



Unlocking Public and Private
Finance for the Poor

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EXPLORATORY PAPER
DIASPORA MICRO SAVINGS
PRODUCT (m-SAVINGS BONDS)
Prepared for the National Bank of Ethiopia

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ACRONYMS AND ABBREVIATIONS

AML/CFT	Anti-money laundering/combating the financing of terrorism
API	Application programming interface
ATM	Automatic teller machine
Birr	The Ethiopian birr (ETB), the national currency of the Federal Democratic Republic of Ethiopia, issued by the National Bank of Ethiopia
CDD	Customer due diligence
CSD	Central securities depository
ECA	Ethiopian Communications Authority
KSh	Kenya Shillings (KES), currency of Kenya
KYC	Know Your Customer
MNO	Mobile network operator
NBE	National Bank of Ethiopia
SIM	Subscriber Identity Module
SMS	Short Message Service
STP	Straight through processing
TZS	Tanzania Shillings, currency of Tanzania
UNCDF	United Nations Capital Development Fund
USSD	Unstructured Supplementary Service Data

ABOUT THIS PAPER

The United Nations Capital Development Fund (UNCDF) has prepared this paper to assist the National Bank of Ethiopia (NBE) to achieve its ongoing objective of putting forward strategies to realize the potential of Ethiopian women and men to contribute to the economic development of their country.

The paper sets out to specify the scope, key functional and non-functional policies, marketing policies, financial policies and partnership policies necessary for a micro savings product (M-savings bonds) that could be implemented and operationalized for Ethiopian migrants. These requirements are also supported by an analysis of legal and regulatory implications. The paper also shows the advantages and disadvantages of potential different approaches and recommended approaches. Wherever possible, advantages of existing Ethiopian telecommunications and financial services infrastructures have been recognized.

UNCDF has made recommendations for an 'optimal' approach that represents the simplest, most cost-effective and efficient way to achieve a fast time to market as well as a high rate of financial inclusion of women and men migrants via M-savings bonds in Ethiopia. This paper also identifies some gaps that need to be resolved to make the product more successful. Accordingly, policy recommendations that must be implemented to improve the infrastructure have been outlined.

UNCDF recognizes that this paper's recommendations cover a wide spectrum of possibilities, and looks forward to working with the NBE to determine which considerations can be taken up, in which sequence, and how UNCDF can continue to provide practical support or advice if desired by the NBE. Key stakeholders will have sufficient information in this paper to allow them to follow a different approach from the optimal one recommended, if they wish to do so. This approach means that after the conclusion of the final key stakeholders' consultations, UNCDF recommends that the NBE leads the various stakeholders to an agreement on the exact technical details of the M-savings bonds solution to be implemented.

INTRODUCTION

A diaspora micro savings product (M-savings bonds) is a financial instrument that seeks to enhance financial inclusion for women and men migrants and their families as part of their savings and investments and for the economic development of Ethiopia. The M-savings bonds are structured to be subscribed across mobile networks, thus enhancing remittances through formal channels. They are designed to leverage mobile money to attract the mass participation of migrants and their families in the formal financial system. Currently, barriers to such financial inclusion include a lack of financial literacy and suitable platforms, and unaffordable minimum subscription amounts for most bonds and bills. The M-savings bonds aim to address these barriers. M-savings bond platforms will allow small subscription amounts and thus provide a savings opportunity that is also an investment. M-savings bonds are expected to be issued by the government and public and private institutions and companies, and to attract the participation of many women and men migrants, thereby bringing more activity, liquidity and vibrancy to the financial sector in Ethiopia. By leveraging mobile trading platforms, M-savings bonds have great potential to achieve financial inclusion targets for migrants and their families.

In Ethiopia, according to data from the National Bank of Ethiopia (NBE), an estimated 1.3 million Ethiopian women and men migrants globally send close to US\$5 billion back to Ethiopia every year, which accounts for more than 5 percent of the country's gross domestic product (GDP) and about a quarter of its foreign exchange earnings (African Development Bank, 2021). However, not all remittances are routed through formal channels. The World Bank's estimate of remittances to Ethiopia through formal channels is \$500 million, which is 1 percent of the total GDP of the country (World Bank, 2020). The size and scale of remittances create an opportunity to harness these flows for productive investment through formal channels, thus contributing to Ethiopia's long-term development. The mobilization of government efforts to lower costs is occurring at the same time as new, technology-based commercial solutions are increasing competition, enabling affordable prices and accelerating inclusive finance.

In this promising environment, however, a number of concerning trends have emerged. De-risking behaviour by international correspondent banks, in response to rising compliance costs and fines, has raised the costs of remittance services and stifled competition. This undermines the drive to lower remittance transaction costs and increase access to formal channels. Competing pressures are also apparent at the policy and regulatory level, as reflected by the introduction of levies and commissions on international remittances.

Mobile money has established itself as an affordable and convenient tool for enabling international remittances while reducing remittance costs and thus maximizing the impact of remittances on beneficiaries' lives and countries' economic growth. Because of its reach and growing use among underserved people, mobile money is outstandingly positioned to transform formal remittance markets and advance inclusive finance. Mobile money providers

are at the forefront of domestic payment services in many emerging market economies. According to the GSMA (2021) report, in 2020 there were 310 live services in 96 countries and 300 million monthly active accounts, and there were more than 1.2 billion registered mobile money accounts with over \$2 billion processed daily. This value has more than doubled in value since 2017, and it is expected to exceed \$3 billion a day by the end of 2022.

In addition, there was an increase in international mobile remittances from \$7.7 billion in 2019 to \$12.7 billion in 2020—a 65 percent increase—and digital transaction flows represented 57 percent of mobile money transaction values (ibid.). Mobile money services are available in 96 percent of countries where less than a third of the population have an account at a formal financial institution. The characteristics of mobile money, such as convenience, privacy and reach, make it a particularly attractive remittance channel for women and rural households. Mobile money operators' data show that mobile money is the preferred way for their customers to send money to rural areas. Therefore, mobile money technology can also play a critical role in formalizing international remittances in Ethiopia.

OBJECTIVES OF THIS PAPER

The objectives of this paper are to specify the scope, policies, financial models, functional designs and legal, regulatory, marketing and partnership frameworks for M-savings bonds that can be implemented and operationalized in Ethiopia. The paper also shows the advantages and disadvantages of potential different approaches that deviate from an optimal approach. Wherever possible, the introduction of the M-savings bonds should take advantage of existing mobile money operations and financial services infrastructures.

More people in Ethiopia have mobile phones than have bank accounts. In future, the M-savings bonds may be scaled up to all mobile money users in Ethiopia, to achieve financial inclusion targets. There are more than 54 million mobile connections in Ethiopia—equivalent to 46 percent of the total population—and the number is increasing (Ethio Telecom, 2021). For example, between January 2019 and January 2020 the number increased by 7.2 million—more than 18 percent (Datareportal, 2020). This scenario provides a very good base of subscriptions to the M-savings bonds through mobile phone wallets. That reality is encouraging mobile service companies¹ to explore how they can capture a share of the potential financial market by enabling women and men migrants from Ethiopia and their families to transfer funds back home for savings, investments and to help their families and relatives. Sending such remittances through mobile phone wallets can be a cheap, efficient and safe alternative to the usual channels of employing correspondent banks, money transfer companies or acquaintances travelling to the home country. Money can be sent to even remote rural areas quickly, as long as the recipient has a mobile phone or can go to a participating business that pays out cash.

¹ Ethiopia's State-owned Ethio Telecom currently holds a monopoly position in the mobile network sector. In May 2021, Ethiopia granted a licence to a global consortium of telecommunications companies, which includes Vodafone, Vodacom, Safaricom, Sumitomo Corporation and the CDC Group. This is a sign that more companies will be operating in the mobile money space in the near future.

POLICY OBJECTIVES OF M-SAVINGS BONDS

The main policy objective of the M-savings bonds is to promote implementation of the inclusive finance agenda for Ethiopian migrants and their families, including attracting the financially excluded and unbanked Ethiopians in the diaspora who currently have little or no access to formal remittance channels. There is currently no systematic, consistent, affordable, safe and convenient way for financially excluded migrants to save money in Ethiopia. Introducing the M-savings bonds helps achieve the first step of mass financial inclusion by bringing women and men migrants and their families into the formal financial system and encouraging them to save, however small the amounts may be.

As stated above, it is estimated that there are 1.3 million Ethiopian migrants globally. For example, assuming an average of Birr1,000 per migrant per month, Birr16 billion could be injected into the economy over a one-year period. This is a modest target given the number of undocumented migrants in various countries and that others may have a higher propensity to save and thus save more than Birr1,000 per month.

BENEFITS OF M-SAVINGS BONDS

The benefits of implementing and operationalizing the M-savings bonds include the following:

- **Financial inclusion and financial literacy.** The creation of a new savings product and infrastructure can attract women and men migrants to the financial system, thereby increasing financial literacy and overall financial inclusion of the migrants and their families. Mobile money is uniquely positioned to connect the receipt of international remittances with broader financial inclusion. People who receive a remittance in their mobile money account have the option to store it safely and use the funds in a number of ways without cashing out all the money immediately. For example, they can make digital payments to buy government bonds (e.g. M-Akiba in Kenya), buy goods from a local merchant, pay for school fees for their children and pay utility bills. Innovative credit-scoring models can also leverage the payments history of people who receive international remittances through mobile money to help them access more sophisticated financial services. Examples include credit and savings services offered by M-Shwari in Kenya and M-Pawa in Tanzania, and insurance services offered by Tigo Kiiiray in Senegal.
- **Stimulating financial system activity, attracting informally channelled remittances into formal channels and increasing savings.** M-savings bonds can bring transactions, liquidity and revenue to the financial system and allow wider participation of Ethiopian migrants, including harnessing remittances currently going through informal channels into formal channels, while also encouraging and increasing savings, financial resilience and risk coverage for themselves and their families.
- **Increasing transparency.** Greater transparency enhances the government's ability to combat money laundering and financing of terrorism, has a positive impact on Ethiopian debt sustainability and balance of payments statistics, and enhances the financial sector's ability to promote mobile money technology for cross-border remittances and to link remittances to domestic savings, consumption and investments.
- **Reducing remittance costs to achieve Sustainable Development Goal (SDG) 10c.** Where recipients opt to retain their money in digital form, the cost of sending remittances from a mobile money account is, on average, 50 percent lower than doing so via traditional channels. Even when mobile money funds are cashed out immediately, the end-to-end transaction cost is, on average, 21 percent cheaper than the main formal alternatives (Farooq, Naghavi and Scharwatt, 2016). Results from the World Bank's Remittance Prices Worldwide initiative—the global reference—echo these findings and the fact that, in many corridors, international mobile money sending costs are already below the SDG target of 3 percent. According to the World Bank, in the last quarter of 2020, the cheapest method for funding a remittance transaction was mobile money, at 4.36 percent. The average cost when using a debit or credit

card was 4.82 percent. Sending money using cash cost 7.06 percent, and funding the transaction using a bank account incurred an average cost of 6.66 percent.

- **Increasing convenience and empowering users.** With mobile money, people can send or receive international transactions whenever it suits them. Freedom from the opening hours of a traditional remittance agent can make life easier for those based in remote areas or with inflexible work schedules. In 2019, mobile money providers were served by over 7.7 million agents globally, reaching beyond urban areas. For example, 60 percent of Airtel Money customers in Burkina Faso who receive international transfers from Côte d'Ivoire are in rural areas (Scharwatt and Williamson, 2015). In addition, mobile wallet holders can conduct transactions independently and from the safety of their homes.
- **Reaching women.** Using mobile money as a channel for international transfers can help to bridge the gender gap in a number of ways. First, women are often more price-sensitive than men (GSMA, 2015). Second, the reach of mobile money distribution networks can play a critical role in ensuring that women can access formal remittances. UNCDF research shows that 60 percent of remittance recipients in Cambodia, Lao PDR and Myanmar are women, and that 75 percent of these women live in rural areas (UNCDF, 2015). Third, by lowering safety concerns in managing, converting and transporting large amounts of cash, mobile money can make formal channels more attractive. Women migrant workers send remittances more regularly and consistently than men (IFAD, 2017).
- **Accelerating the transformation of rural and agricultural remittance households.** The presence of agents in rural areas and remote places has been critical to the success of mobile money in many markets.² Data from WorldRemit indicate that mobile money tends to be the preferred method for receiving international remittances in rural areas (Scharwatt, 2017). Mobile money providers are also well placed to offer value-added services that can help farmers and small producers increase productivity by advising them on weather conditions, pest outbreaks and new farming techniques. In this way, international mobile money remittances can help strengthen the resilience of rural households. This is particularly important in the context of the COVID-19 pandemic and climate change, as adverse local weather conditions are increasingly causing and exacerbating financial shocks.
- **Reducing the risks of money laundering and financing of terrorism.** Mobile money can help regulators manage the risks of money laundering and the financing of terrorism because there are a large number of transactions going through mobile money operations. Regulators should promote this technology-based remittance channel for ease of monitoring.
- **Improving liquidity for the financial sector.** M-savings offers diversified revenue channels, cross-selling opportunities and additional liquidity to the financial sector.

² In Mali and Chad, for example, we observed strong customer uptake and agent performance in rural border towns, refugee settlements, rural marketplaces and remote mining towns (Scharwatt, 2017).

- **Improving the connection between the government and its people**, particularly women and men migrants, through a direct financial channel. Mobilizing savings, especially from the unbanked, into the formal economy will increase the country's productive capacity and, therefore, help to finance various projects, while at the same time, migrants will benefit by having a safe savings opportunity that is earning sufficient income to maintain its value over time.

WHO CAN ISSUE M-SAVINGS BONDS?

At the beginning, government bonds and bills will form M-savings bonds. Proceeds from the bonds will be used to finance public projects or budget support. In future, when the appetite grows and proper infrastructure is in place, the following institutions can issue M-savings bonds:

- **Microfinance institutions**, with proceeds from the bonds used to finance microfinance loans in rural areas, with special targeting of the migrants' families and relatives, thereby achieving financial inclusion for them
- **Financial institutions**, with proceeds from the bonds used to finance loans or mortgages for women and men migrants and their families, providing capital access and further household capital formation and inclusion
- **Private companies**, with proceeds from the bonds used to finance the respective companies' projects, such as expanding production activities
- **Vocational training institutions**, with proceeds used to provide vocational training and further increase the earning power of women and men migrant workers recruited for jobs overseas. The result of this is a virtuous circle of higher skills leading to higher earnings, in turn resulting in higher savings through M-savings bonds.
- **Local governments (towns, municipalities)**, with proceeds used by a region, district or urban area council to invest in a revenue-generating activity associated with the purpose of the bonds (such as water and sewerage, roads, ports, airports, power plants, markets or other public buildings).

KEY POLICY RECOMMENDATIONS

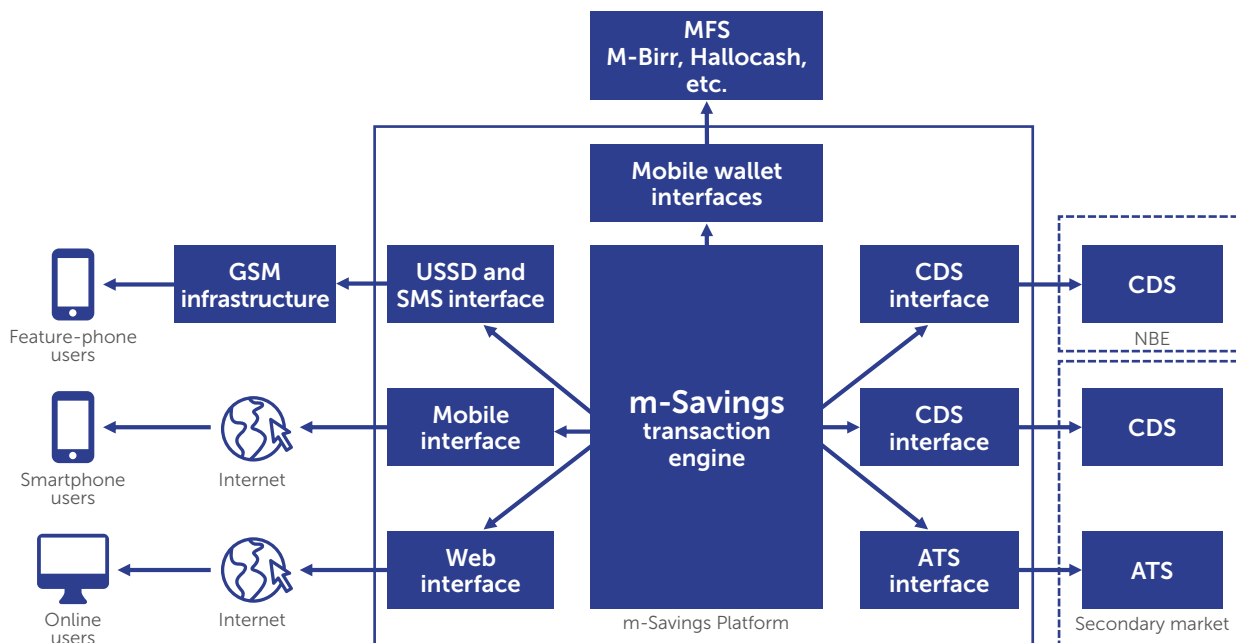
The key policies recommended for the operationalization of M-savings bonds are summarized below. The overall scope of the M-savings bonds project is defined as the regulations, functions, technology, organizations and processes that together, when operationalized, form a channel for micro savings bonds. The purpose of these policies is to ensure that the M-savings bonds can be defined, developed and operationalized effectively.

- **Marketing:** To make the M-savings bonds successful, the NBE, in collaboration with the Ministry of Finance, the Ethiopian Communications Authority (ECA), mobile network operators (MNOs) and the Ministry of Foreign Affairs, has to undertake marketing and awareness-raising campaigns to encourage women and men migrants to participate. These activities should promote the product to potential and ongoing retail investors, to maximize financial inclusion and improve financial literacy, particularly among migrants who have no formal means of making savings. The marketing strategy should encourage women and men migrants to open domestic mobile money wallets and bank accounts.
- **Governance:** The Ministry of Finance will continue to prepare a bond issuance plan or calendar, as per the law, and will submit it to the NBE for implementation. At the beginning, an M-savings bonds team should be formed within the committee for the capital market. Currently, this committee comprises 12 members from the Ministry of Finance and the NBE. This committee should be enhanced by adding members from the ECA and invited representatives from MNOs, aggregators and the Bankers' Association as needed.
 - In future, an M-savings company or any suitable entity (as needed) may be created to allow both government and private bonds to be issued through that same platform, as the joint stakeholder-supported figurehead to promote the M-savings bonds in the longer term after it is operationalized. This company may not be needed at the beginning because only the government will issue the bonds or bills, through the NBE, and existing infrastructure will be used with some modifications. The M-savings company will be responsible for preparing strategies for engagement, focusing on strengthening the economic and social ties of women and men migrants with their homeland to motivate them to invest in the country's socio-economic development.
- **Instruments issued:** The M-savings bonds allow a large number of Ethiopian women and men migrants and their families to engage in small savings, and they promote widespread financial inclusion, including the attraction of unbanked remittances that currently flow through informal channels into formal channels. The M-savings instruments will be issued by the government at the beginning, and by both government and private institutions in future, and purchased by Ethiopian migrants

and their families and redeemed by Ethiopian retail investors using mobile phones. The actual form of the micro savings product may be a bill or a bond, or in the future some other suitable instrument or combination of instruments that will maximize the uptake by investors and promote large-scale inclusive finance. The M-savings bonds should be offered in minimum denominations of Birr1, so that many women and men migrants can have access. Once a secondary market is established, the M-savings bonds can be traded in that market. The M-savings bonds should be freely transferable. They should also be allowed to be used as collateral in Ethiopia. The aggregator should cover any remittance fees associated with the purchase of these bonds.

- **Interest rate costs:** The M-savings bonds should be issued at the annual equivalent rate set in each primary auction. To increase uptake, the bonds can have a slightly higher coupon rate than other domestic bonds.
- **Infrastructure capital costs:** To support the issuance, management, trading and redemption of M-savings bonds using electronic platforms, it is possible to reduce cost and time to market and increase efficiency for high volumes of transactions. Each stakeholder providing infrastructure for M-savings bonds bears its own costs of specific modifications or development and operations. The commercial stakeholders recoup these upfront costs via future transaction revenues. In future, the M-savings company or other suitable entity will provide a financing arrangement for aggregators to provide necessary operational services.
- **Explicit transaction cost and revenue model:** The NBE or any other issuer should negotiate a 'specific business contract' with MNOs and aggregators and pay investors' messaging and transaction charges.
- **Implicit transaction costs and secondary market:** Investor protection should be balanced with the creation of an incentive for secondary market trading through a relatively narrow bid–offer spread (around 2 percent).
- **Taxation:** The current tax regime on bonds and bills will be applicable. Income from Treasury bills and government bonds is tax exempt. There is no tax exemption on income from corporate bonds.
- **Issuer organizations:** Initially, it is recommended that the NBE, as the issuer of bonds for government debt, issues the M-savings bonds. At a later stage, private institutions may step in as issuers of corporate bonds.
- **Retail user device interface:** Feature phones using unstructured supplementary service data (USSD) codes, smart phones and other mobile devices using USSD codes and mobile apps will be used.
- **Know Your Customer (KYC) data transfer:** KYC data for all investors applying for M-savings bonds are passported electronically from the mobile wallet infrastructure or the identification infrastructure to the issuer database—that is, the central securities depository (CSD) registry. Migrants can have both mobile wallets and a domestic savings account opened with a local Ethiopian bank.

- **Securities holding at the database or CSD registry:** For primary securities, the database registry should be held by the NBE or any other issuer, mirrored in the secondary market registry.
- **Funds transfer:** This will take place using e-money via mobile money wallets provided by MNOs.
- **Investor application process:** Retail investors will apply directly to the NBE or other issuers, using mobile phones, and make payments via MNO mobile money wallets.
- **Allocation process:** Bonds or bills will be allocated on a 'first in, first out' basis using the weighted average price set during the government bond auction of similar maturity.
- **Intermediation:** Direct market access should be available for retail investors via their mobile devices and straight through processing (STP) for application, allotment, end-of-term redemptions and rollovers, and all associated securities and funds movements and reporting. Also for intermediation by the secondary market for retail investors' early redemptions before the end of the instrument's term, with the NBE or any other issuer as the default redeemer under specified conditions.
- **Role of communications infrastructure providers:** MNOs should provide maximum coverage for potential retail investors. MNOs plus an aggregator should use the MNO agent network and call centres and provide a single interface to the NBE or issuer.
- **Key system and platform recommendations:** The key M-savings bonds infrastructure should ensure end-to-end functioning of the overall M-savings channel. Important components are the MNOs' mobile money infrastructure, the MNOs' call centres and the NBE or issuer's CSD registry; at a later stage, the secondary market securities depository system and automated trading system can be used to trade M-savings bonds in the secondary market with a modification to the circuit-breaker parameters.
- **Call centre support for M-savings bonds investors:** MNOs and aggregators should use their existing call centres.
- **M-savings bonds platform approach:** Integrate available components supplemented by essential developments, to build an M-savings bonds infrastructure.
- **Systems integration approach:** Use a single, competent aggregator.
- **Participation in M-savings bonds:** Women and men migrants who open and operate mobile money accounts should participate. In case of mobile money balance and transaction limits, a participant may open a savings account with a bank or financial institution for depositing the money from the interest income and/or principal amount at maturity. The savings account should be eligible for online operations through mobile phones.
- **Laws, regulations, licensing and associated procedures:** The M-savings bonds should operate in a regulated environment, thereby providing investor protection and



Legend:

ATS = Automatic trading system; CDS = Central securities depository; GSM = Global System for Mobile Communications; M-Birr = Mobile Birr; m-Savings = Micro savings through Mobile money; MFS = Mobile financial services; NBE = National Bank of Ethiopia; SMS = Short Message Service; USSD = Unstructured supplementary service data

Figure 1. High-level functional requirements

confidence. The regulations should cover the product issuance, KYC, the securities markets, and the interface with mobile money and telecommunications infrastructure. In addition, the following legal rules are recommended:

- The M-savings bonds must be issued as part of the government or issuer’s borrowing programme. The M-savings bonds and infrastructure will be regulated through cooperation between regulators, namely the NBE and the ECA. Initially, the existing issuing regulations for government bonds or bills can be used for M-savings bonds.
- The ongoing processes for establishing a capital market in Ethiopia should ensure that there is legal provision for automatic listing of M-savings bonds on the secondary market, without any required approval process. Basically, a secondary bond market is very important in creating an active daily market, increasing financial flows and encouraging savings. Security holders have more confidence in participating in a primary market when they have the comfort of selling the securities at any time in the secondary market for liquidity purposes. A secondary market brings in price discovery and increases the transparency of dealings. At a later stage, once the secondary capital market is in place, M-savings bonds will help maximize liquidity in the secondary market at the lowest cost per transaction in that market. Therefore, the design of M-savings includes a trading board at the secondary market for selling and buying the M-savings bonds prior to the

- redemption date. This will provide an opportunity for other investors to acquire M-savings bonds in the secondary market if bond holders want to sell them to meet emergency cash needs before the end of the instrument's term, with the NBE or issuer as the default redeemer under specified conditions.
- Through the ongoing efforts of establishing a capital market, the rules must clearly articulate how ownership of securities (government as well as corporate securities) is legally obtained and transferred, so that it can be legally enforced against a third party claimant of the security who acted in good faith. This is important to remove any legal risk.
 - The NBE should introduce governing rules and procedures for the M-savings bonds, to allow tap issue, settlements for M-savings bonds or bills on a T+0 basis, zero-coupon bonds or bills, face value of Birr1 or a similar value and to allow for individual investors who have CSD accounts at the NBE.
 - The NBE, as the regulator of electronic payments in Ethiopia, should introduce standardized and transparent authorization criteria for international mobile money transfers and the process of securing approval to connect new corridors.
 - The NBE should also introduce mobile money rules and procedures to allow international funds transfers directly to mobile wallets and allow for international partnership agreements to set transaction and balance limits on a case-by-case basis subject to the regulator's approval.
 - Daily transaction limits and account balance limits for M-savings bonds can be increased. For example, the daily transaction limit for natural persons is TZ\$5 million (\$2,165) in Tanzania (Bank of Tanzania, 2015) and KSh140,000 (\$1,277.96) in Kenya (Central Bank of Kenya, 2020). Currently, the regulatory limits in Ethiopia are Birr6,000 (\$208) for daily transactions and Birr25,000 (\$868) for mobile bank account balances.
- **International collaboration and partnership recommendations:** Domestic MNOs should secure cooperation with other mobile money operators in significant remittance corridors. The partnership envisaged here is between domestic and foreign mobile money operators. For example, Orange in France has so far enabled its mobile subscribers to send remittances to Orange Money customers in Côte d'Ivoire, Guinea, Madagascar and Mali (Orange, 2016). MTN also launched its homeland remittance service in 2019, facilitating money transfer between Europe and Africa. Remittances can be sent via the MTN Homeland app to mobile money accounts in six markets (Cameroon, Congo, Ghana, Guinea, Rwanda and Uganda).
 - **A project manager** who will lead an M-savings bonds team will need to be appointed to ensure that further detailed planning is performed and the plan is executed.

Appendix 1 attached to this paper shows a set of guidelines for participation in the M-savings bonds tap issue of Treasury bills and bonds.

ACTION PLANS

A high-level action plan, showing key activities and the stakeholder organizations involved, is summarized below.

Table 1. M-savings bonds high-level activity plan and responsibilities

Ref.	Main activities	NBE	ECA	MNOs	Aggregator/ system integrator
1	Finalize M-savings bonds proposal	Lead	Involved		
2	Stakeholders workshop	Lead	Involved	Involved	
3	Form M-savings bonds policy team.	Lead	Involved		
4	Agree key policies from M-savings bonds paper	Lead	Involved		
5	Establish full-time project office	Lead	Involved		
6	Establish and capitalize M-savings bonds entity (as needed)	Lead	Involved		
7	Appoint aggregator/system integrator	Lead	Involved		
8	Create integration/development specification		Involved		Lead
9	Agree M-savings bonds instruments and calendar	Lead	Involved		
10	Agree financial arrangements with aggregator/MNOs	Lead	Involved		
11	Finalize financial model with all stakeholders	Lead	Involved	Involved	
12	Manage legal and regulatory changes	Lead	Involved		
13	Manage rules and procedural changes	Lead	Involved		
14	Agree M-savings bonds tax arrangements	Lead	Involved		
15	Reform necessary customizations to M-savings bonds infrastructure components	Lead	Involved		
16	Complete database/CSD issues	Lead	Involved		
17	Document M-savings bonds operational procedures	Lead	Involved		
18	Test integrated M-savings bonds system: primary market	Lead	Involved	Involved	Involved
19	Test integrated M-savings bonds system: secondary market	Lead	Involved	Involved	Involved
20	Initial participation and marketing plan	Lead	Involved	Involved	
21	Appoint advertising/marketing agency	Lead	Involved		
22	Perform M-savings bonds pilot run	Lead	Involved	Involved	Involved
23	Press, TV and radio interviews and coverage	Lead	Involved	Involved	Involved
24	Run phone-based competition	Lead	Involved		
25	Launch first issue of M-savings bonds	Lead	Involved	Involved	Involved
26	Collect migrant feedback (women and men) for improvements	Lead	Involved		

Key: Lead Involved

NEXT STEPS

- Finalize the M-savings bonds plan with the NBE. The NBE will bring on board the Ministry of Finance, the Ministry of Foreign Affairs, the ECA and Ethio Telecom.
- Carry out an assessment of existing infrastructure and connectivity to establish actual requirements for implementation of the initiative.
- The Ministry of Finance, the Ministry of Foreign Affairs, the NBE, the ECA and Ethio Telecom can organize a stakeholder workshop. UNCDF is available to present the recommendations and make final updates to this paper based on attendees' feedback.

APPENDIX 1: GUIDELINES FOR PARTICIPATION IN M-SAVINGS BONDS

Introduction

The National Bank of Ethiopia (NBE), as the government's banker and fiscal agent, issues competitive Treasury bonds and non-competitive micro savings (M-savings) bonds on behalf of the government. Both competitive Treasury bonds and non-competitive M-savings bonds are government bonds. Government bonds are debt instruments issued by the government in exchange for money borrowed from the public. These bonds are long-term securities maturing after a year. At the beginning, maturities can be between two and five years to accommodate risk-averse migrants. In the medium to long term, with continuous financial education, the maturity may be extended. The bonds are issued to finance government expenditure.

The NBE conducts auctions for competitive Treasury bonds at regular intervals through a competitive tender system in the primary market; they are subsequently sold and purchased on a continuous basis in the secondary market.

As investment instruments, government bonds have the following advantages:

- they are relatively risk free because they are issued by the government;
- they are transferable and negotiable;
- they can be pledged as collateral; and
- the rate of return is competitive.

Treasury bonds are also issued in an M-savings form, which is different from competitive Treasury bonds in the following ways:

- they are denominated at a lower value to make them affordable for individual investors at a lower price than the competitive Treasury bonds;
- they are sold to the public through a tap issue³ and mobile wallets; and

³ A 'tap issue' means a sale of Treasury bonds from the previous auction for a short time period after the auction took place. The tap issue of the M-savings bonds will have a denomination that is significantly lower than the denomination and price of the regular Treasury bonds sold in the auction. The price of the M-savings bonds will be set as proportionally identical to the price of the regular Treasury bonds sold in the auction. Otherwise, the M-savings bonds will have the same maturity and coupon rate as the regular Treasury bonds sold in the auction.

- they can only be used as collateral when electronic infrastructure available via mobile technology to support a collateral process has been developed.

The guidelines are divided into four main parts, namely: market set-up and participation; tap issue and offering procedures; settlement requirements; and trading of M-savings bonds in the secondary market.

Market set-up and participation

Market structure

The market consists of a primary market where the NBE issues competitive Treasury bonds for the first time on a weekly basis. Following the competitive auction sale, M-savings bonds will be available as a tap issue for up to 24 hours or such other time as decided by the NBE. Subsequent sales and purchases of M-savings bonds will be conducted in the secondary market.

Eligibility

All Ethiopian migrants and their families are eligible to participate in the M-savings bond tap issues, provided they hold a valid Subscriber Identity Module (SIM) with sufficient money in their mobile wallet with an authorized mobile network operator (MNO).

Central depository system

The NBE maintains and processes M-savings bond transactions through a database, the central securities depository (CSD).⁴ M-savings bond holdings are processed and stored electronically. No physical certificates are issued. Successful participation in the M-savings bond tap issue will automatically create a CSD account in the NBE's database/CSD for each successful investor and will be mirrored in the secondary market database/CSD via a real-time link. The procedures are as stipulated in the database/CSD rules and operational guidelines.

Tap issue and offering procedures

The NBE issues M-savings bonds with different maturities. They are issued at the annual equivalent rate (coupon) of the host auction (competitive Treasury bond) and quoted at either a premium, par or discount price.

Offering procedure

A press release will be issued five days before each auction of the competitive Treasury bonds. The auction precedes the tap issue of the M-savings bonds. The prospectus will provide the denomination of the M-savings bonds. In conjunction with issuing a prospectus through newspapers, a call for tenders is also published electronically through the web portal.

Submission of offers

Investors in M-savings bonds shall use the menu provided on their electronic device to purchase M-savings bonds in the tap issue. The price for the M-savings bonds will be provided

⁴ A CSD is an electronic book-entry safekeeping system for dematerialized M-savings securities and their beneficial owners in the form of an integrated registry system.

on the menu. The M-savings bond system will ensure that investors will only be able to submit offers up to the value of their current balance in their mobile wallet account. **The NBE reserves the right to accept or reject any or all offers submitted for M-savings bonds. Investors shall be given permission to transfer their mobile wallet Know Your Customer (KYC) details to the NBE on application.**

Allocation to successful offers

M-savings bonds will be offered in the tap issue. They will be allocated on a first come, first served basis until they have all have been sold.

Announcement of completed sale

The menu of the purchaser's mobile phone will confirm that the purchase of the M-savings bonds has been successfully completed.

Settlement

Settlement of successful offers

Successful offers shall have a sufficient balance available in the money account with their mobile phone provider—i.e. their electronic money issuer. Payment will be deducted from the money account on submission of their offer and prior to delivery of the purchased M-savings bonds to their CSD account. On receipt of payment, the NBE will credit the M-savings bonds to the investor's CSD account.

Payment of interest and redemption proceeds for M-savings Treasury bonds

In the case of an interest-bearing coupon, on a quarterly basis or at any other time as defined in the prospectus, investors in M-savings bonds shall be paid accrued interest proceeds computed based on the coupon rate of the bonds they hold. On maturity, M-savings bond investors shall be paid the par value plus the last accrued interest of the bonds they hold. The NBE shall pay the M-savings bond investors by crediting their respective money account with their mobile phone provider—i.e. their electronic money issuer. The NBE will deduct any transaction cost, based on a published tariff, from the transferred amount.

In the case of a zero coupon, on maturity, the NBE shall pay M-savings bond investors the par value plus the accrued interest of the bonds they hold, by crediting their respective money account with their mobile phone provider—i.e. their electronic money issuer. The NBE will deduct any transaction cost, based on a published tariff, from the transferred amount.

Tax

Income earned from investment in Treasury M-savings bonds are tax exempt.

Trading of M-savings bonds in the secondary market

- M-savings bonds will be listed on the secondary market once it is in place.
- Secondary trading of M-savings bonds shall take place after issuance in the primary market.
- Investors wishing to buy or sell M-savings bonds shall use the menu on their mobile phone, which will provide the necessary details pertaining to trading procedures. Licensed dealing members or their direct market access clients will be able to link their order management systems to the mobile phone application programme interface (API) to emulate the phone menu and submit orders electronically, provided they have passed the acceptance test.
- The selected registered agents will attempt to find a buyer for the seller’s M-savings bonds, and/or the secondary market automated trading system will publish the interest, and other agents may insert orders on behalf of their clients. If the registered agent is unsuccessful in finding a buyer within a configurable number of minutes, the M-savings bonds can be sold to the NBE, which will act as a market maker.
- For out-of-hours trading, M-savings bonds must be redeemed directly back to the NBE, as the secondary market will not be operating a price formation mechanism (the automated trading system) out of hours.

Registered central depository participants

The NBE has registered all banks and financial institutions operating in Ethiopia as central depository participants.

Enquiries should be directed to:

Director, Directorate of Financial Markets, National Bank of Ethiopia

Email:

Mobile phone:

APPENDIX 2: CASE STUDY OF MICRO SAVINGS PRODUCT IN KENYA

Launched in 2017, the M-savings (M-Akiba in Swahili) infrastructure bond required a two-step process: first, the individual needed to register their mobile money account, and then they had to purchase the bond. The minimum purchase amount was KSh3,000 (US\$30), and the bond earned 10 percent interest annually, with disbursements made every six months directly into the individual's mobile money account. The purpose of floating the M-savings bond was to finance government development expenditure/budgetary support. Tenure of the bond was three years, with a target of KSh1 billion. The platform used was a mobile traded bond; all activities relating to registration, trading and settlement were done via a mobile platform by dialling USSD code *889#. The maximum investment per account per day was KSh140,000. The M-savings bond was guaranteed by the Government of Kenya. The coupons were paid directly to the phone automatically on the due dates. This was the case even in instances where the coupon to be paid exceeded the KSh140,000 daily limit. Interest earned on the M-savings bond was tax-free.

Lessons learned from M-savings Kenya issue 1

During the pilot in March 2017, 102,632 people registered their mobile money accounts, and the government raised its target of KSh150 million to KSh1 billion (\$10 million) ahead of schedule (FSD Africa, 2018). When the full launch took place three months later, a total of 303,534 people had registered, yet the government raised KSh247 million (\$2.47 million)—just 24.7 percent of its target of KSh1 billion (ibid.). While registration rates were successful during both the pilot and full release, only 11,697 people (4 percent of those who registered) went on to actually purchase the bond (ibid.). Although investment did not meet expectations, **the study found that the product was fairly successful in bringing a new broad-based investor group into the market for government paper: 85 percent of customers had never bought a bond before**, and buyers were distributed across virtually all of Kenya's 47 counties. While the researchers found that people liked the product (84 percent of those who bought the product would recommend it to others, and 73 percent of those who registered but did not purchase would recommend it), they discovered a range of problems with timing, communication and customer service that hindered uptake, as follows.

- **Poor timing:** In the two years between the soft launch and product launch, deposit regulations changed, forcing banks to increase interest rates paid on savings from 0 percent to 7 percent, thereby diminishing the advantages of the bond. Furthermore, the bond launch coincided with national elections; therefore, media advertising about the product was swamped by election coverage.
- **Poor understanding of the product:** Those who registered but did not ultimately purchase the bond were less likely to know the interest rate, tenor, closing date or

other details about the product. That said, understanding was also poor among those who eventually bought the product: less than 2 percent knew to call the Nairobi Securities Exchange if they needed their money.

- **Confusing purchase process:** While registration was simple, the second stage of the process was confusing and gave no clear, immediate instruction for how to complete the purchase. Moreover, screenshot displays were sometimes misleading and/or confusing; therefore, individuals may not have realized their purchase was not complete after registration.
- **Lack of prompts/reminders:** Over 60 percent of individuals interviewed did not receive a single reminder message after registering, and 70 percent of those who registered but did not purchase did not know when the investment round was closing.
- **Agents focused on registration:** When agents visited offices, markets and groups, there was a marked uptake in registrations. However, the agents did not encourage people to actually invest after registering. In addition, it was difficult for customers to obtain help from agents when they had follow-up questions after registration.
- **Weak customer care practices:** The only helpline available to customers, many of whom did not fully understand the product, was a landline, which was difficult to access and confusing, given the mobile nature of the product. Furthermore, when fraudulent messages circulated about the product, there was no easily accessible customer service available to refute them.
- **Concerns about minimum investment:** Some customers felt the KSh3,000 minimum investment would be better allocated to savings groups or trading opportunities that could provide quick returns or access to credit. However, it is not clear that a higher minimum investment would have had more success, since 78 percent of those who purchased the product invested less than KSh6,000.

Taking the lessons above, subsequently, Kenya issued two more tranches of the bond; up to September 2019, the total amount raised stood at over Ksh1 billion (CDSC Kenya, 2019).

APPENDIX 3: A PROPOSED SAMPLE OF RETAIL SURVEY INTERVIEWS

- What do retail investors want to know before they save with M-savings?
- Frequently asked questions (FAQs)

Question	Summary answer
<p>Importance</p> <ul style="list-style-type: none"> • What is the meaning of M-savings? • What is the importance of M-savings? 	<ul style="list-style-type: none"> • M-savings means 'micro savings' and is linked closely to the use of mobile money wallets as the only way to buy and sell them. • M-savings is important for the retail investor because it will be a nationwide, government-guaranteed way of accessing convenient and secure savings offering a high rate of interest. Any and all women and men migrants and their families are welcome to take part. • M-savings is important for the government because it involves citizens supporting the future development of the country by lending money to the government.
<p>Objectives</p> <ul style="list-style-type: none"> • Need to know the main objectives of M-savings • What is the main goal/objective of M-savings? • Why is M-savings being introduced? • What are the reasons behind M-savings? • Reasons for M-savings 	<ul style="list-style-type: none"> • The main objective for M-savings is to dramatically increase the level of savings by women and men migrants and their families, so that they can save more and at the same time earn more for their money and increase financial inclusion, especially for those without bank accounts.

Question	Summary answer
<p>Benefits</p> <ul style="list-style-type: none"> • Advantages of M-savings? • Want to know the advantages of using M-savings? • How will M-savings benefit users? • I need to know how I will benefit from M-savings • Need to know the benefits of participating in M-savings? 	<ul style="list-style-type: none"> • The main advantages and benefits of M-savings for anyone using it are: • Open to anyone with a SIM card and a mobile money account • Easy and quick to invest—like paying a bill • Great return/interest/earnings • Paying and receiving is all via money wallets • Regular opportunities to invest • Users can cash out at any time without loss • Automated and easy, M-savings looks after your money and lets you know how much you made • Completely protected and guaranteed by the government • It is not like the stock market; you cannot lose money • Money comes back to your mobile wallet—what you invested and more • Tax on government bonds/bills is exempted, so you do not need to worry about it.
<p>Operation</p> <ul style="list-style-type: none"> • How will it work? • How to invest and get benefits • Need to know more about how M-savings will work? • Would you like to know what M-savings services will be provided? • Need to know how it will operate? • What will the important services under M-savings be? • Need to know how to use M-savings and its advantages? • Want to know if there will be difficulties using M-savings? 	<ul style="list-style-type: none"> • Everything is done easily via mobile phone menus, similar to paying a bill, but you get something in return that makes you money. • Apply to buy M-savings which are announced regularly via your phone (e.g. end of each month). • Open a CSD account at the NBE. • Get M-savings in your account. • Get paid interest. • After a certain time (e.g. a year) you get back what you paid. • You get interest paid every three months. • You can cash out any time and get back your original amount and some interest, depending on how long you stayed in.
<p>Returns</p> <ul style="list-style-type: none"> • How long will it take before I start getting the benefits? • Need to know how much you will gain from M-savings? • What will the interest rate be if I save through M-savings? • What will the interest rate be for my savings? 	<ul style="list-style-type: none"> • For a one-year M-savings investment you get something every three months. • When you buy M-savings you will be told how much you get in total and how that is divided every three months, and you can also find out at any time how much you have earned. • The interest rate will be higher than you can normally get through a bank and will be linked to what the big organizations receive.

Question	Summary answer
<p>Timing</p> <ul style="list-style-type: none"> • When will M-savings begin? 	<ul style="list-style-type: none"> • M-savings plans to go live very soon. The exact date for the first M- savings window will be announced widely beforehand.
<p>Duration</p> <ul style="list-style-type: none"> • Would you like to know if this programme will last long and if it will be sustainable? • Would you like to know if this programme is going to be for a short time or a long time? 	<ul style="list-style-type: none"> • The intention is to make the M-savings a permanently available method of saving on a regular basis for everyone (e.g. every month) after the first launch date.
<p>Information/education</p> <ul style="list-style-type: none"> • Want to know more about the M-savings programme? • Need to know more about M-savings? • Will the government provide more details about M-savings? • Education and more information about M-savings will be needed • Will the government provide education to the citizens regarding this service? 	<ul style="list-style-type: none"> • There will be an education and promotion programme that will provide more information on every aspect of M-savings in simple, easy-to-understand language.

APPENDIX 4: POLICY OPTIONS

This section explains the structure of and approach to the detailed policy options and summarizes the detailed recommendations for each area of the M-savings bond financial model and functional requirements.

Financial model

The key policies considered for the M-savings bonds and financial model are M-savings bond governance; instrument types; issuer's borrowing cost; infrastructure capital costs; transaction cost and revenue model; and taxation of M-savings bond transactions.

M-savings bond governance

There are various policy options to decide from when it comes to governance of the M-savings bond initiative. They include the following.

- Form an M-savings bond team within the existing committee for the capital market. The team should comprise senior representatives from the Ministry of Finance, the NBE, the ECA and invited representatives from MNOs, aggregators and the Bankers' Association as needed. The team should have a manager.
- Create an M-savings company as a for-profit/non-profit entity, and widen its scope to further promote national financial inclusion.
- Establish *ad hoc* arrangements for key stakeholders.

From the above policy options, based on the environment in Ethiopia, it is recommended that initially an M-savings bond team has to be formed within the committee for the capital market to spearhead the initiative. As M-savings bonds use cross-entity infrastructure, it may not be appropriate to have an existing single organization with overall governance. In this situation, the M-savings team will act as a coordinator of the M-savings initiative and various parties involved in the M-savings infrastructure and provide operational direction.

Other tasks of the M-savings team include:

- ring-fencing commercial aspects of M-savings bonds from the normal activities of the Ministry of Finance;
- providing a small number of dedicated resources for managing the M-savings bond programme and operations, and coordinating various key stakeholders;
- managing the relevant financial aspects of the M-savings bond set-up and transaction costs and revenue model;

- managing contracts with an aggregator, if needed, to provide centralized services;
- act as a conduit for fees payable by the NBE/issuer for the provision and maintenance of the M-savings bond infrastructure;
- coordinating key stakeholders and relevant third parties that have an interest in participating and developing the M-savings bond infrastructure; and
- exploring other potential opportunities for the use of M-savings bonds that fall outside the M-savings bond concept.

The M-savings bond team is a consultative, monitoring and coordinating body, and not a 'system operator'.

It should be noted that the NBE will continue to act as the government's banker and fiscal agent in relation to the M-savings bond. Once the Ministry of Finance sets all the policy issues, the NBE proceeds with implementation just like for the other Treasury bonds and bills. The M-savings bond team can only be temporary until M-savings bonds take shape and a joint stakeholder is agreed or it is agreed that an M-savings company should have separate, auditable accounts and is operated as a non-profit entity. The company shall assume the above-mentioned functions of the M-savings bond team formed at the Ministry of Finance. The realization of M-savings bonds is also dependent on senior, dedicated resources to create the infrastructure, instruments and distribution of M-savings bonds to as many migrants as possible.

During implementation, if the M-savings company concept is adopted at a later stage, a business plan would need to be created to establish initial seed capital to be raised and any potential, initial subventions from government to further its aims of increasing financial inclusion. Private funding of an M-savings company to capitalize the company to launch and operate M-savings bonds on a sustainable, breakeven basis will also be needed for the M-savings company to operate as a for-profit enterprise. Potentially the Ministry of Finance could provide subventions to ensure the successful launch and operation of M-savings during an initial period (e.g. the first one or two years).

There are potentially multiple regulators involved in the money and securities side of M-savings bonds, and these will need to work together. Policies may need to be agreed by the M-savings bond policy team. There are examples of coordinating bodies for cross-market stake-holding organizations in other similar situations, such as London Precious Metals Clearing Limited, which has one person coordinating the mutual initiative on behalf of several precious metal clearing banks. In addition, third-party financial stakes in the M-savings company (e.g. donor organizations) may be considered. It is also important to consider selling the M-savings bond concept and advice to other markets, using mobile money wallets, in conjunction with a suitable third-party advisory organization.

The concept of establishing an M-savings bond team is proposed as an optional governance structure to meet a range of objectives, such as:

- promoting the financial inclusion of women and men migrants in a financially sustainable manner;
- recognizing that M-savings bonds have a wide range of stakeholders and are a strategic operation of public interest across the country;
- providing a secure and safe investment with a guaranteed return to enable previously financially excluded persons to have a positive experience of saving;
- designing the M-savings bonds specifically for retail investors;
- offering the M-savings bonds as a tap offering sold on a first come, first served basis on the day after each primary auction; and
- pricing the M-savings bonds with the weighted average price of the host primary market issues sold at auction to primary dealers (during the launch phases).

For quick take-off and sustainability, it is important to ensure that in the interim period before the M-savings company is formed, at least one qualified individual (manager) has a long-term daily interest in the development, promotion and governance of M-savings bonds going forward. Other tasks of the manager will be to:

- coordinate the work of representatives of the Ministry of Finance, the NBE, MNOs, aggregators and other third parties appointed to address M-savings bond activities;
- represent the interests of all stakeholders by including them in a consultative committee to agree relevant policies and commercial arrangements;
- maximize the congruence of goals on policy matters through joint representation/ ownership by M-savings bond stakeholders;
- provide an independent, but representative, organizational framework for the project;
- manage the set-up of M-savings bonds during implementation, and act as overall coordinator after launch across the various parties' systems; and
- provide post-launch continuity of activity and coordinate service enhancements.

Issuer organizations

A policy decision has to be made from the following options:

- The Ministry of Finance may issue the M-savings bonds as the issuer of bonds for government debt.

- The NBE may issue the M-savings bonds as the issuer of bonds for liquidity management.
- Other companies may also issue M-savings bonds as part of their corporate bond issuance plan and/or equity.

From these policy options, it is recommended that initially the Ministry of Finance should issue M-savings bonds as the issuer of bonds for government debt. The Ministry of Finance is currently responsible for issuing the bulk of government bonds. The Ministry of Finance must work closely with the NBE to agree the bond issuance calendar each year, taking into account that the M-savings bonds must be part of the issuance calendar and will involve a greater issuance frequency and instrument types than normally issued, as well as an absence of primary dealers. The NBE should run a 'pilot' bond for the first issuance of M-savings bonds to test the operation of the process. The pilot could involve a group of employees of the M-savings bond team and/or of the MNO, who could subscribe to a small bond to test all the processes. Demand could then be assessed by requesting registrations via the MNO's M-savings bond infrastructure.

The NBE will continue to act on behalf of the Ministry of Finance for government M-savings bond issues. There is no change to the legal requirements to offer M-savings bonds directly to retail investors. Additional guidelines will be required to enable the bonds to be offered as zero-coupon savings bonds and allocated on a first come, first served basis. In future however, after formation of an M-savings company, and subject to careful analysis and investor education and protection safeguards over the risk of significant financial loss, issues of blue chip equities and corporate bonds may be considered in the future for the M-savings bond channel direct to retail investors.

Instrument types

Likewise, there are possibilities of various instruments that can be used for M-savings bonds. They include:

- government bonds with maturity of one year or longer, with a tap issue
- government bills with maturity of over one year, with a tap issue
- municipal bonds or other government-guaranteed securities
- certificates of deposit
- corporate bonds
- equity.

It is recommended that the initiative should start with risk-free instruments, such as government bonds/bills of one year or longer maturity, with a tap issue. Government-underwritten fixed-income investments, such as municipal bonds, infrastructure bonds or development bonds, may be considered, provided they carry no risk to the end investor. The design char-

acteristics of the instrument are subject to final policy decisions by the Ministry of Finance, but the system design will have configurable features, including:

- the issuer
- the size of the tap issue: the fixed amount in birr
- the currency (Birr, since issuing in US dollars or another currency is dependent on a relaxation of foreign exchange controls and making the mobile money infrastructure multi-currency)
- exchange rates
- duration in months (e.g. bill or bond)
- interest-paying and zero-coupon
- configurable frequency of interest payments
- re-investment of interest option (if not a zero-coupon bond)
- redemption conditions
- minimum and maximum application/allocation amounts for investors.

From an investor perspective, the M-savings instrument must help to maximize financial inclusion among women and men migrants and promote a savings culture that generates returns for investors. It must fit with the savings aspirations of retail investors, and be issued in a predictable, continuous and adequate way to satisfy long-term demand from retail investors, thereby promoting a regular savings culture. The instrument must also be of sufficiently low investable unit quantity to encourage the participation of low-income and unbanked persons, and be redeemable at any time (including 24/7) before the full term of the bill/bond, to provide flexibility for these financially vulnerable investors.

The preferred type of bond for the M-savings bond is a zero-coupon bond, as it has the beneficial feature of no cash flows, no implied re-investment rate or 'internal rate of return' (IRR); therefore, the return can be expressed precisely. Once issued and allocated, there is very little administration until redemption. Zero-coupon bonds can be issued at a discount to par to reflect the 'yield to maturity' (YTM). The benefit for investors is the simplicity of the mathematics and the predictability of the investment return. If a zero-coupon bond is used, there are a minimum of only two corporate actions: issuance and redemption. In this context, the investor will not receive any return until the redemption date. Where the mobile network infrastructure includes a parameter whereby SIMs are cancelled and recycled after a certain period of inactivity, and thus remove the contact between the investor and their database/CSD account, some special arrangements can be made between the issuer and the MNOs.

Initially, offering government bonds is recommended because they are well-established investment products, and the NBE already conducts business in these instruments. This means

that M-savings bonds can use the existing infrastructure within the NBE to issue, allocate, record ownership and offer secondary liquidity for investors. The drawback of these products is that they are designed, in theory, for wholesale markets and professional investors. Consequently, they require a higher level of financial knowledge and training. It is possible to simplify the product with suitable marketing such as 'Invest Birr1,000 and get back Birr1,080'. There is an implied obligation for the issuer to ensure that the user fully understands all aspects of the savings bonds; therefore, M-savings bonds will need to be accompanied by a good mobile-based marketing campaign.

Borrowing cost, pricing and issuance

Ethiopia has to decide to issue M-savings bonds at the annual equivalent rate as set in the primary market auction or at lower interest rates than set in the primary market auction, reducing the cost of government borrowing.

It is recommended that M-savings bonds should be issued at the annual equivalent rate as set in the primary market auction, because covering borrowing costs at the beginning should not be a stated objective and could be addressed in future phases. The main goal at the beginning is to create an appetite for savings and achieve inclusive finance for women and men migrants. Offering a competitive interest rate to retail investors in M-savings bonds would be one of the most important features in attracting a large number of investors, provided that this message is correctly conveyed in terms of the nature of the instrument, the application process, duration, redemption, early redemption, risk, returns and how collected.

When involving government bonds, M-savings bond issues will be based on an underlying issue priced at the periodic auction held by the NBE. Once the underlying issue is priced, the M-savings instrument will need to be priced based on the weighted average price. The bond and its price will appear on Unstructured Supplementary Service Data (USSD) menus in real time immediately after the pricing. The M-savings bond issue will remain open for acceptance of subscriptions as a tap issue at the same investment rate for up to 24 hours from the closure of the underlying issue.

By using a tap issue, the gap in time between the opening date and the closing date is likely to be only 24 hours, which has many advantages—for example, investors do not tie up their money for a long period of time before discovering whether their investment application is successful. Additionally, acceptance of subscriptions must be 100 percent automated, with no need to vet mobile applications, as this will delay the whole allocation and discredit the product. It is possible for there to be no additional vetting of subscriptions given the following assumptions:

- all investors are approved under existing KYC/anti-money laundering/combatting the financing of terrorism (AML/CFT) procedures;
- the cash held by investors is also approved under existing e-money regulations;
- the database/CSD will be able to suspend a CSD account (e.g. due to death or other valid reasons); therefore, any application from a phone linked to a suspended account will be rejected; and

- the allocation proposed in this document is first in, first out, up to the limit of the size of the offer.

Under these assumptions, notifications of a successful application can take place in real time. Once the offer is full, it is closed and no longer accessible on the USSD menu.

Infrastructure capital costs

There are four policy options for how the financing arrangements can be handled, as follows.

- Each stakeholder providing infrastructure for M-savings bonds bears its own specific costs of development and operation. The commercial stakeholders recoup these upfront costs via future transaction revenues.
- An M-savings company or other suitable entity provides a financing arrangement for an aggregator to provide necessary operational services.
- The government provides subventions to an M-savings company/key stakeholder to support the additional costs of infrastructure development for M-savings.
- A private offering to selected stakeholders, via shareholdings or a bond issue in an M-savings company, provides initial seed capital to fund infrastructure development.

It is recommended that each stakeholder providing infrastructure for M-savings bonds bears its own specific costs of development and operation. The commercial stakeholders recoup these upfront costs via future transaction revenues. The NBE should provide a financing arrangement for an aggregator to provide necessary operational services. The implementation project must ensure a viable cost structure for the initial development and subsequent operation of all components of the M-savings bond infrastructure, involving various stakeholders, which also ensures a commercial rate of return for non-governmental parties.

A commercial relationship in which each party absorbs its own infrastructure costs can be adopted for M-savings bonds, especially as the change requirements to implement this project are not significant. Additional expensive infrastructure costs to implement and operate M-savings bonds can be avoided by reusing and adapting current IT infrastructures and processing wherever possible. The costs of using an aggregator as part of the M-savings bond infrastructure set-up, integration and operation must be covered by an arrangement to share M-savings bond transaction revenues. The policy on how to cover the costs incurred to accommodate the functional and technical requirements of M-savings bonds must be resolved with the NBE/issuer in line with all other stakeholders that are absorbing their costs of developing the M-savings bonds. Key stakeholders must state their infrastructure cost policies as part of the work to integrate a viable M-savings bond infrastructure.

The key infrastructure costs include the following:

- M-savings bond team: set-up and operating costs
- issuer: database/CSD and interface development costs

- secondary market: database/CSD and automated trading system (if needed) development costs
- aggregator: systems integration costs
- MNOs: interface system development costs.

The provision of M-savings bond mobile wallet facilities by MNOs, the set-up of a 'utility bill-like' service and the provision of call centre support will require some form of commercial remuneration. This may be through negotiated rates for mobile money transfers for retail investors, other Short Message Service (SMS) fees and/or potentially a fee paid by the M-savings bond issuer. The use of high minimum charges to discourage the use of M-savings bonds by low-value/volume retail investors cannot be allowed, as this directly contradicts the fundamental principles of financial inclusion. This approach has been considered because manual intervention by intermediaries is causing operational cost problems even for a relatively low number of low-value retail investors. All fees charged by the various operators must be proportional to the size of investments and the wafer-thin margins that exist for each holding. The key design criteria need to include the revenues and costs related to all parties involved in M-savings bond transactions.

Cost structure

An end-to-end cost and revenue structure for M-savings bonds is essential for the launch, participation and sustainability of the M-savings bond channel. There are four main financial components involved:

- **capital costs** for the relevant parties to build/integrate and support the M-savings bond channel
- **transaction costs and revenues** for the various players to participate in and benefit from the use or operation of the M-savings bond channel and the instruments issued and redeemed
- **recurring costs and revenues** for any annual costs of operating the M-savings bond infrastructure, including basic M-savings bond team costs
- **other costs**, including the costs for M-savings bond marketing, advertising and education, and other administrative costs.

It is anticipated that the M-savings bonds will raise substantial funds from migrants, and in future from the informal sector, to which the government currently has minimal access. Therefore, bringing these funds into the formal sector also compensates for the potential extra cost of the M-savings bonds.

A negotiated deal of the total issue value, for payment to the MNO/aggregator, as a bundled contract deal for each issue is recommended. However, payments by the NBE/issuer must be linked to some form of incentive relating to the full take-up of the issue and maximizing the number of participants; otherwise, a fixed fee for any result will not be productive for the NBE/issuer.

If an aggregator organization is used, a suitable revenue-sharing arrangement should be agreed between the NBE/issuer, the aggregator and MNOs for the primary market issue; and between the secondary market/agents, the aggregator and MNOs for secondary market trading in early redemptions.

A critical principle is that retail investors should not be charged any SMS or money transfer fees if they follow the standard M-savings bond application, purchase and redemption process and make a limited number of balance enquiries and statement requests. Any physical printing and mailing requested by investors to the MNO/aggregators will incur a charge debited from their mobile wallet. Investors must not be charged for cancelling any process in progress (e.g. an application, set-up of a CSD account etc.). In the case of non-zero-coupon bonds, the method of interest calculation should result in a basic straight line calculation for interest accrual at any time during the term of the instrument.

There should be some form of early redemption penalty to deter people from excessive sales of M-savings securities before full redemption at term (e.g. configurable reduced straight line interest). Investors must never suffer a loss compared to the original principal they invested, but this will require that they must hold the securities for a minimum period. If the configurable early redemption penalty is, say, 1 percent, they must hold the security for an equivalent period of earning from the original investment date. For example, if the interest rate on the bond is 10 percent, investors must hold the security for 5.2 weeks before they can afford the early redemption period. For a 15 percent bond, the breakeven time is 3.5 weeks.

Explicit transaction costs and revenue model

Policy option here is for the NBE/issuer to either negotiate a 'specific business contract' with MNOs and aggregators covering payment messages, investors' messaging and transaction charges or adopt standard commercial rates for all transactions involving market organizations without any concessions to the government.

It is recommended that the NBE/issuer negotiate a 'specific business contract' with MNOs and aggregators, with a view to ensuring the long-term financial self-sustainability of M-savings bonds and maximizing the number of investors. This option is essential, as the use of table rate tariffs would be a prohibitively high cost for the issuer and investors. This option follows the proven approach in other countries such as Kenya, Tanzania and Uganda for companies such as utility companies that have arrangements with MNOs to provide an alternative channel for bill payments via mobile money wallets. Given that the scale of messaging will be unknown, the contract may require a pilot phase to gauge user activity, before final tariffs can be concluded.

In the case of M-savings bonds, 100 percent of all investments, interest payments and funds transfers will be via mobile money wallets for potentially millions of investors. Therefore, the negotiations are very important when mobile money is the main channel for carrying out transactions. This will lower the cost of using the M-savings bond infrastructure, particularly in the key areas of SMS costs for investment processes, amendments, confirmations, balance enquiries, other enquiries, marketing etc., which will be numerous due to the nature of the life cycle of M-savings bond transactions and investor communications. Mobile money transfer costs, which would be unsustainable at standard table rates or even the usual business

rates, would significantly reduce or even negate interest earned by investors. The launch phase of M-savings bonds will require upfront marketing and education costs that will need to be funded by the issuer. The size of that budget will be reworked based on the identified remittance corridors.

Implicit transaction costs in case of a secondary market

Implicit transaction costs are defined as the spread between the best bid and best offer on the secondary market automatic trading system for each security. Ethiopia has two policy options: either to balance investor protection with the creation of an incentive for secondary market trading through a relatively narrow bid–offer spread (around 2 percent) or to adopt the existing maximum spread as for other bonds.

It is recommended to balance investor protection with the creation of an incentive for secondary market trading through a relatively narrow bid–offer spread (around 2 percent of the straight line redemption price). This option is essential, as the standard dynamic price band greater than 2 percent change against the previous closing price used in the secondary market would mean that most investors in the secondary market could make a loss, discrediting the reputation of the M-savings bills or bonds.

The rules for the secondary market for M-savings bonds will need to define the maximum spread. Any orders outside the spread should be rejected by the system, without placing the order book into a halt. The system must send a message back to the user, stating that the order must be placed within 2 percent of the current straight line price. The launch phase of M-savings bonds will require upfront marketing and education to explain the spread costs with simple examples.

Taxation

Policy options around tax issues include either exempting M-savings bonds from all taxes on the interest revenue or applying all taxes as per the existing bond regime. It is recommended that all applicable taxes and exemptions on bonds should be as per existing practice. Currently, income from Treasury bonds and bills is tax exempt. However, corporate bonds are not tax exempt. The tax rate is 30 percent on income.

Operational issues

Ethiopia has a debt requirement and a well-defined investor base for that debt. Broadening and diversifying the investor base will assist in the issuance of more debt and may actually help to lower interest rates. Therefore, introducing a new channel in the form of M-savings bonds will help to access cheaper debt, especially as it is aiming to attract financially excluded women and men migrants. Introducing M-savings bonds creates a reliable source of long-term funding at a rate that is acceptable to the government, which is a very positive outcome. The following points are worth considering.

- Use an M-savings instrument that maximizes financial inclusion. The proposed design allows a gross interest rate equal to the annual equivalent rate of the auction, which must be extremely compelling and must certainly help to significantly develop financial inclusion.

- The Ministry of Finance and the NBE need to agree the design and issuance calendar for M-savings bond instruments based on the needs of retail investors.
- Recommendations for instruments of longer duration will be based on the results of the retail survey exercise conducted.
- For sustainable inclusive finance, encourage buy-and-hold by offering longer-term savings and returns for investors.
- Redemption at tenor is set by the issuer.
- Early redemption must be allowed, to enable financially vulnerable holders to meet emergency cash needs.
- Frequency of issue needs to be determined and may change over time depending on demand, but the assumption is that there will be an M-savings bond tap issue for each institutional offering
- Dematerialized issues only.
- Physical certificates or statements are not permitted.
- M-savings bonds will be listed and traded on the secondary market once established, contributing to an increase in market capitalization.
- Minimum subscription is a single unit of Birr1.
- A tap issue should take place to an existing institutional offering at the same rate to avoid any distortion, however minor, to the yield curve.
- Yield should be set based on the prevailing institutional interest rate as adjusted for different coupon payment structures.
- Establish a frequent issuance programme for the bond, to encourage and attract savings on a regular basis. (e.g. once a month for the first year).
- Except for zero-coupon M-savings bonds, pay a return at least once every 90 days of the life of the bond, to ensure that investors' mobile money accounts remain active.
- Early redemption by the investor should be provided by the issuer via either a secondary market sale or redemption.
- Provide 'straight line, pro rata' early redemption values for early redemption by investors, less a transaction fee for early redemption.
- The size of each bond tranche should be determined by the issuer.

During implementation existing procedures should be reused or customized for the issuance of the M-savings bond as tap issues. The tap issue prospectus will be slightly different from the existing government securities prospectuses. Rules on early redemption of bills and bonds need to be reviewed/developed. Longer-term instruments should be offered with the option of early redemption. Automatic rollover without additional transaction charges to investors may be used, but it is critical to avoid additional charges that eat into the returns for low-value investors (e.g. deducting all the interest as MNO or other charges after several 'rollovers' would destroy the credibility of M-savings bonds). If demand for M-savings bonds is substantial, then the associated fiscal and economic policy issues must be addressed by the Ministry of Finance.

Financial and commercial

The revenues of an M-savings company would be minimal and may derive from a number of potential sources, namely: government subventions, M-savings bond distribution and marketing fees paid by the issuer, and/or part of the special commercial agreement between the issuer and the aggregator/MNO. In this regard, it is recommended to:

- coordinate the finances of M-savings bonds on a breakeven basis after payment of skeleton staff, minimal running costs, suitable commercial arrangements between stakeholders and applying surplus revenues to the development of the M-savings bonds;
- maintain a viable financial model and collect financial and accounting data;
- agree commercial arrangements with the various parties, or act as an intermediary in such arrangements, as needed;
- allow the potential for joint ownership and capitalization of an M-savings company, to ensure adequate working capital during the initial period of the M-savings bond initiative before financial self-sustainability; and
- provide an organizational vehicle for funding and coordinating cross-stakeholder marketing initiatives.

Branding

The M-savings bond brand must be promoted by ensuring coordination of marketing and branding efforts across the various stakeholders; an M-savings bond team should act as a single point of contact for media and public relations.

M-savings bond prospectus

All instrument parameters will be contained in a simple one- or two-page prospectus document that can be read on a smart phone; there is no need for a complex prospectus.

Investor mobile money limits

Investors wishing to exceed their daily mobile money limit will have to cash out to clear the balance. Investors must be able to redeem instrument balances partially, to avoid exceeding

daily mobile money limits. Mobile money limits may restrict the widespread and recurring use of M-savings bonds for savings in the long term. There may need to be an exception to allow cashing-out of M-savings securities exceeding standard daily mobile money limits.

Functional requirements

The overall scope of the functional requirements is to specify the requirements for the end-to-end M-savings bond processes, identify the relevant organization/system involved (i.e. MNO, the NBE/issuer, secondary market, aggregator, agents where relevant) and ensure that the capacity, performance and scalability requirements are sufficient for the potential scale-up of a regular M-savings bond operation to all remittance corridors.

Functional areas included in these requirements are user set-up functions; issuer, instrument, investor, CSD account and money wallet parameters and functions; application, securities and funds functions; rollover, queuing and alert functions; early redemption and secondary market functions; and database/CSD systems and aggregator functions.

The key options and recommendations provided below cover areas related to functional requirements, namely: retail user device interface; KYC data transfer; securities-holding registries; funds transfer; investor application and allocation process; and intermediation (i.e. secondary market).

Retail user device interface

There are various policy options to decide from when it comes to ways of accessing the M-savings bonds:

- feature phones using USSD codes
- smart phones and other mobile devices using USSD codes
- phone applications (apps)
- web portal
- automatic teller machines (ATMs)
- call centres.

To avoid time-consuming and costly development in the first phase of operation and to capture the majority of potential users, it is recommended that all existing mobile retail user device interfaces can be used. Menus must be simple and easy to use, and based on existing ideas rather than complex and new approaches. ATMs may be used to simply load money to money wallets. To avoid slow and costly human intervention—which goes against the principles and cost structures of an M-savings bond solution based on STP—call centres may be used for taking voice instructions to arrange orders. No changes to MNO regulations are needed for MNO customers to use M-savings bonds.

KYC data transfer

The policy options available are either to passport (transfer) existing KYC and AML data already collected by MNOs for mobile wallets to the M-savings bond systems and M-savings bond licensed persons, to improve access for investors, or to ask M-savings bond investors to provide fresh KYC documentation.

It is recommended to passport (transfer) existing KYC and AML data already collected by MNOs for mobile wallets to the M-savings bond systems and licensed persons, to improve access for investors. Asking M-savings bond investors to provide fresh KYC documentation is too expensive and unnecessary. It is vital that KYC data are transferred as simply as possible without user interaction. The ideal solution would be to include a point in the terms and conditions and provide a Q&A in the FAQ on the relevant website. In procedural terms, there are two options:

- When the investor is applying for a CSD account, they are asked: 'Do you approve the transfer of your personal data to this new account? Yes/No.' If they answer 'No', they will not be able to open an account, as this could mean that migrants have to physically travel to the NBE just to provide their KYC data.
- Or make the data transfer part of the approval of the terms and conditions, and do not ask the investor a specific question.

Securities-holding database/CSD registry

The policy options to decide from are:

- a primary securities database/CSD registry held by the issuer mirrored in the secondary market database/CSD registry; or
- a primary securities database/CSD registry held by the secondary market mirrored in the issuer's CSD.

A primary securities database/CSD registry held by the issuer is recommended. A real-time, electronic link between separate database/CSD systems is less efficient and costlier than a single database/CSD system. At a future stage when the M-savings bonds issued will be listed on the secondary market and admitted to trading to enable the trading and early redemption of securities by investors, the primary record of ownership will need to be mirrored in the secondary market database/CSD during the trading day, with the legal ownership being reflected back in the issuer's primary database/CSD. The issuer and secondary market database/CSD systems will need to be linked to hold and manage data at beneficial owner level for bond issues. The issuer requires a record of all bond holders at issuance, redemption and any other time.

Any secondary market trading must occur via the secondary market, and not via private agreements conducted via the database/CSD. This must be regulated to protect investors' legal rights of title, and to prevent third-party claimants making false claims to the securities. The use of a database/CSD, with the functionality to record beneficial owner information

for M-savings bond holders and operate as a central register, is critical to the functioning of M-savings bonds.

Funds transfer

For funds transfers, retail investors, the issuer and secondary markets transactions could use:

- e-money via mobile money wallets provided by MNOs;
- bank accounts or other methods; and/or
- other payment methods.

It is recommended to use e-money via mobile money wallets provided by MNOs. The MNOs' existing mobile money wallet mechanisms would apply to physical persons (investors) and to collection accounts for legal entities (issuer, secondary market). The MNOs' trust banks and the issuer will use electronic funds transfer arrangements to move amounts between them. Processing of mobile money versus securities allocation and redemption must be through automatic STP, without human intervention. Once funds are raised in the issuer's collection account at each MNO, the issuer will be able to request the withdrawal of specified amounts of funds using inter-bank Electronic Funds Transfer (EFT), leaving a float to cover early redemptions. The issuer will be able to replenish the collection account using EFT for payments of interest and final redemptions, or if it chooses to segregate investor collection from investor disbursements, it will pay interest to a money wallet disbursement account.

The model excludes bank accounts interoperating with mobile money wallets for funds transfers, as this will not be supported under the current M-savings bond design due to the probable need for complex development. It is much simpler for retail investors to just load their mobile wallets from their bank accounts or ATMs before buying M-savings bonds, following existing procedures for paying bills and making other payments through mobile money operators.

Large-value payments to and from trust accounts and the issuer would need to be exempted from the MNO AML regulations. Review AML regulations on mobile money limits on transactions and balances. Individual retail investors who accumulate their M-savings bond holdings and then cash in their securities at a future date may exceed their KYC limit defined by mobile money wallet regulations and will need an exemption. The M-savings bond policy team may consider, as a policy issue, whether to propose an increase in the mobile payment limits depending on the demand from retail investors, bearing in mind the objectives of M-savings bonds. The appropriate e-money regulators would need to be involved in such decision-making. Any raising of limits should be carefully considered to avoid large retail investors crowding out low-value investors, who are the target of inclusive finance. The maximum limits on mobile money wallet accounts for retail investors may need to be increased to allow a higher level of savings and redemption activity.

Investor application process

The investor application processes can be one of the following:

- direct application by retail investors to the issuer, using mobile phones and payment via MNO mobile money wallets;
- indirect application by retail investors for M-savings bonds via collecting agents for market intermediaries; or
- impose a requirement that only primary dealers may apply for M-savings bonds.

Direct application by retail investors to the issuer, using mobile phones and payment via MNO mobile money wallets, is recommended. The issuer will process all allocations of M-savings bonds for retail investors using an enhanced version of its existing systems. No auction is necessary if the M-savings instrument is a fixed-price instrument. Applications can have a value of Birr50 or above. Allocations are processed in real time on a first in, first out basis. Allocation system updates to the issuer database/CSD will be mirrored in the secondary market database/CSD via the real-time link. The funds transfers would be reconciled by the issuer after allocation of securities has taken place.

Indirect application by retail investors for M-savings bonds via collecting agents for broking intermediaries should be excluded, as this would create unnecessary complication, cost and the possibility of fraud by collecting agents. However, secondary market trading of early redemptions could be organized, via the system and procedures, to interact with market intermediaries.

The adaptation and use of the NBE system provides an important component of the overall STP approach to M-savings bonds, to deal with regular, large-scale issues. The laws of Ethiopia already allow direct market access to government bonds by retail investors. The NBE may sell the M-savings bonds directly to retail investors without the use of any intermediary. When selling the government M-savings bonds, the NBE acts as the government's banker and fiscal agent. Corporate bonds in future will mirror the government bond processes.

Securities allocation process

There are two criteria that need to be set in the M-savings bond allocation algorithm. The options for each criterion are shown below.

- The quantity of securities allocated:
 - first in, first out basis
 - largest first
 - smallest first
 - equal birr amount—dividing the total issue size by the total number of subscribers (probably within bands)

- scaled up to a maximum size for an individual application (e.g. birr limit)—on a first in, first out basis, where the last investor is filled up to the scaled amount without exceeding the full size of the issue.
- The price of allocation:
 - using the weighted average price set in the primary auction market
 - creating a separate mini auction for the tap issue
 - setting a fixed price based on government policy.

The model can combine the above criteria, but certain combinations may lead to an over- or under-subscription, if the tap issue is fixed in size.

The recommended option is to allocate M-savings bonds on a first in, first out basis, using a weighted average price set in the primary auction market. This methodology has many advantages over others because it is predictable, encourages fast behaviour by investors and creates immediacy of allocation, which is beneficial for the user experience and consistent with modern Internet-based e-commerce, whereas all other models will create a delay. The price is determined by the primary auction and avoids small retail investors distorting the yield curve. This model is simple and does not require expensive software. It will speed up the time to market and avoids a risk of fraud. The model also achieves the goal of STP, as no human intervention is required.

The issuer can start with the proposed model and adopt other methods as appropriate at future dates. Alternatively, set a fixed price based on government policy. This is a plausible policy option, provided there are parameters defined for the fixed price. However, these procedures are not currently in place; therefore, it is not viewed as the preferred method.

The quantity of securities allocated based on 'largest first' may work, counter to the financial inclusion objective of M-savings bonds, especially if the issue size is limited. It is also open to manipulation and does not achieve the policy goal of STP. 'Smallest first' does not create immediacy, as the issue has to close and then be allocated. It is also open to manipulation and does not achieve the policy goal of STP. The 'equal birr amount' method of dividing the total issue size by the total number of subscribers (probably within bands) does not create immediacy, as the issue has to close and then be allocated. It does not achieve the policy goal of STP either. Setting the price of allocation by creating a separate mini auction for the tap issue may distort the yield curve.

The present governing rules and procedures only allow for Treasury bills and bonds to be issued through an auction process. There is, therefore, a need to amend the governing rules and procedures to allow for a tap issue priced from the price set in the primary auction and then allocated on a first in, first out basis or another method that may be stipulated in the prospectus. Appendix 1 contains a draft for a new set of guidelines for participation in the M-savings bond tap issue of Treasury bills and bonds, showing how the governing rules and procedures should be formulated to allow for the tap issue of M-savings bonds. The existing governing rules and procedures relating to offering documentation for Treasury bonds need

to be amended to fit with the suggested design of the M-savings bills and bonds and with the tap issue procedure.

Intermediation

Policy options to decide from include:

- direct market access for retail investors via their mobile device and STP processing for application, allotment and end-of-term redemptions and rollovers, and all associated securities and funds movements and reporting;
- intermediation in the primary issue by third parties (primary dealers, banks, brokers) for retail investors' applications, allotment, end-of-term redemptions and rollovers, and all associated securities and funds movements and reporting; or
- intermediation by a secondary market for all retail investors' selling or early redemptions before the end of term, with the issuer as the default redeemer under specified conditions.

The recommended option is direct market access for retail investors via their mobile device and STP processing for application, allotment, end-of-term redemptions and rollovers, and all associated securities and funds movements and reporting. Also intermediation by a secondary market for retail investors' selling or early redemptions before the end of term, with the issuer as the default redeemer under specified conditions. Intermediation in the primary market by third parties (primary dealers, banks, brokers) for retail investors' applications, allotment, end-of-term redemptions and rollovers, and all associated securities and funds movements and reporting should be avoided, as it may destroy the entire rationale for M-savings bonds. Rules and procedures must allow for the issuance of M-savings instruments directly to retail investors, without the intermediation of third parties, to avoid uneconomical or punitive charges for very low-value trades.

Participation incentives and marketing

The overall scope of the recommendations of this section is based on:

- including the largest and widest range of retail participants as investors in the M-savings bond initiative on a regular basis;
- encouraging participation through educational marketing;
- promoting financial inclusion through an easily understandable savings product only available via mobile money, thereby helping the government achieve the target of 1.3 million women and men migrants participating in the financial system;
- improving the financial returns on savings for migrants;
- ensuring that savers' investments are protected from financial risks, as far as possible;

- supporting the strategic objectives and design principles expressed in the National Financial Inclusion Framework;
- attracting cash from the informal economy into the formal economy, thus improving the tax base of the economy; and
- providing answers to FAQs.

Key policy options and recommendations for marketing are detailed below.

Participation in M-savings bonds

Policy options to decide from include:

- targeting migrants only; or
- allowing participation by any Ethiopian citizen who has a mobile money account.

It is recommended that M-savings bonds should initially be marketed as a savings product targeting all Ethiopian migrants and their families. A policy to encourage the participation of all migrants with mobile money wallets provides the greatest possibility of having focused marketing techniques. In future, M-savings bonds for any Ethiopian citizen may be introduced to boost general financial inclusion and be used a monetary policy tool.

Management of marketing to potential retail investors

Assuming the aim is to encourage the participation of all Ethiopian women and men migrants with a mobile money account, the potential organizations providing overall coordination of the marketing of M-savings bonds are as follows:

- NBE/issuer
- M-savings company
- agents
- Ministry of Finance
- MNOs/aggregator
- Ministry of Foreign Affairs.

It is recommended that the NBE provide overall coordination of the marketing effort for M-savings bonds, working in a committee involving other key parties—agents, the Ministry of Finance/Treasury, MNOs/aggregators and the Ministry of Foreign Affairs—during the set-up phase. Uncoordinated marketing by multiple organizations without a consistent M-savings bond image or message must be avoided. The NBE/issuer should establish the mandate, resources and funding to be able to organize and direct the initial M-savings bond marketing effort; take efforts to detect and prevent potential scams; undertake ongoing marketing after the initial launch; analyse statistics from the initial launch; interview investors for feedback,

and adjust marketing and possibly processes; and, where possible, hire a professional marketing agency to ensure proper branding, messages and launch. An M-savings company may become the body acting as the joint stakeholder-supported figurehead to promote M-savings bonds in the longer term after it is operationalized.

The participation and marketing strategy to maximize the involvement of potentially millions of retail investors in the M-savings bond programme encompasses the following aspects.

Target group

Focus on adult mobile phone subscribers in all remittance corridors, and encourage them to open mobile money wallet accounts. It is also important that the main aim should be for inclusion as widely as possible, particularly among low-income and unbanked persons, to promote savings bonds and financial inclusion at all levels. A quick retail survey about M-savings bonds should be conducted, and the results and requirements from the survey must be taken into account.

On-boarding

It is also important to ensure easy client on-boarding to M-savings bonds by using existing MNO customer information, including KYC and AML data.

Protection

The financial consumer protection mechanisms must be understood and enforced by all participating stakeholders, particularly MNOs, aggregators and organizations involved in promoting M-savings bonds without prior securities market experience.

Promotion

Using the MNO/aggregator agent network to promote M-savings bonds to millions of existing mobile money users will be one of the success factors. The issuer can leverage the public's existing knowledge of mobile phone operations and on top of that provide a financial education framework to support participation in M-savings bonds. Creating a cartoon character to promote M-savings bonds via various media channels and appealing to the main target investors could be another strategy. Other promotion strategies include holding a competition with artists to create such a character and a marketing slogan for use in promotional media campaigns, and to develop a games initiative to educate investors.

Information channels

The methods of communicating with target investors may include the following channels to ensure wide geographical coverage: SMS messages (include in negotiated contract bundle with aggregator/MNOs); press articles; billboards; radio; TV interviews; press advertisements; leaflets; MNO outlets/kiosks; roadshows; meetings; women and men migrants' representative organizations; and word-of-mouth arising from the above.

Role of communications infrastructure providers (MNOs or aggregators)

Communications infrastructure providers should leverage their own agent distribution network to provide marketing and education points for M-savings bonds to increase

flows. They should train their agent distribution networks to support M-savings bonds, and incentivize them to actively promote M-savings bonds, and the NBE/issuer should incentivize higher volumes of investors.

Marketing messages

A retail survey should be conducted, with the results of the survey used to understand the messages to be conveyed to new and ongoing retail investors.

Marketing plan

An M-savings bond marketing plan should be prepared, including the following.

- What are the proposed M-savings instrument characteristics and issue calendar proposed based on the retail market research conducted?
- What are the target investor number goals for each issue in the proposed M-savings bond calendar (new and repeat investors)?
- Which investor groups will be prioritized for marketing effort?
- How does the M-savings bond offering compare to other products, and what benefits do M-savings bonds offer to investors?
- What do retail investors want to know about M-savings bonds, based on the retail research conducted?
- What will the marketing messages be?
- Which organizations will define and organize the marketing effort?
- Which marketing channels might be used?
- How will the M-savings bond logo and branding be devised and used in the marketing effort?
- How will the effectiveness of marketing be measured, using data from the M-savings bond system as well as investor feedback?

Appendix 3 is a sample of retail survey FAQs.

International collaboration and partnerships

Domestic MNOs must secure cooperation with other mobile money operators in the remittance corridors. Usually, different partnership models exist—for example, mobile money providers can connect directly with other remittance service providers (RSPs) such as money transfer operators or other mobile money providers, or indirectly through an international remittance hub. The partnership envisaged here is between domestic and foreign mobile money operators in significant remittance corridors.

The mobile money industry is becoming more integrated with international financial system players. Mobile money-enabled international remittances have been flourishing, with \$7.3 billion processed in 2019, compared to \$5.5 billion in 2018 (GSMA, 2020). This growth has been driven primarily by strong provider appetite for cross-border interoperability and integration with traditional RSPs such as money transfer operators MoneyGram and Western Union, and digital RSPs and financial technology companies (fintechs), such as WorldRemit (ibid.). In addition to connecting with mobile money providers across borders and enabling users to send and receive international remittances via mobile money, some providers are also adopting a diaspora strategy. By expanding their reach beyond their existing footprints, millions of migrants and their families will have access to faster, safer and cheaper international remittances. Interoperability continues to provide customers with the opportunity to transact with more users across more use cases, services and markets (MTN Group, 2019).

To enable the envisaged partnerships, the following key policies need to be considered. Considerations here include interoperability and operational issues.

Interoperability

This is necessary to give customers the ability to perform money transfers between two accounts in different mobile money schemes, alongside transferring money between mobile money accounts. It is understood that interoperability is a strategic priority for Ethio Telecom, which will enable long-term growth of mobile money while making mobile money accounts more relevant to consumers. Interoperability will only contribute to greater efficiency and scale of mobile money markets if it is designed and implemented with a market-driven approach that adds value for providers, consumers and other ecosystem players.

There must be contractual agreements that specify both joint and individual responsibilities—for example, the responsibility to ensure minimum KYC requirements are met and monitored at the distribution level. The manner in which revenues are split will also need to be agreed, as will distribution policies and recourse systems available to customers. In addition, it is critical that all personal data exchanged which relates to transactions with third parties should be made through secure channels to ensure the protection and integrity of the data.

Operational issues

Key technical and operational considerations for international remittances through mobile money operators are reconciliation and settlement, data security and APIs,⁵ due diligence, customer identity management systems and consumer protection.

Reconciliation and settlement

Adoption of prefunding agreements and reliable tech-based reconciliation and settlement processes is critical. Mobile money providers use working capital to prefund the settlement accounts, while customer funds are set aside in a trust account or safeguarded through equivalent mechanisms, in accordance with local regulations.

⁵ A software intermediary that allows two applications to talk to each other.

An international remittance transaction sent through mobile money can be divided into three main layers, regardless of whether or not an international remittance hub is involved: communications, netting, and reconciliation and settlement. The communication layer involves the exchange of transaction information between the parties. This layer can be facilitated by the use of standardized APIs, and governed by practices. The netting of the operation typically happens using special prefunded settlement accounts, while the final settlement is always made using the reliable and transparent processes of the banking system. To ensure fast and effective reconciliation and settlement while minimizing the risks associated with these processes, mobile money providers have to adopt the following best practices:

- **Near real-time communications:** Reconciling accounts is an information exchange process in which the parties track the amount of money sent and received and what each party owes to each other. Where feasible, this communication process is conducted in real time or near-real time, which ensures a good user experience. Best practices for this process include the use of high standards of security in the data exchanged. The agreements between the parties include mechanisms for resolving any discrepancies identified in the reconciliation process. Real-time communications allow risks to be minimized and settlement accounts to be updated.
- **Frequency of settlement:** Having an open position implies a counterparty risk. For this reason, many mobile money providers and their counterparties agree in advance on the frequency of account settlement. The specific frequency of the settlement can vary in each case, depending on the regularity, value and volume of transactions along each corridor. In corridors that are very active, the best practice is to settle at least once every day. Best practice also includes setting thresholds in advance to trigger the settlement mechanisms when value, international foreign exchange rates or other variables reach a certain level. Mobile money providers applying best practice do so on the basis of clearly documented settlement parameters and decision-making processes. This brings clarity and enables the NBE to see that established processes are being followed.
- **Working with hubs:** When a mobile money provider has integrated with an international remittance hub, all parties connected to the hub sign a multilateral settlement agreement. In these cases, the hub performs a net settlement at a defined frequency against all connected providers. Each provider then settles bilaterally with the hub, normally using prefunded settlement accounts for this purpose. The frequency of the settlement is fixed in advance using risk-based criteria agreed by all parties.
- **Adapting practices to local context:** This depends on Ethiopia's monetary policies and regulatory frameworks, and their economic context. The NBE can introduce different requirements into the settlement process, whether in frequency or in the rate at which the foreign exchange operation is liquidated. Mobile money providers and their partners adjust settlement practices and policies to comply with local regulation, ensuring that the NBE has effective monetary sovereignty. Even when settlements occur offshore, mobile money providers shall be legally bound to ensure that the repatriation of funds happens in accordance with local monetary policy and regulation.

Data security and APIs

Mobile money providers shall be required by domestic regulations to have robust systems in place to properly identify, assess, monitor and control operational risks. These systems include mechanisms to ensure the protection of data exchanged outside the organization, such as the use of cryptography and network security controls. Systems and applications should be designed and developed securely and thoroughly tested. The NBE should require service providers to ensure that the protection of the information includes the use of APIs to simplify communications and reduce communication risks, and the use of high encryption standards to prevent hacking or fraud.

In summary, international collaboration and partnerships should ensure:

- that all electronic information exchanges related to transactions with third parties are made through secure channels to ensure the protection and integrity of data. Encryption encompasses global best practice in line with the recommendations of the Cryptographic Technology Group of the US National Institute of Standards and Technology;
- the use of authentication algorithms for providers' systems ensure that data are shared only with trusted parties;
- the application of International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 27001 standards for information security management systems to ensure the secure management of financial and personal data;
- the development of channel security policies that describe relevant controls and assign clear responsibilities to each party involved; and
- the use of APIs to improve service functionality and data richness, providing, among other things, sufficient data to all relevant parties to ensure best practice AML/CTF, fraud prevention and sanctions screening.

Due diligence

Conducting a robust initial due diligence process when choosing potential partners is important in the context of international remittances, in which potential partners are located and incorporated in foreign jurisdictions. This is crucial to mitigate legal, operational, credit and liquidity risks, as well as risks of money laundering and financing of terrorism. Prior to contracting with a new partner, mobile money providers should conduct robust initial due diligence to assess the associated risks, including a review of legal, operational, credit and liquidity risks, as well as a review of its participants and controls. This involves assessing the potential partner's risk management systems to gain a thorough understanding of the partner's rules and procedures, as well as any responsibilities and settlement-related risks that may be assumed.

Due diligence also involves checking whether the potential partners have the appropriate policies, procedures and internal control structure to adequately manage their risks and fulfil

their responsibilities to other parties and clients at all times. Due diligence processes should extend to any beneficial owners of the partner company, to ensure that those with a significant stake are fit to be involved in the remittance business. To identify and address issues and risks, end-to-end testing is carried out before enabling transaction flows with a new partner.

Customer identity management systems

Verifying customer identity is crucial to ensure that funds reach the correct destination and to maintain the integrity of the financial system. This means putting systems in place to proactively prevent fraud, money laundering and other crimes.

Consumer protection

International remittances add a level of complexity to normal domestic person-to-person (P2P) transactions, as there can be more than one service provider involved, at least two jurisdictions and, in most cases, at least two different currencies. For these reasons, it is particularly important for the parties involved in an international remittance transaction to communicate to their customers simply and clearly the terms of the contracts, including the costs associated with the transaction and the redress mechanisms available if anything goes wrong.

APPENDIX 5: LEGAL AND REGULATORY REVIEW

The objectives of this section are to identify the relevant legal and regulatory provisions in Ethiopia that come into contact with M-savings bonds, to discuss whether any amendments to the identified laws and regulations are needed to allow for M-savings bonds, and if so, to provide guidance on the type of amendments needed.

It is important to note that the issuance of the M-savings bonds and bills must happen within the existing framework of the national debt strategy; therefore, the M-savings bonds and bills must be issued as part of the domestic lending programme, and thus very minimal changes to any rules and regulations may be required. If changes are required, the implementation of M-savings bonds need not wait, because the changes will be for the sake of improving the framework.

The National Bank of Ethiopia Establishment (as Amended) Proclamation No. 591/2008

Part III of the National Bank of Ethiopia Establishment (as Amended) Proclamation No. 591/2008; Section 12 provides that the NBE “shall act as a fiscal agent and banker for the Government and, in that capacity, it shall, in the name and for the account of the Government, engage in the following transactions:

5/ upon authorization by the Ministry of Finance, manage public debt transactions; manage and sell treasury bills and bond and other securities of the Government;

7/ buy and sell unconditional negotiable treasury bills and government bonds issued by the Government.”

This clause gives the NBE sufficient mandate to issue and redeem the M-savings bonds, since the price and legal effect for redemption and ‘buy and sell’ will be the same.

National Payment Systems Proclamation No. 718/2011

International remittance services are part of the national payment system and often rely on individual payment systems for settlement. The law provides for the powers and duties of the NBE, and issuance of authorization; settlement, netting and finality; electronic funds transfers; regulation and oversight; and other miscellaneous provisions.

Regulation of Mobile and Agent Banking Services Directives No. FIS /01/2012

Article 5 provides limits on mobile banking transactions. The maximum balance that should be available in a mobile account of a person with a financial institution at any time should not exceed Birr25,000 (\$868). Daily mobile banking transactions that involve debiting an account of a person with a financial institution should not exceed Birr6,000 (\$208). Section 4.2 provides that mobile and agent banking services shall be carried out only within the geographical boundaries of Ethiopia and only with birr.

Prevention and Suppression of Money Laundering and the Financing of Terrorism Proclamation No. 657/2009 and Customer Due Diligence of Banks Directive No. SBB/46/2010

Proclamation No. 657/2009 and Directive No. SBB/46/2010 require financial institutions, MNOs and agents in Ethiopia to ensure that their agents comply fully with the requirements of these regulations. The legislation covers important aspects of AML/CFT, including cross-border transportation of cash and bearer-negotiable instruments; transparency in financial transactions; identification of customers; obligations regarding wire transfers; enhanced or simplified due diligence; record-keeping; financial institutions' internal prevention programmes; penalties; and aspects related to the Financial Intelligence Centre that include its powers and duties, access to information, disclosure, and reporting of suspicious transactions.

Licensing and Authorization of Payment Instrument Issuers Directive No. ONPS/01/2020

The directive applies to payment instrument issuers authorized by the NBE, and permitted products and services include cash-in-cash-out, local money transfers, domestic payments, over-the-counter transactions and inward international remittances. Account transaction limits have been set at three levels: level 1 has a maximum account balance of Birr5,000, an aggregate daily transaction limit of Birr1,000 and an aggregate monthly transaction limit of Birr10,000, while the limits for level 2 are Birr20,000, Birr5,000 and Birr40,000, respectively, and for level 3 are Birr30,000, Birr8,000 and Birr60,000, respectively.

Provisions for International Remittance Services Directive No. FXD/30/2006

The directive (as amended by Directive No. FXD 58/2018) intends to provide guidelines for enhancing incoming remittance transfers and regulating the processes to improve the operations of the formal remittance transfer system in Ethiopia. It defines remittance service providers (RSPs) as licensed business organizations that provide remittance services to customers either directly by banks or through money transfer agents working in association with banks. The RSPs include international money transfer operators and commercial banks (bank-to-bank transfers through SWIFT and other media). Money transfer agents are business organizations with a valid licence issued abroad that capture or distribute remittance

transfers in association with domestic banks and others to be specified by the NBE. Under the directive, the 2009 amendment restricts international remittances to banks only and the Ethiopian Postal Service in association with international RSPs.

Establishment and Operation of Foreign Currency Saving Account for Residents of Ethiopia, Non-Resident Ethiopians and Non-Residents of Ethiopian Origin, Directive No. EX1V 68/2020

The directive allows banks to open interest-bearing, no-fee foreign currency savings accounts for Ethiopians in-country and abroad. Therefore, it primarily affects migrants and their in-country loved ones—that is, those people who earn wages or a salary in currencies other than birr and the people who receive the money they send back home. This directive provides for the opening of foreign exchange accounts not only via in-person visits to bank branches (often impractical for in-country Ethiopians, and impossible for those abroad) but now also via email, fax, telex or other electronic media, or via power of attorney. Of special importance to migrants, the directive also provides for account-opening services at Ethiopian embassies in foreign countries.

Although the accounts can only be maintained in US dollars, UK pounds sterling or euros, banks may accept deposits in other convertible currencies, such as Canadian dollars, Chinese yuan, Saudi riyal, Japanese yen, Australian dollars and UAE dirham. This will provide flexibility for the many Ethiopian migrants living in those countries.

Finally, the directive allows savings to be withdrawn for specified purposes, including education, medical or travel expenses for the account holder, their spouse or their children (subject to valid documentation to confirm the relationship with the account holder). The balance in these accounts can also be used as collateral for credit in local currency and to purchase shares from financial institutions.

The directive currently gives account holders the right to withdraw up to 10 percent of the foreign currency balance with a debit card, but cash withdrawals are permitted only in birr.

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