



Malawi Digital Financial ID Feasibility Assessment

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LIST OF ACRONYMS

AEPS	Aadhaar Enabled Payment System
AML-CFT	Anti-Money Laundering and Countering Financing of Terrorism
API	Application Programming Interface
ATM	Automated Teller Machine
BAM	Bankers Association of Malawi
BVN	Bank Verification Number
CBN	Central Bank of Nigeria
CDD	Customer Due Diligence
COMESA	Common Market for Eastern and Southern Africa
CRB	Credit Reference Bureau
E-KYC	Electronic Know Your Customer
FIA	Financial Intelligence-Authority
FMT	FinMark Trust
FSP	Financial Service Provider
GDP	Gross Domestic Product
GOM	Government of Malawi
ICAO	International Civil Aviation Organization
ID	Identity Document
ID4D	Identification for Development
IMF	International Monetary Fund
INR	Indian Rupee
ISO	International Organization for Standardization
KYC	Know Your Customer
MWK	Malawian Kwacha
NGN	Nigerian Naira
NIBSS	Nigeria Inter-Bank Settlement System
NID	National Identity
NRA	National Registration Act
NRB	National Registration Bureau
NRIS	National Registration and Identification System
PAN	Permanent Account Numbers
PMJDY	Pradhan Mantri Jan Dhan Yojana
QR	Quick Response
RBM	Reserve Bank of Malawi
SADC	Southern African Development Community
UIDAI	Unique Identification Authority of India
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme

EXECUTIVE SUMMARY

Although two-thirds of Malawians lack formal financial services, the National Identity (NID) card that was issued to most adults in 2017-18 establishes a good foundation for rapidly increasing access. With regulatory commitment to its use and further investment to enable electronic know-your-customer (e-KYC¹), the NID has the potential to enable easier access not just to payments but also to savings, credit, insurance, and investment products, especially for marginalized segments of the population.

The first step of registering and issuing the identification has largely been accomplished. At the time of this study in July 2018, approximately 9.2 million Malawians that are 16 years of age and over had been registered for an NID and 8.6 million NID cards had already been issued. In other words, over 98 percent of the adult population had been registered and over 93 percent of the registered adult population had been issued NID cards.

The facing side of the NID card contains traditional information such as name, gender, date of birth, unique ID number, nationality, fingerprint image, facial image, signature image, the date of issuance, and the expiry date. It also qualifies as a digital ID because it contains a Quick Response (QR) code and a machine-readable zone so the information can be extracted electronically using scanners. Furthermore, the NID card is a smart e-ID, which is an advanced form of a digital ID. It has a machine-readable chip that contains two fingerprints captured during enrolment and a digital photo (in addition to all the traditional information). Importantly, the chip can hold additional information for other use cases as needs arise. A card reader is needed to extract data from the chip, as are decryption keys.

Benefits of Digital IDs

The NID is a particularly exciting innovation in Malawi given the difficulty stakeholders report in undertaking due diligence (CDD)/know-your-customer (KYC)² processes. While some banks rely on

¹ For the purposes of this document, e-KYC is defined as customer identification and verification process wherein demographic data including the photograph of the customer is made available digitally to the requesting entity (financial service provider) subsequent to successful authentication.

² CDD/KYC is the process of identification and verification of individuals and businesses undertaking financial transactions, including ongoing customer due diligence and monitoring of transactions, in order to detect transactions that may involve illicit financial activities, such as money laundering or the financing of terrorism.

passports or drivers licenses to establish identity, others will accept a voter ID or a letter from the local chief. Financial service providers (FSPs) have discretion in establishing what documents suffice for KYC and whether or not to deploy a tiered approach. The diversity in KYC processes is partly driven by the fact that for a long time there was no universally-held identity document and FSPs have been allowed to use discretion as to what documents to accept for KYC purposes through a risk-based approach. These challenges leave banks vulnerable to fraud as well as to individuals who use different forms of identification at different banks (without ever triggering alerts at the credit bureau). In this environment, the NID is a great improvement as it can be easily verifiable and each individual can be identifiable using a unique number.

In addition to alleviating pressure in customer due diligence, experience around the world has shown that digital IDs can help extend financial inclusion in other ways. For example, digital IDs can help create a robust anti-money laundering and framework and credit bureau infrastructure without sacrificing inclusion since individuals are uniquely identifiable and traceable. Furthermore, digital IDs can be used for tokenless transactions as they have been used in India, where millions of people can conduct bank transactions with just their ID and a fingerprint scan. Finally, digital IDs can be used as a vehicle for cash transfer programs, increasing accuracy and speed and decreasing costs. Overall, digital IDs can decrease costs and risk for banks, thereby enabling innovation for enabling greater financial inclusion.

Expanding the Benefits of NID

However, to accrue the full range of these benefits there needs to be regulatory action to promote its use, as well as further investment in e-KYC.

Since customers may still apply for financial services using older forms of identification, banks are unable to take full advantage of the cost and transparency benefits of a digital ID. Rather than turn away customers, banks continue to accept older forms of ID so their fundamental cost and risk structures remain unchanged. The Reserve Bank of Malawi (RBM) should declare the NID the primary

National authorities increasingly recognize that appropriate and proportionate CDD systems are an important factor in staving off de-risking trends.

and mandatory identification document for use in the financial sector. This will also help ensure that the remaining adults are registered and issued an NID card.

Furthermore, as is already taking place with one FSP, the National Registration Bureau supports FSPs to implement offline e-KYC until it is able to offer direct integration with its database to enable instant, online verification of NIDs (e-KYC). This would lower the cost of onboarding customers and allow for faster, more accurate KYC.

Promoting e-KYC is especially important for driving financial inclusion as it would support remote account openings and even empower agents to execute KYC. Furthermore, it would allow many marginalized people who do not currently meet KYC requirements to access formal financial services. In addition, it would lower outreach costs by supporting end-to-end provision of products and services digitally, thereby facilitating access in underserved areas.

Barriers

Banks will need to invest in digital card readers for e-KYC to gain wider acceptance. While some FSPs have already started this process, for others the business case for e-KYC is not yet clear. Some others felt that physical verification was sufficient for the level of risk they face. Without a mandate from the RBM, e-KYC is unlikely to gather traction.

Consistent phone or internet connectivity – as well as high costs of connectivity – are still major challenges in Malawi. In fact, 24 NID enrolment centres are not yet connected to the central database. Given these barriers, some FSPs will need to rely on offline alternatives. In these cases, a “match on card” model, which involves using a card reader with a biometric finger scanner as explained in Box 2, might be a better solution than an online database verification.

Recommendations

We outline a series of short- and medium-term recommendations to help achieve the promise of digital IDs. In addition, we suggest FinMark Trust (FMT) supports a pilot project using an offline e-KYC method for opening accounts; i.e., using card readers to verify and extract KYC information from the NID card. Such a pilot would establish evidence for how processes and cost will change on deployment of e-KYC.

- Immediately:
 - RBM should mandate that the NID be the primary ID used for all financial accounts

- RBM should deploy a tiered approach for establishing “source of funds” for financial accounts
- RBM should issue regulation to standardize and simplify the process for opening a basic bank account to a one-page form with simple demographic details
- National Registration Bureau (NRB) should issue a roadmap for financial service providers as they integrate the NID
- Short-term (one year):
 - RBM should mandate that all regulated entities link existing financial accounts with the NID
 - Credit bureau regulations should be modified to include NID as the primary identifier
 - RBM should issue regulations for offline e-KYC (match on card model)
- Medium-term (two years):
 - RBM should issue regulation for online e-KYC (integration with NRB database)

1. BACKGROUND OF THE STUDY

The World Bank’s ID4D Programme estimates that 375 million adults in developing countries are excluded from formal financial services. This is on account of unavailability of a suitable proof of identity as per know your customer (KYC) requirements (ID4D 2016). This gap can only be bridged by the development of a trusted identity system that issues IDs to the excluded with the end objective of further expanding financial inclusion. Furthermore, identities in digital form can potentially create efficiencies necessary for scaling financial service provision to the underbanked (World Economic Forum 2016).

FinMark Trust commissioned feasibility assessments in Malawi and Lesotho to determine whether a digital financial ID could advance domestic financial inclusion in the two countries. Malawi was selected due to the advanced nature of its national e-ID which had just been rolled out. In addition, Malawi had already initiated project plans for implementing e-KYC in its financial sector which presented an opportunity for collaboration and providing technical expertise in their project. Lesotho was also selected due to the advanced and established nature of its national ID scheme. In addition, since it forms part of the Common Monetary Area with South Africa, it could play an important role in a potential cross-border pilot using digital IDs particularly in the shared remittances corridor which is robust.

The feasibility assessment aimed to provide recommendations on the use cases of domestic financial inclusion the digital financial ID could advance and on implementation of a digital financial ID pilot.

This report is one of two. This one focusses on findings from Lesotho while the other focusses on findings from Malawi.

2. DEFINITION AND EXAMPLES OF DIGITAL FINANCIAL ID

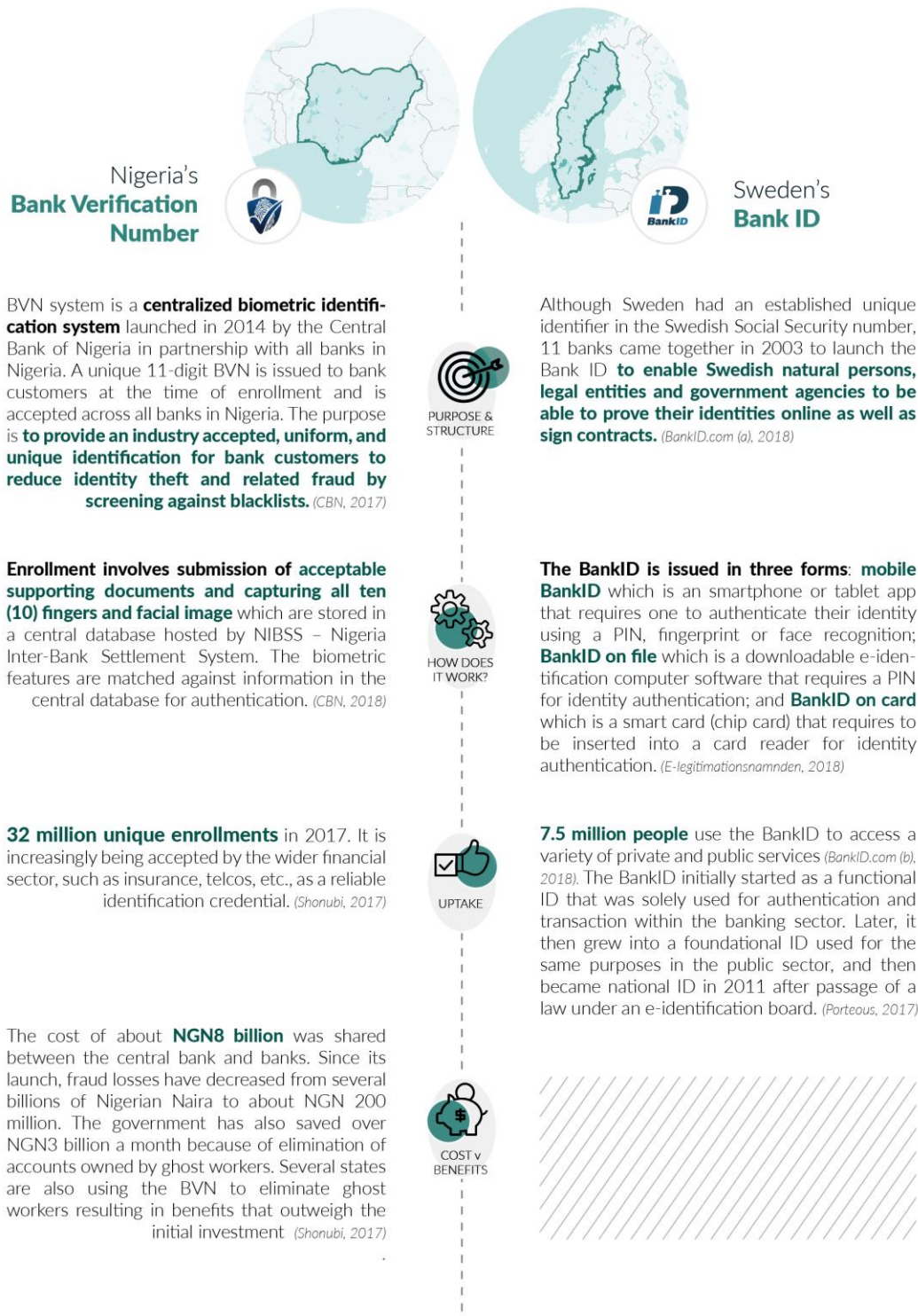
This section provides a quick summary of the core terms used within domain of identity. For greater detail, see a preceding report by FinMark Trust, [Landscaping a Digital Financial Identity for SADC](#)³.

Identity is a collection of unique attributes that uniquely identify an individual or legal entity. Capturing and storing such attributes in an electronic format (in physical or virtual storage systems such as a server, a chip or a machine-readable form like a barcode) leads to a digital ID. A digital ID is then usable to provide one's identity through electronic means. In this context, it is, however, imperative that a digital ID is differentiated from a financial ID as not all digital IDs can be relied on by the financial sector. A financial ID is one that is accepted and relied on by financial service providers (FSPs) to establish relationships with their customers. Whether an FSP trusts and accepts an ID as being adequate is often guided by requirements set out by anti-money laundering and countering financing of terrorism (AML-CFT) regulations and the perceived risk of relying on the ID. With regards to the latter, financial transactions tend to require a great degree of certainty in the identification process (high level of assurance) given the high risks borne by parties in the financial sector (FinMark Trust, 2018).

Two examples of digital financial IDs include Nigeria's Bank Verification Number (BVN) and Sweden's BankID, as shown in figure 1 (See Annexure 1: Reviewing Nigeria's BVN and Sweden's Bank ID for more details pertaining to the two schemes).

³ BFA, 2018. Landscaping a digital financial identity for SADC. [Online]
Available at: <http://www.finmark.org.za/wp-content/uploads/2018/02/FMT-Digital-ID-landscape-report.pdf>
[Accessed August 2018].

Figure 1: Comparison of Nigeria's BVN and Sweden's Bank ID



Source: (BFA, 2018)

3. DIGITAL ID AND LINKS TO FINANCIAL INCLUSION

Digital ID is a critical enabler for financial inclusion. The ID can help increase financial deepening in any country by improving access to payments, savings, credit, insurance, and investment products in the following ways:

- Reduced cost of customer due diligence (CDD)

Digital ID has the potential to reduce customer onboarding costs to the extent of 80 percent, making customer acquisition a more viable business proposition for the financial services providers. For example, in India, which has a near universal biometric-based ID (termed Aadhaar), it has been estimated by GSMA that the Aadhaar-enabled electronic know-your-customer (e-KYC⁴) platform reduces costs of CDD/ Know-Your-Customer (KYC)⁵ processes from INR40 (US\$0.60) per customer to INR5 (US\$0.07). This significantly lowers the overall cost of customer acquisition (GSMA, 2016). In other geographies, the cost of customer onboarding is in the range of US\$5 – 10, which is a disincentive for the FSPs to offer products such as micro-insurance or micro-investment products for low-income customers. Low-cost customer due diligence enabled by digital ID makes it possible to offer sachet-sized products to suit low-income consumers.

- Robust anti-money laundering framework

In addition to lowering costs for the providers, a digital ID has the potential to improve the anti-money laundering (AML) compliance in a country as the digital ID would be a unique identifier across the financial sector. In cases of any fraud, the identification of fraudsters would be much easier as individuals would be uniquely identifiable and traceable. This could enable a more robust AML

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⁵ CDD/ KYC is the process of identification and verification of individuals and businesses undertaking financial transactions, including ongoing customer due diligence and monitoring of transactions, in order to detect transactions that may involve illicit financial activities, such as money laundering or the financing of terrorism. National authorities increasingly recognize that appropriate and proportionate CDD systems are an important factor in staving off de-risking trends.

framework in the country without leading to exclusion. A foundational universal ID would be the right balance between robust AML and universal inclusion.

- Transactions that are cheaper, easier, and de-risked

In addition to one-time customer onboarding, a digital ID has the potential to be used as a factor of authentication by the FSPs, even replacing transaction tokens. For example, instead of issuing magnetic stripe (magstripe) or chip-based cards, which are expensive for the provider, FSPs can leverage the authentication services of a digital ID. For example, millions of people in India conduct transactions through their bank accounts by using just their ID number (Aadhaar) and fingerprints/iris at an agent location. This has helped banks in India to save millions of dollars in card issuance, token management (re-issuance of lost or mutilated and cards), and pin management. From the consumer perspective, it has also empowered illiterate populations to operate their accounts. There is enhanced consumer protection as users can deal with an agent without any risk of revealing their PIN (Mazer and Buku 2017). This functionality can also be valuable for marginalized populations that lack mobile devices to facilitate transactions at agents as all one requires to transact is their biometric.

- Robust credit assessment

In many geographies, the credit reference bureaus are not trusted either due to incomplete, unreliable, or complete lack of information. The bureaus often use haphazard matching techniques to remove duplicates from their databases. For example, if an individual has taken a loan from Bank A using a tax ID and another loan from Bank B using a driver's license (with some other demographic data such as a different year of birth), the credit bureau would not be able to detect if it is indeed the same person who subsequently defaulted on the two loans. However, the insertion of a robust unique identifier – such as the digital ID – in banks' credit portfolios would ensure that the credit bureau would be able such an individual who defaulted on loans from two institutions. This would greatly enhance trust in the credit reference checks.

- Effective social cash transfer programs

In some countries, like Tanzania and Lesotho, the social cash transfer payments are made in cash, which entails high risk and is administratively expensive. The presence of a universal digital ID can enable digital account opening for the beneficiaries of such programs. Digital account opening would be faster and cheaper especially in reaching the remotely placed. Once accounts have been opened,

direct transfers can be made into the beneficiaries' accounts, thereby reducing risk and administrative costs, while also enabling access to formal financial services. Additionally, a digital ID would provide increased accuracy compared to that which is achievable using a physical identity and allow FSPs to streamline and automate many processes. For example, digital verification and automatic capture of identifiers stored in the digital ID would promote accuracy and eliminate loopholes for manipulation that could result in "ghost" beneficiaries.

- Innovative digital financial offerings

Digital IDs afford financial innovators the ability to deliver end-to-end digital offerings. According to the World Economic Forum (2016), the process of identifying customers is one of the critical barriers to deploying pure digital products. Without digital ID platforms, innovators have had to rely on pseudo-digital channels (e.g., photographing physical ID documents) or on the KYC processes of established FSPs thereby decentralising a critical piece of the product/service offering.

4. THE LANDSCAPE OF FINANCIAL INCLUSION IN MALAWI

Figure 2 and Box 1 together offer a snapshot of the financial inclusion status in Malawi, the key drivers and barriers, and the regulatory framework pertaining to KYC. For more details please refer to Annexure 2: More on the landscape of Financial Inclusion in Malawi.

Figure 2: Financial inclusion snapshot of Malawi



Source: (BFA, 2018)

Box 1: Key regulatory extracts addressing KYC

According to regulation 4(1)(b) of the Money Laundering, Proceeds of Serious Crime and Terrorist Financing Regulations 2011, financial institutions (FSPs in this document) are required to identify a Malawian natural person through a national identity card, passport, or drivers' license. Also, through a statement made by the Financial Intelligence Authority (FIA) in May 2013, unofficial identification documents are allowed for identification based on a risk-based approach to support Malawi's financial inclusion agenda. For example, letters from traditional authorities would be acceptable in respect of lower-risk customers. In addition, Regulation 3(5) authorizes a financial institution to apply simplified customer identification requirements for: "(c) customers whose average monthly income does not exceed MWK50,000 (US\$69)⁶; (d) other forms of low-risk categories of customers, beneficial owners, beneficiaries or business relationships."

According to Section 24(2)(b)(ii) of the Money Laundering Proceeds of Serious Crime and the Terrorist Financing Act, 2006, which precedes the 2011 Act, financial institutions are to adequately identify and verify the identity of the person including information relating to – (i) the name, address and occupation of the person, (ii) the national identity card or passport or the applicable official identifying document of the person, and take reasonable measures to establish the source of wealth and source of property of the person.

⁶ According to FIA, as reported during the stakeholder interview, a gazette notice will be provided in the near future to update the thresholds; e.g., MWK300,000 was proposed as the appropriate threshold that should replace MWK50,000

5. GAINING INSIGHTS INTO STAKEHOLDERS' PERSPECTIVES

Below is an amalgamation of the industry-wide sentiments gathered from stakeholder interviews regarding the state of ID in Malawi and its impact on financial inclusion.

Different financial services players in Malawi requested varying identification documents as part of their customer due diligence. For example, of the banks interviewed, one relied on passports, drivers' licenses or the NID for onboarding customers. It also accepted a voter ID or a letter from a local chief for opening and operating low-value accounts, which are considered low risk. In contrast, another bank had standard KYC requirements for all its accounts and was promoting the use of the NID as the main ID for KYC purposes. It insisted on NID for new account openings and requested existing customers to update their records by providing their NID number.

Mobile money providers applied a tiered KYC approach for across the different mobile money accounts. Some low-value accounts did not require any proof of identification, while upper-limit accounts required proof of identification in the form of passports, voter ID, driving license, NID card, or any other photo ID alongside other requirements such as proof of an income source. Other FSPs also accepted employee cards or student cards photo IDs.

According to providers, it was up to the FSP to make a discretionary decision on what documents to accept for KYC purposes based on its risk assessment. There were no stipulated standard product tiers and respective acceptable documents for each tier. Each entity received a waiver from the Reserve Bank of Malawi on a need basis.

It was difficult to rely on the majority of the identification documents currently accepted for KYC purposes. FSPs complained of forgeries being a major issue especially with letters from the chief, drivers' licenses, and voter IDs. Verification of these documents with the respective issuance bodies involved a manual and cumbersome process. For example, it was not assured that an FSO could receive a quick response from the road traffic authority about a document's authenticity. Some entities tried to resolve this by using an ultraviolet light to trace the document's security features. However, while these physical security features were often sufficient for confirming the authenticity of the document, one could not ascertain whether the details on the document are those of the person presenting it. Passports were less likely to be forgeries, but the passport number changes upon renewal and only a minority of customers had one (naturally, the financially-excluded are less likely to hold documents such as a passport or driver's license). The FSPs also noted that some

people's names did not match across their different identification documents given the different ID provider registries were not linked.

Reliance on multiple forms of identification led to higher non-performing loans. For example, the Bankers Association of Malawi (BAM) reported that the level of bank non-performing loans stood at 17 percent at the time, which was much higher than the 5 percent threshold determined by RBM. A majority of FSPs reported that they had no way to uniquely identify their customers before the NID. This made it possible for customers to open an account and borrow from one institution, only to default and repeat the same action in another institution using a different form of identification. Many FSPs considered credit bureaus and the collateral registry as ineffective, reflecting the challenge of not being able to accurately collate borrowers' information without unique identifiers.

NID will resolve a lot of challenges in financial services provision, but the maximum benefit will be realized if NID is universal, mandatory, and can facilitate digital verification. All the stakeholders we spoke to stated that identification was perhaps no longer the biggest challenge for financial inclusion after the NID card issuance. Stakeholders viewed the NID as a reliable unique identifier that could be used to identify customers in the financial sector. However, in order to gain maximum value, the NID card has to be held by the majority if not the entire adult population. Some stakeholders expressed apprehensions of the NID card not being available to the majority of the target population.

Similarly, it was seen as critical that the NID is declared the primary and mandatory identification document for use in the financial sector. Some FSPs expressed that although they would prefer that customers use the NID card, they could not force them to, as they would risk turning away business from those that were not willing to cooperate. Stakeholders argued that the RBM should communicate the mandate and timelines to the entire industry and customer base to drive acceptance and usage of the NID within the sector.

NID's utility as a unique identifier was not enough for many FSPs. These FSPs preferred that the NID enable them also to perform e-KYC. They wished to be able to verify the authenticity of the presented identification and even be able to extract certain customer fields or identifiers required for KYC digitally. This would bring down their cost of onboarding customers and result in a fast and accurate KYC data collection and verification process.

A digital ID for use in the financial sector will facilitate financial inclusion of the previously excluded. The different stakeholders we spoke to reported that they expected to see different benefits for financial inclusion emerging from the NID, particularly if they could use it for e-KYC. The mentioned benefits were:

- **e-KYC could support remote account opening and perhaps enable formal savings mobilisation.** Some banks had or were planning to roll out agency banking models to expand reach to the underserved. E-KYC was expected to aid such agents in supporting account opening outside the limited branch network. With e-KYC, agents could reliably identify and verify customers. It is also expected that the required KYC information fields would automatically be captured based on the stored NID data, hence reducing the risk of errors and fraud.
- **e-KYC could promote roll out and take up of digital financial services, which in other markets have proved to achieve greater scale faster than traditional financial services.** Many of the providers we spoke to planned to roll out digital products; e.g., digital savings and instant loan products. Others have already rolled out the likes of digital investment and remittance products, but a majority of their potential customers were excluded from participating as they could only fulfil limited or no KYC requirements.
- **Less expensive outreach should lower costs to customers.** For instance, with the ability to identify and verify customers digitally, loan applications, evaluations, and authorisation could also be carried out digitally. This would lower the cost of operations. Such savings can then be transferred to the customer through lower interest rates.
- **Digital identity could facilitate the expansion of credit to an underserved market.** The ability to uniquely identify and verify customers makes it easier to track their behaviour despite them having multiple accounts at various institutions. This lowers the credit risk and encourages providers to be less conservative when it comes to lending. This is especially so if industry data is shared with and adequately collated by the Credit Reference Bureau (CRB). Furthermore, digital verification would promote disbursement of digital loans to those with limited physical access.
- **NID is likely to expand the target market for conservative providers beyond formal employees.** Many of the formal providers currently target the urban and formal sector. Most

people in this segment are likely to hold passports and driving licenses compared to the rural and the informally-employed population. Stakeholders expect that ultimately the NID will be universally held irrespective of social status or location, including the underserved, into the potential market for FSPs.

Proof as to a source of income was still a major barrier for serving the informal market, which made up the majority of the underserved market. According to section 24(2)(b)(ii) of the Money Laundering Proceeds of Serious Crime and Terrorist Financing Act, 2006, financial institutions are to take reasonable measures to establish the source of wealth and source of the property of a customer. Some FSPs said that this was a key barrier to financial inclusion as those in the informal sector found it difficult to prove their source of income. In contrast to proof of identity, there is no explicit authorization of a tiered approach and the law allows for alternative means of providing one's address⁷. The same flexibility does not apply for proof of source of income. As a result, some FSPs, such as banks, take a conservative approach and request for proof of source of income to all customers including those who are informally employed. They are unwilling to take the risk of being found liable in case their risk assessment is deemed unreliable after the fact.

National Registration Bureau (NRB) is cautious about offering direct integration with their database in the short-term. By the time of this study, the NID roll out had just concluded. Handover to the NRB from the UN Development Programme (UNDP) technical team that facilitated the roll out was still in motion and systems were still being monitored. Direct integration of FSPs with the NID database was not a priority for NRB but it planned to have the database serve FSPs in the future. Meanwhile the NRB team expressed that it was prepared to support any entity that would like to use the offline verification functionality. This functionality is based on matching credentials to those stored on the card using a biometric card reader (NRB was already supporting one FSP in this regard).

Many stakeholders think the current NID can be used as an ATM card. Although there were industry discussions with NRB to explore the possibility of using the NID card as an ATM card,

⁷Regulation 4(1)(c) reads "his physical address including street names and plot numbers, or a detailed description of the location named in Malawi where the physical address is not available." People live in areas that do not have street names and to avoid excluding such people from the formal financial system, alternative address verification measures may be used. For example, a person could describe the location or draw a map of where they stay.

stakeholders did not reach a timely consensus. Hence NRB went ahead with issuance of the card without incorporating the ATM functionality. At this stage, however, it would be very difficult to incorporate this functionality, as the cards would have to be recalled to be updated. Further, incorporation of the ATM functionality in the NID card would require extensive coordination between all the financial sector players and the NRB. They would also have to handle logistic issues and more importantly coordinate around including encryption keys of each FSP seeking to use the ATM functionality. Common encryption would pose different kinds of risks.

6. CURRENT STATUS OF THE NATIONAL IDENTITY SCHEME

Malawi passed the National Registration Act (NRA) (No.13 of 2010) which mandates the National Registration Bureau to implement, coordinate, manage, and maintain the National Registration and Identification System (NRIS). The act came into effect in 2015 and the registration and issuance of NID cards commenced in 2017. This exercise was a collaboration between the government of Malawi and development partners led by the UNDP, which provided the core implementation team. By the time of the stakeholder interviews conducted for this study in July 2018, approximately 9.2 million Malawians aged 16 years and over were registered (over 98 percent of adults) and 8.6 million NID cards had been issued (covering more than 93 percent of registered adults).

The Malawi NID card is depicted in Figure 3 below. On the surface, it contains the names, gender, date of birth, unique ID number, nationality, fingerprint image, facial image, signature image, the date of issuance, and expiry date. It also contains a QR code and a machine-readable zone which contain the same text details displayed on the face of the card. Both are not encrypted and so the information can be read and extracted from them using respective scanners. The Malawi NID card qualifies as a digital ID because of these features.

Additionally, the Malawi NID card has a machine-readable chip. This makes it a smart e-ID, which is a more robust digital ID. The chip has greater capacity regarding the format and size of data it can contain. In addition to the text details displayed on the face of the card, the chip also holds two fingerprints captured during enrolment and the digital photo. The chip also can hold additional information for other use cases. A card reader is required for reading and extracting the data from the chip but decryption keys are required.

Plans are underway to mandate the NID as the primary and mandatory instrument for customer identification. Universal use of the NID as the one unique identifier in the financial sector rather than multiple forms of ID will promote clean and integrated customer data, which was the main identity-related industry pitfall. Malawi's government was considering the selection of NID as a primary ID for KYC purposes in the financial sector at the time of the in-country visit for this project.

e-KYC, which is achievable through a digital ID solution, is considered vital by financial sector players. RBM, the Bankers Association of Malawi (BAM), and other financial sector stakeholders held a digital ID/ e-KYC workshop in May 2018 to discuss how to establish e-KYC. The workshop yielded the proposal to mandate NID as the primary and mandatory instrument for customer identification. Next steps were to be decided during the next Governor and CEOs Forum⁸. The NRB is building an application programming interface (API) to allow authorized institutions, such as FSPs, to access the NRIS database to authenticate ID users. The initial plan is to provide a yes/ no response dependent on 100 percent match of ID number and demographic credentials. They confirmed that in future they might open the system for biometric authentication and provision of specific identifying fields once security concerns are dealt with and the system and program have stabilized.

There is some private sector willingness to invest in the necessary digital ID card readers that could facilitate the e-KYC process. Banks are willing to invest in card readers to facilitate easier, faster, and cheaper on-boarding of customers by using the NID card in an off-line manner and some have already set out an implementation plan. However, there are FSPs that appear to be unwilling to invest in card readers, citing a lack of clear business case, while others did not value the e-KYC process as they felt physical verification by verifying the security features was sufficient for the level of risk inherent in their operations.

The NID's match on card functionality is the most promising feature for e-KYC in the near future. Robust (phone and or internet) connectivity is a major challenge that will impact the choice behind the most appropriate digital ID solution for the industry. At least 24 NID enrolment centres are not connected to the central database due to technical challenges. In addition, FSPs considered the cost of the internet as a major barrier to digital solutions. These conditions imply that the digital ID

⁸ A periodic meeting between the central bank governor and CEOs of various FSPs to discuss pertinent issues in the industry.

solution suitable for the Malawi financial sector will have to rely on offline alternatives to avoid exclusion of some consumer segments. In the short- to medium-term, the match on card model will be better suited compared to the online database verification model. The NRB has expressed that it is comfortable supporting the match on card approach. See more details under “Recommended Next Steps and Considerations”. Box 2 below also gives a snapshot of how match on card works.

Box 2. How match on card biometric verification works

Match of card biometric verification involves direct mutual authentication between the relying party and the card owner. No third party such as a central ID provider is required to perform the authentication process.

The Malawi’s e-ID card would utilise two factors of authentication: possession of the e-ID (the NID card) and the biometric characteristics inherent in one’s captured fingerprints. The chip on the NID card includes a match on card applet that stores the template of two labelled fingerprints, the digital photograph, other personal data and the relevant encryption keys to enable authentication. The relying party requires a card reader with a fingerprint scanner and the necessary software for the physical communication with the e-ID card. The user/ card holder would be required to authorise the authentication process by placing his/ her live finger on the card reader for comparison against the template stored in the card to verify that he or she is the owner of the card.

In addition to overcoming connectivity challenges related to cost and poor network, match on card authentication avoids reliance on a central third-party authenticator as previously mentioned. The advantages of not having a central third-party authenticator include: avoiding the risk of a central security hotspot, relying party can define availability of its own service without needing a service level agreement with a third party. However, a connection to the central background platform may be required from time to time on a temporary basis to obtain, for example, new certificates and current revocation lists e.g for the cards reported as lost.

Sources: Federal Office for Information Security 2017 and Malik 2018

Similar initiatives of using e-KYC have been successful such as India’s ID system (branded as Aadhaar), a foundational ID that has been leveraged by the financial sector in India. Box 2 offers a detailed look at how Aadhaar’s digital capabilities are leveraged by the financial sector.

Box 3. How FSPs in India leverage the Aadhaar digital ID scheme

In 2009, the Indian government founded the Unique Identification Authority of India (UIDAI) with a mandate to provide a unique identity to India's 1.2 billion residents. Prior to 2009, India did not have a foundational national ID system, resulting in usage of a variety of functional IDs that only covered about half of the population and were rife with forgeries. They included voter IDs, ration cards (used for obtaining subsidised food), Permanent Account Numbers (PANs used for tax purposes), and passports. UIDAI started issuing the first set of 12-digit unique identification numbers in 2010. The unique ID is branded as Aadhaar.

Aadhaar was built on an open platform that allows external parties to build connected services through its Application Programming Interface (API). Some of the connected services have helped further financial inclusion in India. For example, according to GSMA, the Aadhaar-enabled e-KYC platform has significantly reduced the cost of FSP customer acquisition by reducing the cost of KYC processes by almost 90 percent from INR40 (US\$0.60) per customer to INR5 (US\$0.07) per customer (GSMA, 2016). The Aadhaar enabled e-KYC is a paperless KYC process that verifies a subscriber's identity and address via Aadhaar authentication. The Aadhaar number and biometrics of the subscriber are submitted online to the Central Identities Data Depository (CIDR), managed by UIDAI, for verification against stored data. With authorization from the subscriber, the service provides FSPs with the following details instantly and electronically: name, address, date of birth, gender, photograph and contact details of the subscriber (Indiastack.org n.d.). The Aadhaar-enabled e-KYC is currently being used by more than a hundred banks, telecom providers and other financial service providers in India.

Additionally, an Aadhaar number provides the basis for the Aadhaar Enabled Payment System (AEPS). AEPS is designed to make electronic payments easy, convenient, and accessible to all. All a payer requires is his Aadhaar number and fingerprint to authenticate his identity and authorize a cash-out or a merchant payment transaction through a fingerprint reader. Also, some payment applications allow linkage of the Aadhaar number to bank accounts (National Payments Corporation of India 2017).

8. RECOMMENDED NEXT STEPS AND CONSIDERATIONS

Although about two-thirds of Malawi's population lacks access to formal financial services, the fact that a robust NID was issued to most adults during 2017-18 has established a sound foundation for rapid financial deepening in the country. The new NID has the potential to enable easier access to not just payments but also savings, credit, insurance, and investment products for the marginalized sections of the population. A phased approach is recommended in order to achieve this:

Phase I

- **RBM should mandate that the NID be the primary ID used for all financial accounts** (e.g. bank accounts, mobile money accounts, insurance etc.) **Regulations should include a standard operating procedure for how the ID card is to be used by the providers.** These should address usage of: physical security features of the card, the machine-readable zone, the QR code, and off-line and on-line biometric/demographic methods of authentication for customer due diligence. As investment in physical infrastructure (e.g., biometric readers, etc.) is required for deploying both off-line and on-line biometric authentication, RBM should allow both physical verifications well as electronic verification of NID as a good enough KYC for CDD purposes for the meantime.
- **Review the current KYC regulations that also require the FSPs to establish a 'source of funds' before the opening of the account.** This requirement can be easily fulfilled by the formal sector workforce but it is a major barrier to the opening of accounts for the majority of the population in Malawi, who work in the informal sector. Regulations should be modified to clearly state that no income proof/source of funds should be asked for accounts with balances up to a certain limit as is to be determined through an industry consultative process. For example, the amount could be determined based on the income per capita, which is approximately MWK20,000 (US\$27) per month (IMF 2017). The current regulation 3(5) of Money Laundering, Proceeds of Serious Crime and Terrorist Financing Regulations 2011 stipulates income levels limits, which is difficult to verify for informal workers.
- **Regulations to standardize the account opening form for basic accounts.** It should be a simple one-page form with basic demographic details. This would ensure that the FSPs do not have complicated application requirements that can be intimidating for low-income customers. Ideally, the required details should not go beyond those available on the face of the NID card. This small but critical step would also help in reducing field-level barriers to the account openings. For example, a standard application form is used across all the banks in India for opening a Pradhan Mantri Jan Dhan Yojana (PMJDY) account, which is a low transaction value account that is part of the National Mission for Financial Inclusion (Department of Financial Services n.d.), shown in Annexure 3.

Phase II

- **Regulations mandating all regulated entities to link every existing financial account with an NID by a prescribed date.** This regulation should include not just the liability side for the banks

but also the asset side (credit facilities given to natural persons). RBM should monitor the progress of linking the NID. To improve customer experience, the linking of NID should be enabled through multiple channels; e.g., ATMs, internet banking, mobile banking, etc.

- **Simultaneously, credit bureau regulations should be modified to include NID as the primary identifier to prevent duplication and speed credit reference checks.** The credit bureau should not accept any data from any reporting entity if it does not include the NID as a reference point after a particular date.

Phase III

- **RBM should issue regulations for e-KYC to be conducted using offline biometric verification (match on card).** To smooth implementation, RBM should issue standard operating procedures for leveraging the match on card functionality of the NID card. This approach is recommended in view of the current network connectivity constraints and investment required. Care should be taken that the industry players use biometric devices that offer both offline and online biometric verification functionality to accommodate phase IV without incurring additional investment.

Phase IV

- **As the NRB stabilizes the online verification facility over the medium term (1-2 years), RBM should issue regulations for electronic KYC to be conducted using online biometric verification (integration with NRB database).** Similar to phase III, implementation of an on-line biometric verification ecosystem at FSPs requires devices, network connectivity and standard operating procedures for online verification. It is expected that over time network connectivity will improve in Malawi due to a number of initiatives by the government and private sector.

The suggested time frame for the first three phases is two-to-three years by which time all financial accounts could be linked to the NID, enabling Malawians to access financial services with ease by fulfilling the KYC requirements digitally. To achieving this, the financial sector stakeholders should work closely with the NID authorities to understand NID's technical aspects.

The NRB needs to issue a roadmap that should comprise the following at a minimum:

- i) Lay down guidelines as to how the NID card can be used in off-line mode for either physical or digital verification, encompassing the security features on the face of the card, the QR code, machine readable zone, etc.

- ii) Issue guidelines and provide technical guidance on online biometric verification by way of publishing APIs, etc.
- iii) Issue biometric and QR code device standards for procurement by FSPs.
- iv) Standardize the memorandum of understanding or agreements to be signed by FSPs for accessing the NID system.
- v) Develop customer consent frameworks and detailed guidelines on data sharing.
- vi) Issue a pricing policy for the usage of NID by FSPs for online verification.

9. RECOMMENDATIONS ON IMPLEMENTING A DIGITAL FINANCIAL ID PILOT

Based on the findings from Malawi, we recommend the pilot project outlined in table 1 to foster the use of digital identity in the financial sector as a means to promote greater inclusion:

Table 1. Designing a digital financial ID pilot project

Proposed Pilot Details	
Nature	<ul style="list-style-type: none"> • FMT partners with National Bank of Malawi (NBM) to roll out remote account opening facilitated by offline e-KYC method; i.e., using card readers to verify and extract KYC information from the NID card. The pilot should track: <ul style="list-style-type: none"> a. The cost of account opening before roll out of the offline e-KYC verification model b. The costs of account opening after implementation of the offline e-KYC verification model and document any other benefits noted during the pilot period c. End-to-end process map; the as-is paper based KYC process and the proposed match on card e-KYC process
Objective	<ul style="list-style-type: none"> • Generate lessons for the broader financial services industry in Malawi around the value of e-KYC • Generate lessons for the Southern African Development Community (SADC) region around whether the financial industry can gain by leveraging a smart electronic NID

Criteria for selecting key partner	<ul style="list-style-type: none"> • NBM is a dynamic bank with a clear vision of how it would leverage the NID for e-KYC purposes to simplify their on-boarding process • It has already begun discussions with NRB to understand how they can benefit from the NID and the requirements needed on their part • It plans to roll out card readers especially to their agent network next year to enable them to undertake remote account opening beyond their branch network • The NBM team have analysed the costs and benefits of rolling out card readers and determined that it is a worthwhile investment. Their motivation is financial inclusion and being able to mobilize savings from remote customers?
Role of other partners	<ul style="list-style-type: none"> • NRB and The Reserve Bank of Malawi would be key partners in ensuring the success of the pilot by providing the needed authorizations and support. Should the pilot be a success, they would also play a key role in supporting the wider financial sector to adopt offline e-KYC and build on additional use cases in addition to account opening. • The Bankers Association of Malawi and other industry bodies can play a key role in disseminating findings and coordinating their members in the adoption of the solution once success is proven.
Expected costs	<ul style="list-style-type: none"> • Software and hardware: US\$30,000–50,000 • Technical assistance: US\$40,000
Timelines	<p>5-6 months:</p> <ul style="list-style-type: none"> • Month 1: Planning • Months 2 and 3: <ul style="list-style-type: none"> ○ Mapping the current end-to-end, paper-based KYC process that also tracks the cost ○ Software development ○ Hardware integration • Months 4 and 5: <ul style="list-style-type: none"> ○ Pilot implementation and ○ Mapping the offline e-KYC process including tracking the cost\ ○ Documenting pilot

Immediate next Steps	<ul style="list-style-type: none">• Constitute a technical working group for the pilot project purposes. The working group should include NBM, NRB, and FMT. Ministry of Finance and RBM should take part as observers.
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ANNEXURE 1: REVIEWING NIGERIA'S BVN AND SWEDEN'S BANK ID

Nigeria's Bank Verification Number (BVN)

What is the purpose and structure of the scheme?

Nigeria's BVN is a centralized biometric identification system launched in 2014 by the Central Bank of Nigeria (CBN) in partnership with all banks in Nigeria. The purpose of the scheme was to provide an industry-accepted, uniform, and unique identification for bank customers to reduce identity theft and related fraud by screening against blacklists. At that time, there was no unique identifier and this inhibited the effectiveness of KYC. The industry relied on a variety of identity documents ranging from passports, voter's cards, driver's licenses, and national IDs (CBN 2017). All these were held by small subsets of the adult population. As a solution, an 11-digit BVN is issued to bank customers at the time of enrollment. It is accepted across all banks in Nigeria as a unique identification for the customers.

How does it work?

Enrollment involves submission of acceptable supporting documents, a facial image, and prints of all fingers. These are all stored in a central database hosted by the Nigeria Inter-Bank Settlement System (NIBSS). CBN directs that all bank customers must enroll for the unique ID and link all their accounts to the ID. To enforce this, in 2017 CBN issued another directive that all non-linked banks accounts be frozen (Punch 2017). In 2018, this was extended to accounts held in other FSPs (CBN 2018). FSPs are therefore expected to identify and verify all new and existing account holders, and authenticate customer identities at the point of initiating transactions. The BVN number, a person's biometric features, and a PIN are used when transacting. For authentication, the biometric features are matched against information stored in the central database.

What is the uptake?

There were about 32 million unique enrollments in 2017. It is increasingly being accepted by the wider financial sector (e.g., insurance, telecommunications companies and other businesses) as a reliable identification credential. These players can integrate with the central database via APIs.

What is the cost vs. benefit?

The cost of about NGN8 billion was shared between the central bank and banks. Since its launch, losses from fraud have decreased from several billions of Nigerian Naira to about NGN200 million. The government has also saved over NGN3 billion a month through the elimination of accounts

owned by ghost workers. Several states are also using the BVN to eliminate ghost workers, resulting in benefits that outweigh the initial investment (Shonubi 2017).

Sweden's BankID

What is the purpose and structure of the scheme?

Although Sweden had an established unique identifier in the Swedish Social Security number, 11 banks came together in 2003 to launch the BankID to enable Swedish natural persons, legal entities, and government agencies to prove their identities online as well as sign contracts (BankID.com (a) 2018).

How does it work?

The BankID is issued in three forms: mobile BankID, which is an smartphone or tablet app that requires one to authenticate their identity using a PIN, fingerprint or face recognition; BankID on file, a downloadable e-identification computer software that requires a PIN for identity authentication; and BankID on card, which is a smart card (chip card) that needs to be inserted into a reader for identity authentication (E-legitimationsnamnden 2018).

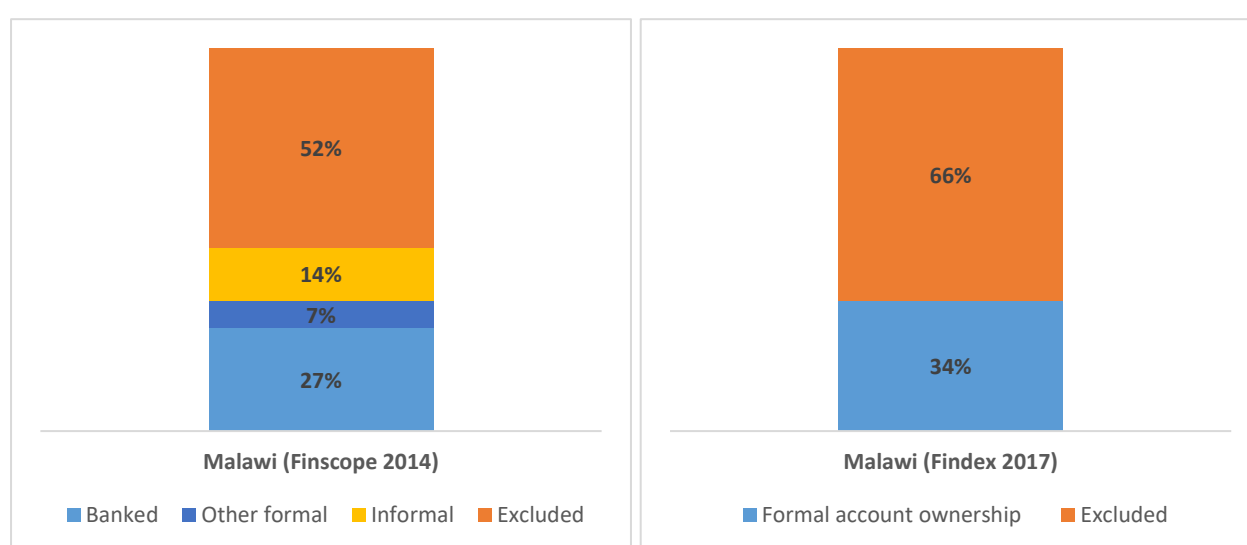
What is the uptake?

BankID initially started as a functional ID solely used for authentication and transaction within the banking sector. Later, it grew into a foundational ID used for the same purposes in the public sector and then in 2011 it evolved further into national ID after the passage of law under an e-identification board (Porteous 2017). Today, 7.5 million people use the BankID to access a variety of private and public services (BankID.com (b) 2018).

ANNEXURE 2: MORE ON THE LANDSCAPE OF FINANCIAL INCLUSION IN MALAWI

Half of Malawi's adults are financially included but only a third are formally served. According to FinMark Trust (2014), 48 percent of Malawi adults (ages 16 and above) were financially included; they used formal or informal financial products or services (figure A2.1). Those that used formal products or services made up about 34 percent of adults. Similarly, the 2017 Global Findex survey data (World Bank Group 2017) showed that 34 percent of adults (age 15 and above) owned a formal account at a formal FSPs including mobile money.

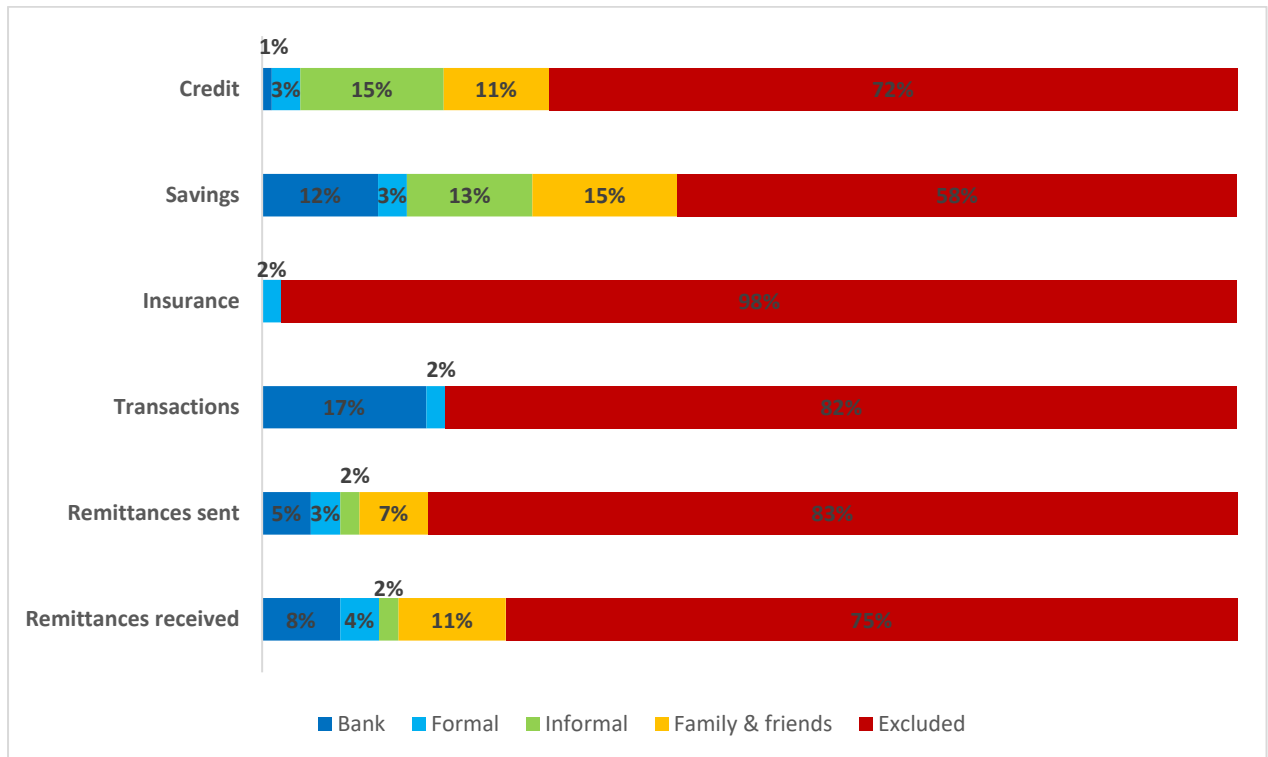
Figure A2.1. Level of financial inclusion and particularly formal financial inclusion in Malawi



Savings and credit are the biggest drivers of financial inclusion, but an overwhelming majority of those that use these products and services access them from informal channels or family and friends rather than formal financial providers. This trend is consistent across both the 2014 FinScope and 2017 Findex survey results. According to FinScope, about one-third of those that saved used formal channels while less than one-fifth of those who borrowed used informal channels. On the other hand, Findex showed that less than one-fifth of savers and borrowers utilized formal channels.

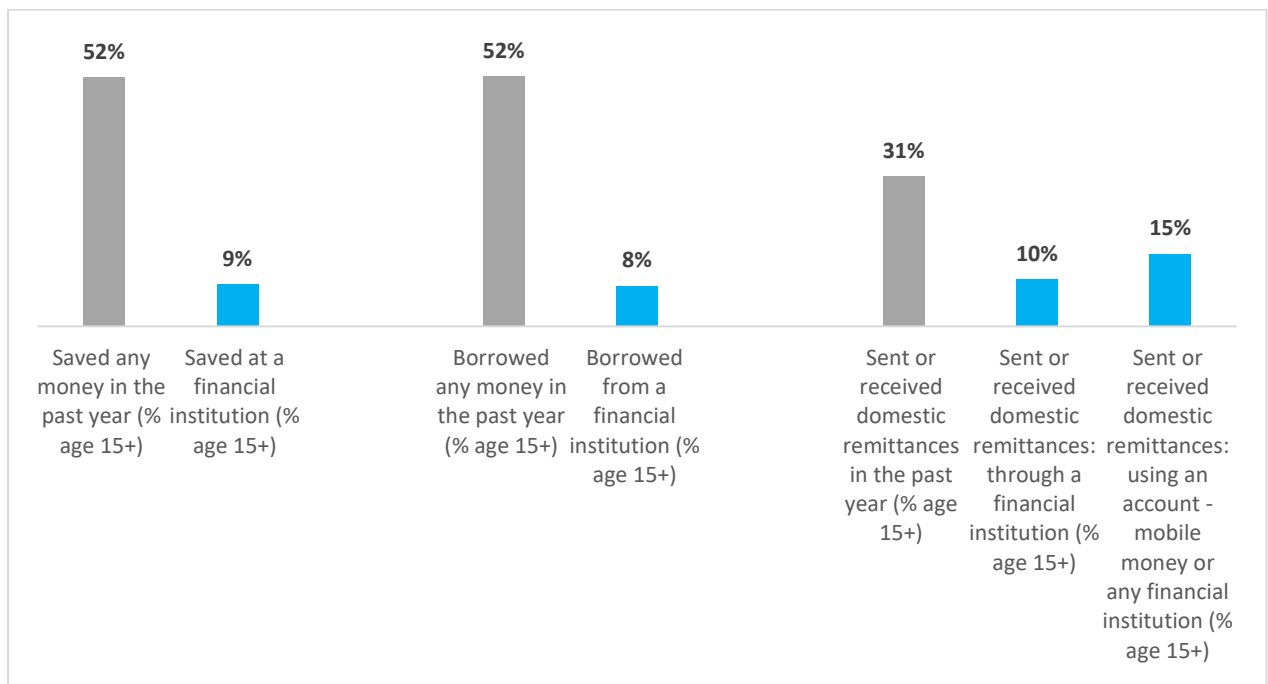
Macroeconomic figures also support the notion that there is limited lending to the private sector in Malawi. Domestic credit to private sector as a percentage of gross domestic product (GDP), which is one of the measures of access to formal credit in an economy, stood at 10% in 2017. This compares to 14 percent in Tanzania and 33 percent in Kenya (Trading Economics, 2016).

Figure A2.2. Status of financial inclusion by product



Source: (Cenfri 2015)

Figure A2.3. Formal financial services gap in Malawi

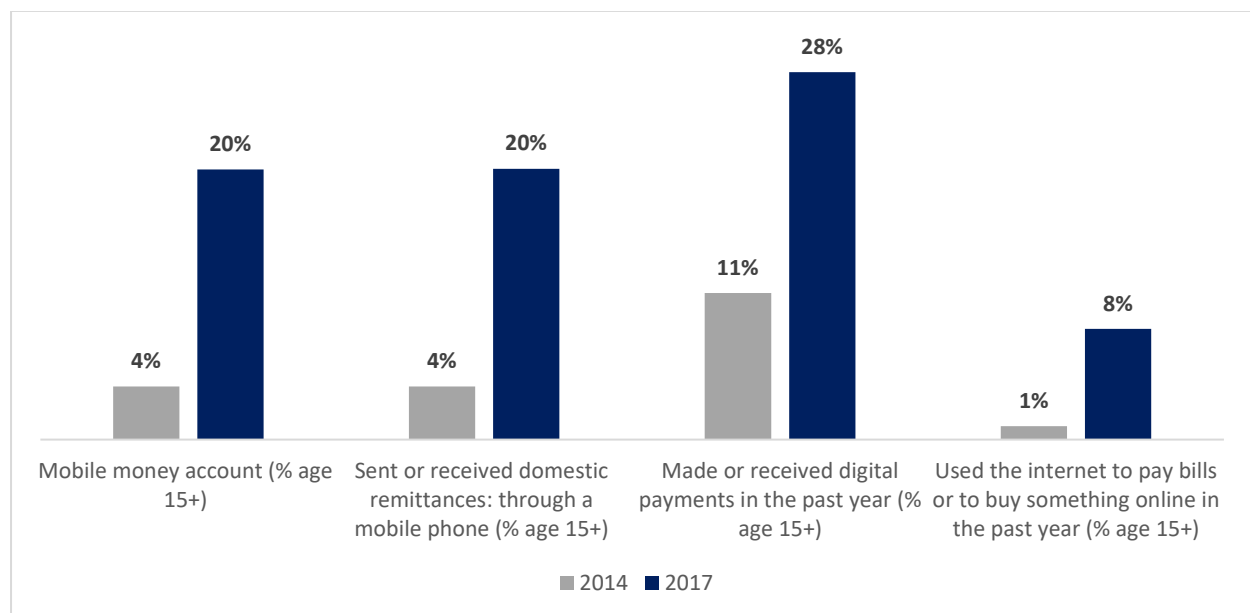


Source: Findex 2017

About a half of domestic remittance users send or receive funds via formal channels, particularly mobile money. Use of formal channels for domestic remittances has been boosted by mobile money, an option that emerged in 2012 through Airtel⁹ (Cenfri 2015). For example, March 2018 figures from RBM show that mobile money facilitated 94 percent of non-cash transactions. However, this makes up just over 2 percent of the value transacted via non-cash channels, highlighting the low-value nature of mobile money transactions (RBM 2018).

Digital financial services are rapidly gaining acceptance in Malawi. For example, mobile money subscriptions almost doubled between March 2016 and March 2018 (2.4 million to 4.7 million subscribers). However, active usage of mobile money remained low (RBM 2016; RBM 2018). Of the 4.7 million subscriptions, only 25 percent were 30-day active and 33 percent were 90-day active (RBM 2018). According to 2017 Findex data, the number of people that have a mobile money account has grown five-fold in three years to cover one-fifth of those that are 15 years and over in Malawi. Within the same period, use of digital payments almost tripled. Those that used the internet to pay bills or purchase items online made up 8 percent of the adult population, an eight-fold increase.

Figure A2.4. Access to digital financial services

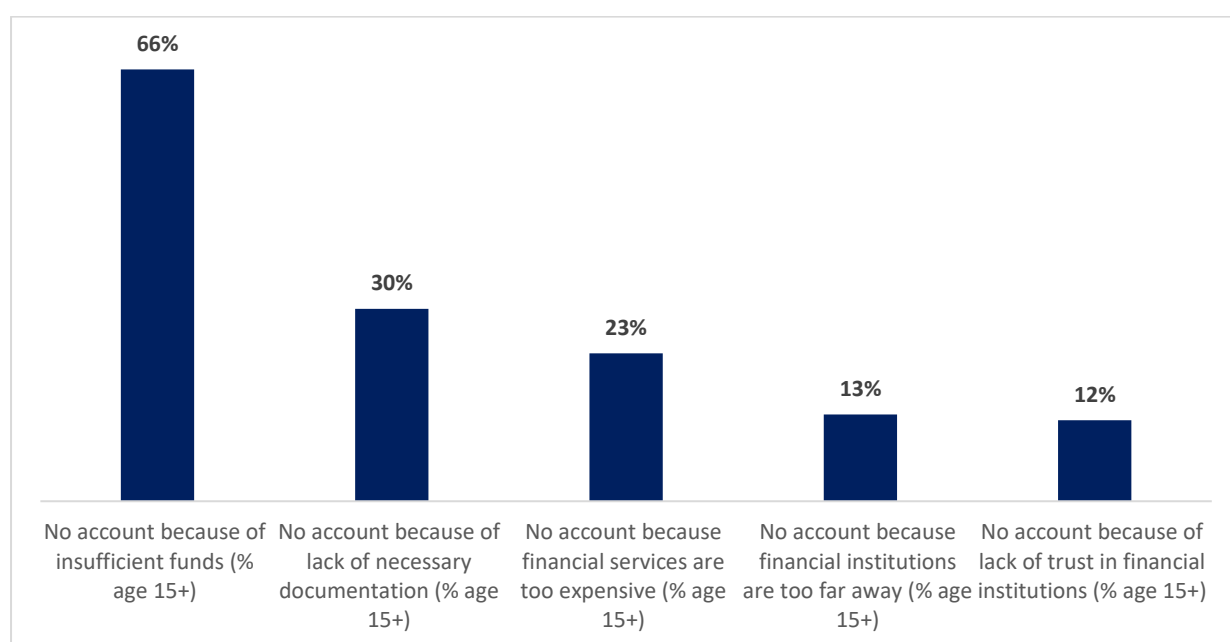


⁹TNM introduced their mobile money product in 2013

Source: (World Bank Group 2017)

Lack of required documentation has proved to be the second largest barrier to account ownership as noted by about a third of adults (figure A2.5). Other key reasons for not having an account included: insufficient funds as noted by two-thirds of adults; high costs of financial services as noted by two-fifths of the adults; distance from FSPs as noted by one-fifth of adults, and lack of trust which was also noted by about one-fifth of adults.

Figure A2.5. Reasons for not having an account with a financial provider



Source: (World Bank Group 2017)

Before the roll out of the National Registration and Identification System (NRIS) program in 2017 and the issue of issue National Identity Cards, Malawi was the only country without a functional national registry and identification system within the Southern African Development Community (SADC) and Common Market for Southern and Eastern Africa (Malik 2018).

According to a diagnostic study conducted in 2014 for the United Nations Capital Development Fund (UNCDF), FSPs found it difficult and costly to meet KYC requirements for onboarding new customers due to lack of reliable identification. FSPs also faced difficulties in tracking existing customers, especially where loan non-repayment is concerned, due to lack of reliable identification. At the time, FSPs had to rely on a myriad of documents as proof of identity. These included, passports, drivers'

licenses, voter registration cards, or other photo IDs such as work IDs, and even letters from the chief. Verification of these documents was difficult, and some were easily forged. As a result, some financial providers resorted to collecting biometric details of their customers to be able to uniquely identify them. Other FSPs, particularly mobile money providers, offered mobile money accounts with capped transaction and balance values to customers that lacked adequate documentation. The lower caps were not seen as a major barrier then as they far exceeded the average monthly income and mobile money usage was just picking up.

ANNEXURE 3: APPLICATION FORM FOR PMJDY ACCOUNT

Name of Bank
FINANCIAL INCLUSION ACCOUNT OPENING FORM

(To be captured through system or obtain latest photograph not older than six month)

No. _____ Date: _____

Name of the Branch	
Village / Town	
Sub District / Block Name	
District	
State	
SSA Code / Ward No.	
Village Code / Town Code [as per census 2011]	Name of Village/Town [as per census 2011]

Applicant Details:

Full Name	Mr./Mrs./Ms.	_____	_____	_____
		First	Middle	Last Name
Marital Status		Gender	M / F	
Name of Father / Spouse	_____			
Address	_____			
Pin Code	_____			
Telephone & Mobile No.	_____		Date of Birth	DD/MM/YEAR
Aadhaar/ EID No.	_____		PAN No.	_____
MNREGA JOB CARD NO	_____			
Occupation / Profession	_____			
Annual Income	_____			
No. of Dependents	_____			
Detail of Assets	Owning House : Y/N	Owning Farm : Y/N	_____	
	No. of Animals : _____	Any other : _____	_____	
Existing Bank A/c. of family members / household	Y / N		If yes, No. of A/cs. _____	
Kisan Credit Card	Whether Eligible Y / N			

I request you to issue me a **Rupay Card**

I also understand that I am eligible for an **Overdraft** after satisfactory operation of my account after 6 months of opening my account with a Limit of Rs.5000/- (Rupees Five Thousand only) for meeting my emergency/ family needs subject to the condition that only one member from the household will be eligible for overdraft facility. I shall abide by the terms and conditions stipulated by the Bank in this regard

Declaration

I hereby apply for opening of a Bank Account. I declare that the information provided by me in this application form is true and correct. The terms and conditions applicable have been read over and explained to me and have understood the same. I shall abide by all the terms and conditions as may be in force from time to time. I declare that I have not availed any Overdraft or Credit facility from any other bank.

Place:

Date:

Signature / LTI of Applicant

Nomination:

I want to nominate as under				
Name of Nominee	Relationship	Age	Date of Birth in case of minor	Person authorised in case to receive the amount of deposit on behalf of the nominee in the event of my /minor(s) death.

Place:

Date:

Signature / LTI of Applicant

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