopia	Ministry of Culture & Tourism	36
14	Digitize cross-border remittance	NBE–Foreign Reserve Management	36
15	Implement cash-handling fees for financial institutions	NBE–PSSD	12
16	Impose limits on cash transactions	NBE–PSSD	12
21	Launch services and solutions targeting financially excluded segments	NBE–Financial Inclusion	36
22	Encourage multi-language availability	NBE–Financial Inclusion	3
28	Strengthen cybersecurity	NBE IT & INSA	6
31	Enhance access to global resources in Fintech	NBE–PSSD	36
Lower priority			
9	Standardize bank instruments	NBE–PSSD	12
13	Digitize payments in agriculture	Ministry of Agriculture	36
17	Create tax incentives for electronic taxable transactions	Ministry of Revenue	6
19	Incorporate digital payment content into financial literacy programs	NBE–Financial Inclusion	3
32	Set up a risk-controlled innovation and technology development framework	NBE–PSSD	6

FIGURE 17. Timeline for implementation of action items



C2. Governance structure

A robust governance framework is critical to monitor the progress of implementation throughout the full three and a half years. The governance structure should provide objective decision-making, accountability, alignment, and responsiveness across various key stakeholder groups to ensure the NDPS is successfully implemented.

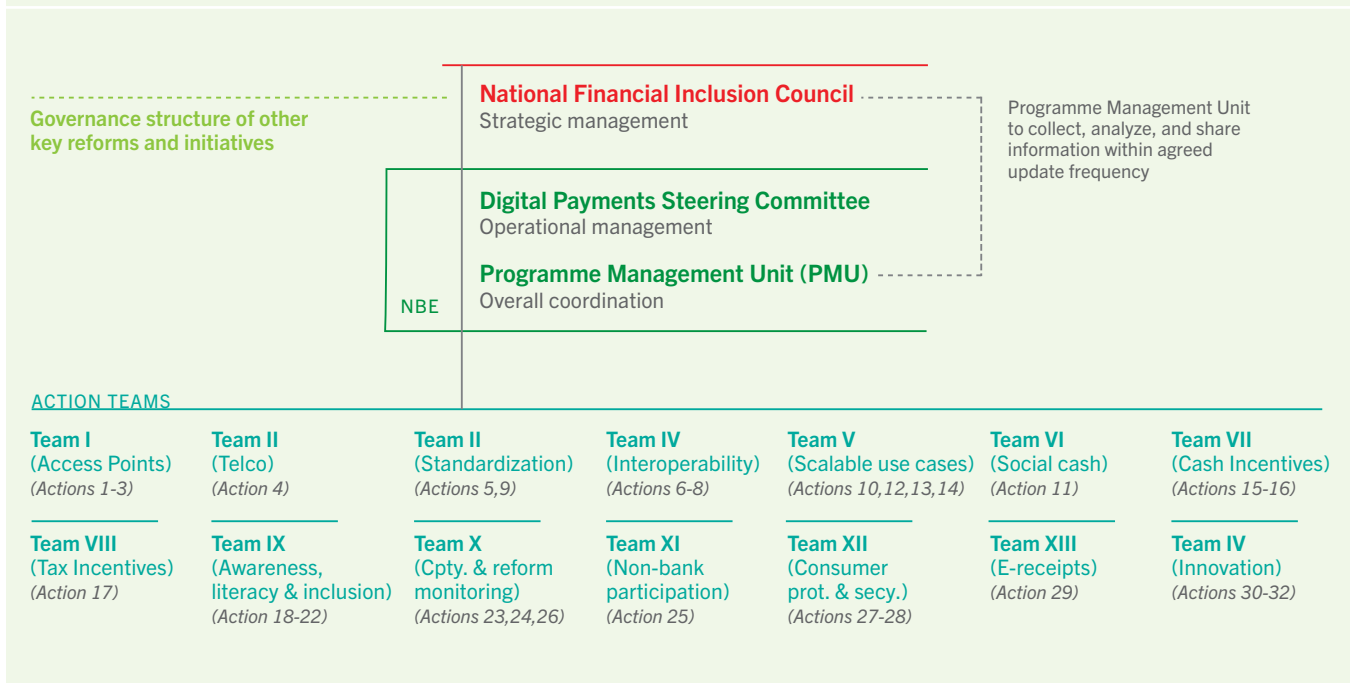
As seen in Figure 18, the governance structure has four levels:

- National Financial Inclusion Council
- Digital Payments Steering Committee
- Programme Management Unit (PMU)
- Action teams.

The Council for Digital Payments is a senior cross-institution body with the mission to promote digital payments. Its objective is to ensure strategic guidance and coordination with national reforms and policies. It is also critical in cascading implementation to regional structures. The Council is chaired by the Minister of

Finance. Other members of the Council include representatives from the Prime Minister’s Office, other relevant ministries (e.g. the MInT, the MoR, the MoA), the Ethiopian Information Network Security Agency (INSA), the ECA, and the PMU. The Council’s main responsibilities include securing high-level political support for implementation, providing strategic guidance on key integration questions, and reviewing and approving recommendations that require national policy changes or changes to the implementation plan. The Council receives monthly updates on the implementation prepared by the PMU and meets quarterly. facilitated by the Steering Committee with support from the PMU.

FIGURE 18. NDPS governance structure



The Digital Payments Steering Committee is the leading body within the hosting institution (the NBE); other institutions to join by invitation. Its objective is to oversee and guarantee successful and timely implementation of the NDPS. The Steering Committee is chaired by the Vice Governor of Financial Institution Supervision. Members of the Steering Committee include NBE directors, and other members of the NBE, MInT, and PMU. NBE directors are from the Payment and Settlement Directorate, the Financial Inclusion Directorate, the Banking Supervision Directorate, the Microfinance Institution Directorate, and the Information Systems Management Directorate. Other members include principals from the Payment and Settlement Directorate, representatives of the Bankers Association, and the Advisor to the Governor of the NBE. The Steering Committee is responsible for overseeing the implementation, setting the direction, and validating the approach to the action team plans. Additionally, the Steering Committee secures coordination with NBE structures, reviews and approves recommendations, excluding those with policy changes, proposes changes to the implementation plan and KPIs to the Council, disseminates information on the strategy, and participates in knowledge-sharing events. Updates to the implementation plan are sent fortnightly, and Steering Committee meetings are held monthly.

The PMU is an independent body with fully dedicated resources within the hosting institution (the NBE) to manage implementation. Its objective is to support coordination by collecting and analyzing information and data to support decisions at the different levels of the governance structure. The PMU has three or four members, who are experts in large transformations, possess management capabilities, have experience with resource planning and allocation, and have expertise in payment and settlement. The PMU administers the overall implementation; develops detailed implementation plans; supervises milestones and deliverables; facilitates meetings and shares information across all governance levels; collects, analyzes, and interprets data; and monitors risks and escalates as necessary. It meets with action teams fortnightly and collates their responses to prepare detailed updates. Additionally, the PMU facilitates Steering Committee and Council meetings.

The action teams are composed of technical members from implementing institutions who execute specific strategic actions. Their objective is to implement specific actions, mitigate risks to their actions as they arise, and provide information to the PMU. Each action team is responsible for multiple actions. Members will differ by action team. The teams drive content for their strategic actions (e.g. data collection, analysis), develop deliverables, prepare fortnightly updates, and escalate critical decisions to the PMU as needed.

C3. Monitoring plan

A monitoring plan is critical to track the effectiveness of the NDPS. It is a tool to measure whether the strategy is achieving the desired outcomes of fostering the adoption of digital payments and increasing financial inclusion. Monitoring KPIs over time demonstrates the impact of the strategy and allows action teams to change their approaches if required.

Action teams will complete fortnightly status updates to capture overall progress on the actions. These updates will capture the overall status (indicated by green, yellow, or red), work completed in the previous two weeks, work planned for the upcoming two weeks, and issues with mitigations, milestones, and KPIs.

Glossary

Agent	Entity acting on behalf of a financial institution to provide financial services
Authorization	Process of certifying the presence of adequate funds for a transaction
Automated Clearing House	Electronic clearing and settlement system used for financial transactions
B2P/P2B	Payments between a business entity and a person
Banks	Entity licensed to receive deposits and make loans, and provide financial services such as wealth management, currency exchange, and safe deposit boxes
Brown-label payment devices	Payment devices (ATMs, POS terminals) licensed to banks but owned and maintained by third-party non-financial service providers. Cash management is handled by the licensed bank.
Cash-lite	Ecosystem where cash use is significantly reduced and is increasingly relegated to the “edge” of the electronic grid. Cash will be used predominantly within local communities for small, face-to-face payments, and digital payments are predominant.
Clearing	Process whereby banks turn promise of payment into movement from one account to another; encompasses all activities from the time a commitment is made until it is settled
Cryptocurrency	Type of digital asset used as a medium of exchange in business transactions. Cryptography is used to maintain the security of transactions and control the creation of additional currency coins or tokens.
Digital payment	<p>The transfers of value which are initiated and/or received using digital or electronic devices and channels to transmit the instructions.</p> <p>This involves the use of digital payment instruments (i.e. payment cards, electronic funds transfers), across digital payment channels (i.e. ATMs, POS terminals, mobile phones, mobile/PC applications) supported by a digital means of transmitting information (i.e. internet (TCP-IP), SMS, Unstructured Supplementary Service Data)</p>
Digital payment channel	Device that uses the payment instrument and information from the recipient to complete a transaction (i.e. ATM, POS device, PC, mobile phone)
Digital payment ecosystem	Ecosystem consisting of users (consumers, businesses, government agencies, and nonprofit groups) who have needs for digital and interoperable financial products and services; the providers (banks, other licensed financial institutions, and non-banks) who supply those products and services through digital means; the financial, technical, and other infrastructures that make them possible; and the governmental policies, laws, and regulations which enable them to be delivered accessibly, affordably, and safely

Digital payment instrument	Digital instrument enabling the holder/user to transfer funds (i.e. payment card, electronic funds transfer (credit and direct debit), real-time push payments)
Electronic banking (e-banking)	Banking functions accessed and carried out through the internet
Financial inclusion	Access of individuals and businesses to useful and affordable financial products and services that meet their needs (transactions, payments, savings, credit, and insurance), delivered responsibly and sustainably
Financial institution/ financial service provider	Bank, micro-finance institution, and other payment instrument issuer as licensed under the relevant PII Directive of the NBE
Fintech	Entity that uses technology-enabled innovation in financial services, and is licensed by a central bank to provide payment services
G2B/B2G	Payments between a government and business entity
G2P/P2G	Payments between a government and a person
International card scheme (ICS)	International payment scheme and processor of international card transactions, including Visa, MasterCard, and American Express
Interoperability	Enabling payment instruments belonging to a particular scheme or business model to be used or interoperated between other schemes or business models
Know Your Customer (KYC)	Due diligence that financial institutions and other regulated companies must perform to identify their clients and ascertain relevant information pertinent to conducting financial business with them
Micro-finance institution (MFI)	Entity that is licensed to undertake micro-financing business
Mobile banking	Service provided by financial service providers giving mobile access to an account held at their institution, including making payments from the account
Mobile money	Digital financial services provided through the use of a SIM-card-based mobile phone system
Mobile money operator (MMO)	Licensed mobile money service provider that develops and deploys financial services through mobile phones and mobile telephone networks

Mobile network operator (MNO)	Telecommunications service provider that provides wireless voice and data communication for its subscribed mobile users
Mobile wallet	Account that is linked to a mobile phone (often by a mobile number) in which electronic value is stored
Mobile Point of Sale (M-POS)	Smart POS service that can be connected to a smartphone or tablet and can process payments and manage some inventory and customer information
National payment system	National system consisting of: (i) sending/receiving and processing of orders of payment; (ii) issuance and management of payment instruments; (iii) payment, clearing and settlement systems, and related arrangements and procedures; and (iv) payment service providers, including operators, participants, issuers of payment instruments, and any third party acting on their behalf
P2P	Payments between peers
Payment application (app)	Computer program or software designed to run on a mobile device such as a phone, tablet, or watch, connected to a payment service provider such that payments and payment data can be accessed
Payment ecosystem	Payers, payees, and infrastructure, and the relationships between them which shape the choice and nature of payment instruments available in a country
Payment gateway	Third-party software that securely connects a customer's bank account to the platform where he/she needs to transfer money through different payment modes such as net banking, credit card, debit card, Unified Payment Interface, or various digital wallets
Payment instrument	Instrument (whether tangible or intangible) that enables a person to make payments or transfer money (including electronic money)
Payment instrument issuer (also electronic money issuer)	Entity authorized or licensed by the NBE to issue payment instruments against receipt of funds in Ethiopian Birr
Payment scheme	Body that sets the rules and technical standards for the execution of payment transactions using payment systems
Payment service provider	Entity that provides transaction processing, potentially including clearing and settlement, responsible for payment acquisition, routing transaction, and transaction management
Phishing	Type of security breach where a hacker pretends to be an institution to get the user to divulge data, such as usernames or passwords, via emails or social networks

Point of Sale (POS)	Hardware system for processing card payments at retail locations. Software to read magnetic strips of credit and debit cards is imbedded in the hardware.
QR Code	Two-dimensional barcode used to uniquely identify a product. Smartphones are commonly used to read QR Codes to display text to the user and open a URL, among other things.
Real-time gross settlement (RTGS)	Electronic form of funds transfer for high-value or time-sensitive payments, where money transfer takes place from one bank to another bank in real time and on an individual order basis
Real-time payments (RTP)	Instantaneous (or near instant) authorization, transfer, and settlement of funds upon payment; commonly used for low-value, high-frequency payments (also known as instant payment)
Regulator	Federal or state agency charged with supervision of a sector that creates requirements, restrictions, and guidelines to make the market transparent
Sandbox	Framework set up by a financial sector regulator to allow small-scale, live testing of innovations by private firms in a controlled environment
Settlement	Process of payment exchange between financial institutions in a transaction. The payer's financial institution is debited, and the payee's financial institution is credited.
State-owned enterprise (SOE)	Enterprise owned fully or majorly (>50%) by the government (also referred to as a public enterprise)
Sub-agent	Entity contracted by a super-agent for the provision of agent services on behalf of financial institutions
Super-agent	Entity which has an overarching agreement with a financial institution to contract and manage sub-agents that provide agent services to customers
Switch	Payment ecosystem platform that enables payment transactions to be routed from one payment system participant to another, whether within the same network or between different networks or schemes
Unstructured Supplementary Service Data (USSD)	Global System for Mobile (GSM) communication technology that is used to send text between a mobile phone and an application program in the network. Users without a smartphone or data connection can use a text message code to access payment services.
Venture capital	Form of private equity and a type of financing that investors provide to startup companies and small businesses that are believed to have long-term growth potential
White-label payment devices	Payment devices (ATMs, POS terminals) fully owned and managed by third-party non-financial service providers. Cash management is handled by the same third-party service provider.

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Notes

1. By virtue of the power and duties vested in Proclamation No. 718/2011 and Proclamation No. 591/2008.
2. Homegrown Economic Reform Agenda (MoF), 10-year National Prospective Plan (2020–2030) (PDC), National Digital Transformation Strategy (MInT), Ease of Doing Business reform (Ethiopian Investment Commission), National Digital ID Program (Ministry of Peace), Telecommunications sector reform (MoF, MInT, ECA).
3. PII Directive (ONPS/01/2020) (<https://www.nbe.gov.et/wp-content/uploads/pdf/proclamation/oversight-the-national-payment-system.pdf>) and Use of Agents Directive (FIS/02/2020) (<https://nbebank.com/wp-content/uploads/pdf/directives/bankingbusiness/use-of-agents.pdf>).
4. Proxies used to measure performance: Financial inclusion is measured as “share of population with bank accounts” (World Bank Group 2020d); infrastructure measured as “mobile phone penetration” (World Bank Group 2019a); adoption measured as “population made or received digital payments” (World Bank Group 2020d); regulation measured by “global indicators of regulatory governance” (World Bank Group 2020e); and innovation measured by “establishment of innovative environment for fintech” (UNSGSA 2019).
5. The NBE estimates that cash payments account for >90% of retail transactions.
6. PII Directive (ONPS/01/2020) (<https://www.nbe.gov.et/wp-content/uploads/pdf/proclamation/oversight-the-national-payment-system.pdf>) and Use of Agents Directive (FIS/02/2020) (<https://nbebank.com/wp-content/uploads/pdf/directives/bankingbusiness/use-of-agents.pdf>).
7. See https://pmo.gov.et/media/documents/Ethiopia-0509_Economic_Reform_Agenda.pptx.
8. Under development by the Planning and Development Commission.
9. Electronic transaction proclamation No. 1205/2020 launched in 2020.
10. Cognizant choice of “cash-lite” for the three-year strategic plan. “Cash-less” set as an ambition on a longer time frame.
11. Under development by the Planning and Development Commission.
12. Figures for Sub-Saharan Africa for 2019 are estimated based on a five-year compounded annual growth rate for the region.
13. Mobile money agents in Ethiopia are defined by bank agents (agent network oversight allowed for banks or MFIs only).
14. NDPS stakeholder consultation.
15. Automated Clearing House (ACH).
16. One-on-one and group meetings with stakeholders in the financial ecosystem.
17. One-on-one and group meetings with stakeholders in the financial ecosystem.
18. NDPS stakeholder consultation.
19. Enables anyone-to-anyone payments irrespective of where the parties to a transaction have their account/wallet. This increases the possibility of two individuals being able to pay to each other digitally and thus increases the use of digital payments.
20. See <https://www.nets.com.sg/>.
21. No agent data for 2013 and 2014.
22. Major causes only—numbers do not add up to 100%.
23. Statistics conditioned to active ATM interacting with the EthSwitch back-end system; factors such as power outage can hinder total figures.
24. In India, for example, the central bank has instructed all payment operators to resolve failed ATM, swipe machine, and Aadhar Enabled Payment System (AEPS—see <http://cashlessindia.gov.in/aeps.html>) transactions within five days and IMPS transactions in one day, with a fine of USD1.33 for every delayed day (Manikandan, 2019).
25. NBE data 2020.
26. World Bank 2018.
27. The public enterprise proclamation is being drafted by the Ministry of Finance and will govern all public enterprises, including Ethio telecom. The community-service obligation framework (a core component of the proclamation) is designed to enable competitive tendering of government-funded projects to all players (public and private), and help the government reap the highest return on its investment, in terms of quality and speed of project delivery.
28. Proxy used for unique mobile phone subscribers.
29. Ethiopia Business Portal—see <https://www.eservices.gov.et/business/>.
30. NDPS stakeholder consultation.
31. National Bank of Ethiopia data.
32. The PSNP is a donor-funded program, which has close oversight by the MoF. The implementation is based out of the MoA.
33. Interviews with stakeholders.

34. NBE data 2020 (Addis Ababa percentage of all distribution points: branches 34.7%, ATMs 46.9%, and POS terminals 77.0%).
35. The NBE is the custodian of the strategy. The Financial Inclusion Strategy is a national strategy with council members including the MoF, the MoA, the NBE, the National Planning Commission and the Ethiopian Development Research Institute.
36. Boston Consulting Group analysis.
37. See <https://www.worldremit.com/en/mtn-mobile-money>.
38. See <https://verdant-cap.com/orange-launches-international-money-transfer-service-orange-money/>.
39. See <https://bankinnovation.net/allposts/biz-lines/payments/worldremit-now-handles-75-of-mobile-remittances-looks-to-add-android-pay/>.
40. See <https://www.xoom.com/>.
41. See <https://transferwise.com/>.
42. See <https://www.currencyfair.com/>.
43. See <https://www.abra.com/technology/>.
44. See <https://www.bitpesa.co/>.
45. NDPS stakeholder consultation.
46. NDPS stakeholder consultation.
47. SendWave, a digital payments instrument in the United States, is integrated with M-Pesa in Kenya, enabling direct fund transfer from a US-based account to a local M-Pesa account.
48. See <https://www.fundacioncapital.org/home>.
49. The NBE is the custodian of the strategy. The Financial Inclusion Strategy is a national strategy with council members including the MoF, the MoA, the NBE, the National Planning Commission, and the Ethiopian Development Research Institute.
50. The gender gap fell by 8 percentage points between 2011 and 2017.
51. Action 21: Launch services and solutions targeting financially excluded segments.
52. Note: * Customer KYC may be conducted by the deposit holder or the electronic money issuer, depending on regulations in each economy.
53. MNOs must obtain a license to offer e-money through a separate legal entity (e-money issuer).
54. National consideration #3: Revenue from the privatization of Ethio telecom and the sale of two operator licenses.
55. Enterprises fully owned by the government, or companies that are fully owned by Ethiopian nationals or foreign nationals of Ethiopian origin or jointly owned by Ethiopian nationals and foreign nationals of Ethiopian origin.
56. See Banking Business Proclamation No. 592/2008 (<https://nbebank.com/wp-content/uploads/2019/04/BANKING-BUSINESS-592.pdf>) and Banking (Amended) Business Proclamation No. 1159/2019 (<https://nbebank.com/wp-content/uploads/pdf/directives/bankingbusiness/banking-business-proclamation-1159-2019.pdf>).
57. The G20/OECD Policy Guidance on Financial Consumer Protection Approaches in the Digital Age; Chapter 6 of the CFI Handbook on Consumer Protection for Inclusive Finance; Principle 3 of The Smart Campaign's Client Protection Principles; Principle 5 of the GPFI's High Level Principles for Digital Financial Inclusion; Guideline 6.1.1 of the GSMA Code of Conduct; Guiding Principles 2 and 5 in the Payment Aspects of Financial Inclusion (PAFI) report.
58. The GPFI'S 2016 High Level Principles for Digital Financial Inclusion; EU'S 2016 General Data Protection Regulation (GDPR); UK'S Open Banking Policy; World Bank's 2017 Good Practices for Financial Consumer Protection; CFI'S 2019 Handbook on Consumer Protection for Inclusive Finance, Chapter 9 – Privacy and Security of Client Data; UK Payment Systems Regulator's 2018 Discussion Paper on Data in the Payments Industry; 2013 OECD Guidelines on the Protection of Privacy and Trans-border Flows of Personal Data; Guideline 8 of the GSMA Code of Conduct.
59. See <https://chilot.me/wp-content/uploads/2014/09/proclamation-no-808-2013-information-network-security-agency.pdf>.
60. PII Directive (ONPS/01/2020) (<https://www.nbe.gov.et/wp-content/uploads/pdf/proclamation/oversight-the-national-payment-system.pdf>) and Use of Agents Directive (FIS/02/2020) (<https://nbebank.com/wp-content/uploads/pdf/directives/bankingbusiness/use-of-agents.pdf>).
61. Fintech companies are typically licensed by the Ministry of Trade and the MInT, which implies a license for a technology provider, not a financial service provider.
62. See Banking Business Proclamation No. 592/2008 (<https://nbebank.com/wp-content/uploads/2019/04/BANKING-BUSINESS-592.pdf>) and Banking (Amended) Business Proclamation No. 1159/2019 (<https://nbebank.com/wp-content/uploads/pdf/directives/bankingbusiness/banking-business-proclamation-1159-2019.pdf>).



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